

MONSANTO 2012

# SUSTAINABILITY REPORT



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As the population continues to increase, so does the demand for valuable resources. Our people are working for a better tomorrow by putting the right tools in the hands of farmers today.

Farmers can be people working as little as an acre in Africa, to a family working 10,000 acres in the Corn Belt of America, to a large enterprise farming hundreds of thousands of acres in Ukraine, Brazil or Argentina. By offering these growers better tools and information, we become their partners, protecting natural resources, fighting hunger, improving nutrition, and providing economic benefits to everyone involved in an improved system of agriculture.

## ABOUT THE REPORT

### GRI Indicators

This report was developed following the Global Reporting Initiative (GRI) guidelines for sustainability reporting. Topics that cover a GRI indicator are labeled with relevant indicators, such as **GRI LA7**.



### UN Global Compact Principles

As a member of the United Nations Global Compact, the world's largest sustainability and corporate citizenship initiative, Monsanto adheres to the Ten Principles of the Global Compact. Examples of Monsanto's UNGCP commitments are indicated with this symbol **UN1**.

### Index

GRI indicators and UN Global Compact Principles, along with their full descriptions, can be found in the index.

LETTER FROM THE CHAIRMAN

## DEAR STAKEHOLDERS,

We live in dynamic times. Rising affluence, increasing urbanization and the needs of our growing planet are putting pressures on our environment and our ability to support these demands sustainably. The topic of sustainability has taken center stage around the world and has driven the attention and focus of a growing number of powerful voices and interests around the world. We recognize that we have a place in these discussions and a commitment to be a leading corporate citizen.

But a quiet, unwavering figure has remained for generations at the center of solutions to some of our world's most pressing needs; the farmer. And I'm convinced supporting their ability to produce and conserve more—regardless of size and location—will help bring much needed solutions to some of our largest challenges for the future as well.

As a company focused on agriculture and farmers, I am proud of the opportunity we have to offer farmers tools and services that promote a safe, healthy, affordable food supply for all of us. Sustainability is central to global agriculture and its success both today and in the future.

The sustainability of agriculture is also central to our three-point vision—produce more, conserve more and improve lives. But it isn't just a vision. It's the heart of our business. Whether that is through our work in the field with farmers, or in the communities where we operate around the world, it is core to our global operations and is a priority for how we steward our business every day.

Five years ago, Monsanto laid out an ambitious set of goals in sustainable agriculture focused on these key areas where our business could help to make a positive impact for farmers and broader society. We committed to support agriculture's ability to produce more on the same footprint of land while conserving other natural resources. At that time, we also committed to help improve lives by supporting new tools and approaches to help lift smallholder farmers out of poverty and improve their overall prosperity. Today, the more than 21,000 men and women of Monsanto around the world continue this important work.

Agriculture is a tough business. And, it's clear that delivering innovation to the world's farmers to accelerate growth is more critical than ever. No single company, organization or government can do it all. The public and private sector need to do a better job of working together with increasing efficiency and scale.



*"The sustainability of agriculture is also central to our three-point vision—produce more, conserve more and improve lives. But it isn't just a vision. It's the heart of our business. Whether that is through our work in the field with farmers, or in the communities where we operate around the world, it is core to our global operations and is a priority for how we steward our business every day."*

**Hugh Grant**  
Chairman and CEO  
Monsanto Company

## LETTER FROM THE CHAIRMAN, CONT.

As part of this year's report, I'm pleased to highlight our business' progress towards delivering against our commitments. Our progress on our sustainable yield goals are on track in some areas and not as far along in others.

You will see this year we took some significant steps to further embed sustainability in our business and to increase public awareness of our environmental, societal and governance programs and performance. We completed our first formal materiality analysis of the issues that matter most to our business and society. This process built upon and enhanced our ongoing stakeholder engagement efforts and is helping define our business strategy. In addition, we established a Sustainability Strategy Council consisting of senior leaders from each of our global functions to guide and implement our sustainability efforts in our organization. It's a great start and we all realize there is more to do.

I encourage you to take time to read this report and visit our website to learn more about the work that we are doing as a company and in partnership with others to support farmers and sustainable agriculture. I'm very proud of the work that we've done to date and I look forward to accelerating our efforts over the coming years.

I welcome your feedback and critical-thinking about the issues central to the agriculture industry and meeting the demands of our growing planet. Together, I'm convinced we can help farmers achieve more and help all of us and our world in the process.

Sincerely,



**Hugh Grant**

*Chairman and CEO  
Monsanto Company*

*"I encourage you to take time to read this report and visit our website to learn more about the work that we are doing as a company and in partnerships with others to support farmers and sustainable agriculture. I'm very proud of the work that we've done to date. And I look forward to accelerating our efforts over the coming years."*

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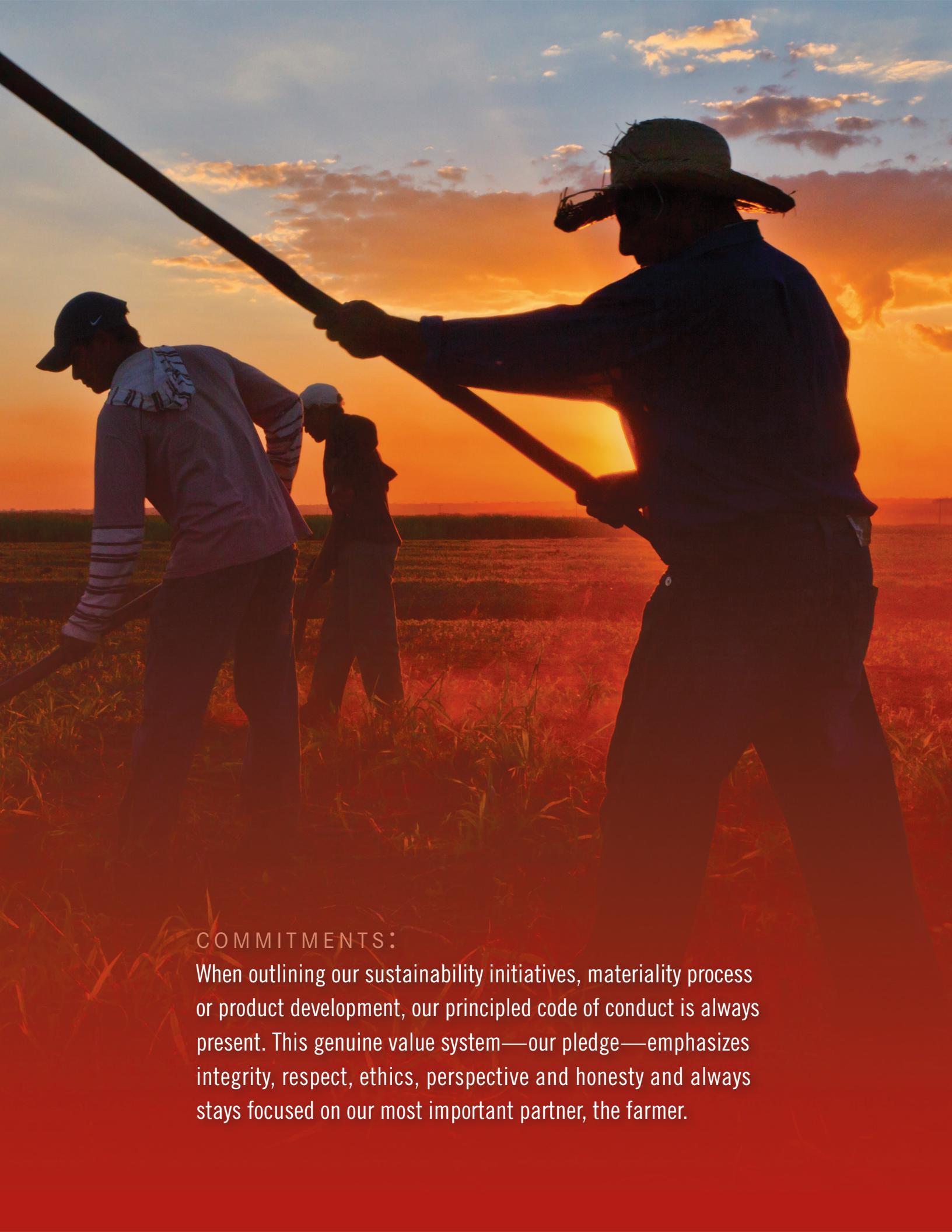
ABOUT OUR BUSINESS

# 2012 FINANCIAL HIGHLIGHTS

(in millions, except per share amounts)

Years ended Aug. 31	2012	2011	2010	% Change 2012 vs. 2011	Net Sales In billions of dollars, for years ended Aug. 31
<b>Operating Results</b>					
Net Sales	\$ 13,504	\$ 11,822	\$ 10,483	14%	\$10.48 10 \$11.82 11 \$13.50 12
EBIT <sup>1</sup>	\$ 3,047	\$ 2,387	\$ 1,568	28%	
Net Income Attributable to Monsanto Company	\$ 2,045	\$ 1,607	\$ 1,096	27%	
Diluted Earnings per Share <sup>2</sup>	\$ 3.79	\$ 2.96	\$ 1.99	28%	
<b>Other Selected Data</b>					
Free Cash Flow <sup>3</sup>	\$ 2,017	\$ 1,839	\$ 564	10%	
Capital Expenditures	\$ 646	\$ 540	\$ 755	20%	
Depreciation and Amortization	\$ 622	\$ 613	\$ 602	1%	
Diluted Shares Outstanding <sup>2</sup>	540.2	542.4	550.8	0%	
<b>About Monsanto</b>					
<b>COMPANY HEADQUARTERS</b> ST. LOUIS, MO, USA					
<b>MONSANTO HAS</b> <b>21,164</b> <b>GLOBAL EMPLOYEES</b>	<b>OPERATING</b> <b>404</b> <b>FACILITIES</b>	<b>IN</b> <b>66</b> <b>COUNTRIES</b>			

<sup>1-3</sup> See our 2012 Annual Report at the hyperlink below for the page of Notes to 2012 Financial Highlights and Charts, which includes reconciliation of EBIT, ongoing earnings per share and free cash flow to the most directly comparable financial measure calculated in accordance with generally accepted accounting principles. [www.monsanto.com/investors/Pages/financial-highlights.aspx](http://www.monsanto.com/investors/Pages/financial-highlights.aspx)



## COMMITMENTS:

When outlining our sustainability initiatives, materiality process or product development, our principled code of conduct is always present. This genuine value system—our pledge—emphasizes integrity, respect, ethics, perspective and honesty and always stays focused on our most important partner, the farmer.

## COMMITMENTS

# MONSANTO IS FOCUSED ON FARMERS

Our employees provide tools and agricultural products to farmers to help improve farm productivity and food quality, while using fewer natural resources.

**Our Mission:** We work to deliver agricultural products and solutions to help:

- Meet the world's growing food, energy and fiber needs
- Conserve natural resources and protect the environment
- Improve lives

## FOOD, BEVERAGE, AND AGRICULTURE SUPPLY CHAIN



## The Value Chain

The agricultural products value chain is highly interconnected and global. Understanding the requirements and perspective of the stakeholders across the value chain will help Monsanto prepare for risks and manage opportunities and allows us to better serve the needs of the end consumer.

- Our place in the value chain is the development and offering of agricultural products and services to farmers around the world.
- Our value chain approach helps us understand what our stakeholders are concerned with and focusing on. It also enables us to identify gaps, potential focus areas, and engagement or partnership opportunities on key issues (e.g. signature projects).
- We believe it's vital to conduct our efforts through a value chain lens. That's why our commitments stretch beyond our own operations to include impacts, risks and opportunities along the value chain. This helps us scale efforts and make a greater impact through collaboration and identification of key issues that are sometimes further down the supply chain and outside our ability to control performance.

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COMMITMENTS, CONT.

## MONSANTO'S SUSTAINABILITY JOURNEY

Over the next four decades, food production will need to increase, enabling us to combat hunger, malnutrition and meet the needs of changing diets and a growing population. Our people remain committed to investing in agricultural systems that can sustainably support the demands of our growing planet—on the farm or at home.

### Farmers Will Need to Sustainably Intensify Production to Meet Demand

Looking ahead, our challenge—one shared by many companies, governments and non-governmental organizations (NGOs)—must be to translate the discussion around these challenges into action.

We know that no single company or organization can meet these challenges alone. Collaboration among stakeholders in the public and private sectors, across virtually every sector of the value chain is vitally important. Our people are committed to continue and accelerate our participation in stakeholder dialogue and supporting initiatives that are focused on increasing agricultural productivity, managing and reducing the environmental impact of agriculture, and improving the economic success of farmers and their families in all parts of the world.

Our people are making progress in our sustainability journey, engaging with many stakeholders and working in partnership with organizations around the world.

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MEGATRENDS  
SHAPING  
AGRICULTURE  
TODAY:

GLOBAL FOOD SECURITY

INCREASING WORLD  
POPULATION

INCREASING PROTEIN  
DEMAND

ECOSYSTEM IMPACTS  
FROM CLIMATE CHANGE

BIOFUEL DEMAND

DEMAND FOR  
HEALTHIER DIETS

WATER AVAILABILITY  
& QUALITY

RESOURCE  
CONSERVATION

## COMMITMENTS, CONT.

### Our Ongoing Journey

In 2008, after an 18-month engagement with internal and external stakeholders, we declared **our ongoing commitment to sustainable agriculture**. Our people believe that if all farmers have access to appropriate tools and information, they can Produce More, Conserve More and Improve Lives. This is the foundation of our commitment to improving lives through agriculture. And we are tracking the progress. Farmers around the world, whether they are smallholder or large production operations, have a great story to tell—they are working toward growing more with fewer resources per unit of production. This timeline chronicles the increase focus on our sustainability commitments, focusing on products, partnerships and people.

2007	2008	2009	2010	2011	2012	2013	Materiality: Advanced stakeholder engagement Level B report
Exploratory committee with internal and external stakeholders convened to determine sustainability strategy	Monsanto creates Sustainable Ag Policy and Partnerships business division Monsanto launches <u>project SHARE</u> with Indian Farmers			Inaugural Monsanto Sustainable Ag Conference Regional sustainability strategies developed Formal stakeholder outreach and research			

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### Monsanto's Approach: A System of Solutions to Promote Sustainable Agriculture



#### BREEDING

Using highest yielding genetics for target environment

#### BIOTECHNOLOGY

Protecting genetic potential to enhance yield

#### AGRONOMICS

Optimizing farm management practices

## COMMITMENTS, CONT.

GRI EC MA GRI EN MA GRI EN18 UN8

### QUICK FACTS—BIOTECHNOLOGY HAS CONTRIBUTED TO:

#### REDUCED GREENHOUSE GAS EMISSIONS EQUIVALENT TO

**10.2 BILLION KG**

Carbon dioxide removed from the atmosphere

OR

**10.2 MILLION**

Cars removed from the road

#### REDUCED PESTICIDE SPRAYING

**474 MILLION KG OR 18.1%**

Reduced pesticide use due to crop biotechnology

#### NET ECONOMIC BENEFITS

**\$19.8 BILLION**

Net economic benefits at farm level in 2011

**\$98.2 BILLION**

Net economic benefits at farm level over 16 year period

**\$48 BILLION**

Of total farm income benefit due to yield gains

#### BIOTECH FARMERS

**15 MILLION OR 90%**

Of total biotech farmers were smallholder farmers in developing countries

Source: GM Crops: Global Socio-Economic and Environmental Impacts 1996-2011, [www.pgeconomics.co.uk](http://www.pgeconomics.co.uk)

For Additional Information, please visit: [www.monsanto.com/newsviews/Pages/biotech-safety-gmo-advantages.aspx](http://www.monsanto.com/newsviews/Pages/biotech-safety-gmo-advantages.aspx)

### Progress on Our Commitment to Sustainable Agriculture

In 2011, we began to report in accordance with the Global Reporting Initiative (GRI), a voluntary sustainability reporting framework that helps companies measure and report their sustainability performance. GRI demonstrates a company's ability to report on the impacts and progress in its operations across a range of sustainability indicators — economic, environmental, social and governance performance. GRI reporting provides a framework to continually improve our performance, while demonstrating transparency to our stakeholders

Our teams are excited to use this report to share many of our achievements and challenges over the last year, which include improved operational footprint data for our seed locations and a focused approach on our supply chain. In addition, we enhanced our approach to stakeholder engagement and conducted a formal materiality assessment of the issues that matter most to society and our business to help inform our sustainability strategy.

We understand that sustainability is a journey, and we will continue to learn and improve. Dialogues with our stakeholders help us pinpoint the areas that require further attention in our business or potential areas where we can collaborate to scale or escalate our positive impacts... or execute on our commitments. We will aim to continue to improve our transparent reporting and to have data verified.

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## COMMITMENTS, CONT.

# STAKEHOLDER ENGAGEMENT

Talking to our stakeholders, whether it's our farmer customers, employees, or investors, has always been an important part of how we do business.

However, in 2011, we began more formalized stakeholder engagements. The conversations not only included our business activities, but also our mission, values and commitments to sustainability. We brought many internal and external stakeholders to the table—both to discuss with our Board of Directors and its committee dedicated to sustainability and the leaders of Monsanto—through in-person meetings and surveys to share, debate and find common ground. During these stakeholder engagement exercises, there was one thing we heard loud and clear: Do a better job at opening up and engaging society. Moving forward, it is vital that our stakeholder engagement and materiality process be inclusive, flexible and open to all audiences and ideas.

## Key Themes We Heard



**BOTTOM-LINE FEEDBACK:**  
**YOU ARE A WORLD LEADER IN SHAPING AGRICULTURE, AND WHAT YOU DO AND WHAT PEOPLE CONSUME ARE IMPORTANT; BE A PART OF THE LONG-TERM SOLUTION.**

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In 2012, our people have worked to further operationalize sustainability in our company. We established a Sustainability Strategy Council, made up of cross-functional leadership, to provide guidance and direction to our sustainability goals—and to assist in ensuring that our sustainability strategy is embedded in all functions worldwide. These leaders will help our company set targets and goals and further embed sustainability throughout our strategic business planning and business practices.

COMMITMENTS, CONT.

## THE SUSTAINABILITY STRATEGY COUNCIL

As we move forward on our journey toward greater sustainability, we recognized the need for a more formal body to develop and implement our company's sustainability goals and practices. The Sustainability Strategy Council (SSC) assembles people from every facet of our business, from our technology sector to specialists in our seed varieties and from finance to manufacturing. It was important that each department had a voice and shared their perspective.

The focus of the SSC is to establish the way we'll move forward with our sustainability platform. The SSC will establish, align and steward the strategic intent of Monsanto to be recognized for our transparent reporting, engagement and leadership in sustainable agriculture—producing more, conserving more and improving lives. The long-term objectives are to:

1. Effectively integrate sustainability into business strategy and practices
2. Ensure all relevant sustainability policies and goals are well informed, aligned and efficiently executed
3. Ensure high levels of organizational understanding, alignment and engagement of the corporate vision throughout the company
4. Establish Monsanto as a recognized sustainability leader in agriculture

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**THE SSC ASSEMBLES PEOPLE FROM EVERY FACET OF OUR BUSINESS**

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**IT WAS IMPORTANT THAT EACH DEPARTMENT HAD A VOICE AND SHARED THEIR PERSPECTIVE**

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## COMMITMENTS, CONT.

### Members of the Sustainability Strategy Council:

Executive VP, Sustainability & Corporate Affairs	U.S. Commercial Operations Director
Director, Corporate Responsibility	Corporate Marketing Director
Director, Corporate Services	VP, Science Policy
VP, Human Resources, Global Business Operations	Deputy General Counsel, Office of Policy, Stewardship, Regulation and Government
VP, Integrated Farming Systems	VP, International Corporate Affairs
VP and General Auditor	VP, Information Technology International
VP, Global Manufacturing Operations	VP, Environment, Safety & Health
VP, Sustainable Agriculture Partnerships	VP, Competitive Policy and Competition
VP, Sustainable Agriculture Policy	President, Monsanto Fund
VP, Global Marketing – Global Technology Development and Global Crop Protection Business	Global Vegetables Technology Development Director
VP, International Row Crops and Global Vegetable	VP, Public Affairs
Director, Regulatory Policy & Scientific Affairs	VP, Biotechnology
	VP, Row Crops Americas
	Director, Government Affairs

This council is early in its development and just starting its mission. Our teams look forward to communicating the council's progress in future reports.

### Sustainability Management Structure

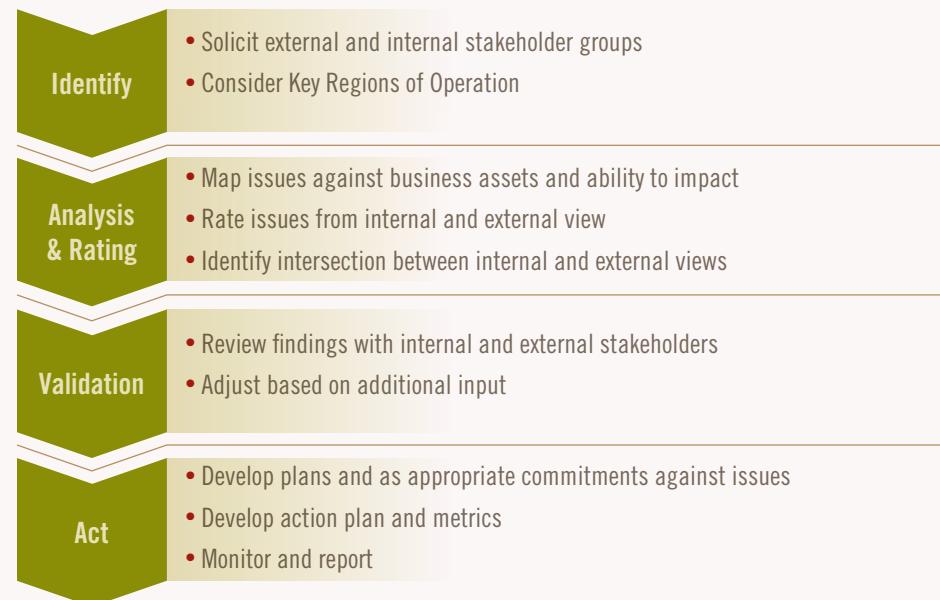


COMMITMENTS, CONT.

# MATERIALITY

## CHARTING OUR COURSE

### Materiality Process



**“MATERIALITY ASSESSMENT” IS THE PROCESS OF DEFINING WHAT’S IMPORTANT SOCIALLY, ENVIRONMENTALLY AND BUSINESSWISE TO BOTH OUR INTERNAL AND EXTERNAL STAKEHOLDERS**

An important step in the discovery process for sustainability is to better understand the challenges and opportunities related to our business. We need to listen carefully to the interests of our stakeholders, including our customers, employees, society and shareowners and think about the interests of future generations.

Our people see the materiality process as an exercise involving the analysis of key business issues, risks and opportunities, and how they intersect with stakeholder needs and interests. The gaps and intersections among those issues, risks and opportunities help steer the focus forward. It’s a tool that allows us to focus our intentions and create the solid ground on which we can build our future plans. “Materiality Assessment” is the process of defining what’s important socially, environmentally and businesswise to both internal and external stakeholders. It helps to define what we’re passionate about and where we can make the most positive impact. Materiality helps us focus on the areas that truly matter to the world, stakeholders and the business, enabling the allocation of internal resources towards well-targeted goals and initiatives.

We will not shy away from the tough issues. In this report and in ongoing communications, we plan to address difficult challenges and how we are committed to making a positive impact. In this report, you can read about our approach to challenging issues like innovation and patents, product labeling and farmer livelihoods.

## COMMITMENTS, CONT.

### Formalizing the Materiality Process

It is vital to establish a process for examining the internal and external drivers of our purpose and mission. We view the materiality monitoring and assessment process as a key organizational learning function that is constantly evolving. In addition to our ongoing trends monitoring and assessment processes, we undertook several rigorous steps to inform and refine our materiality assessment. This year's process included formal meetings, surveys and in-depth research to help us gauge some of the most important issues to Monsanto and the agriculture sector.

Among the primary resources we consulted were:

- Benchmarking of peers and value chain stakeholders
- Agriculture Partners
- Community Partners and Organizations
- Emerging Issues Monitoring
- Employees
- Farmer Customers
- Investors
- Key Issue Partners
- Non-governmental Organizations and Issue Advocates
- Policy Makers
- Press/Social Media
- Professional Organizations
- Public Policy Dialogue
- Scientific & Industry Research
- Trade Groups
- Academics
- Consumer Focused Organizations

Our teams then prioritized the issues by measuring them against our business goals, objectives and ability to contribute positively to the issues. A cross-functional team of leaders validated the issues through an analysis of our opportunities to impact the issues.

We also assessed the relevant importance to our stakeholders. We sought stakeholder input through a variety of ways—direct engagement, surveys, research, and media coverage.

After the data and surveys were collected, we identified the issues that were most important to our business and to our stakeholders. We then validated the results with our internal leadership and key stakeholder partners.

The materiality analysis matrix (*see following page*) helped us define the issues that we can positively impact around the globe. It also allowed us to prioritize our efforts and to judge which areas require further focus. You will be able to read about our work in each of these critical areas in this report and also in further communications on our website.

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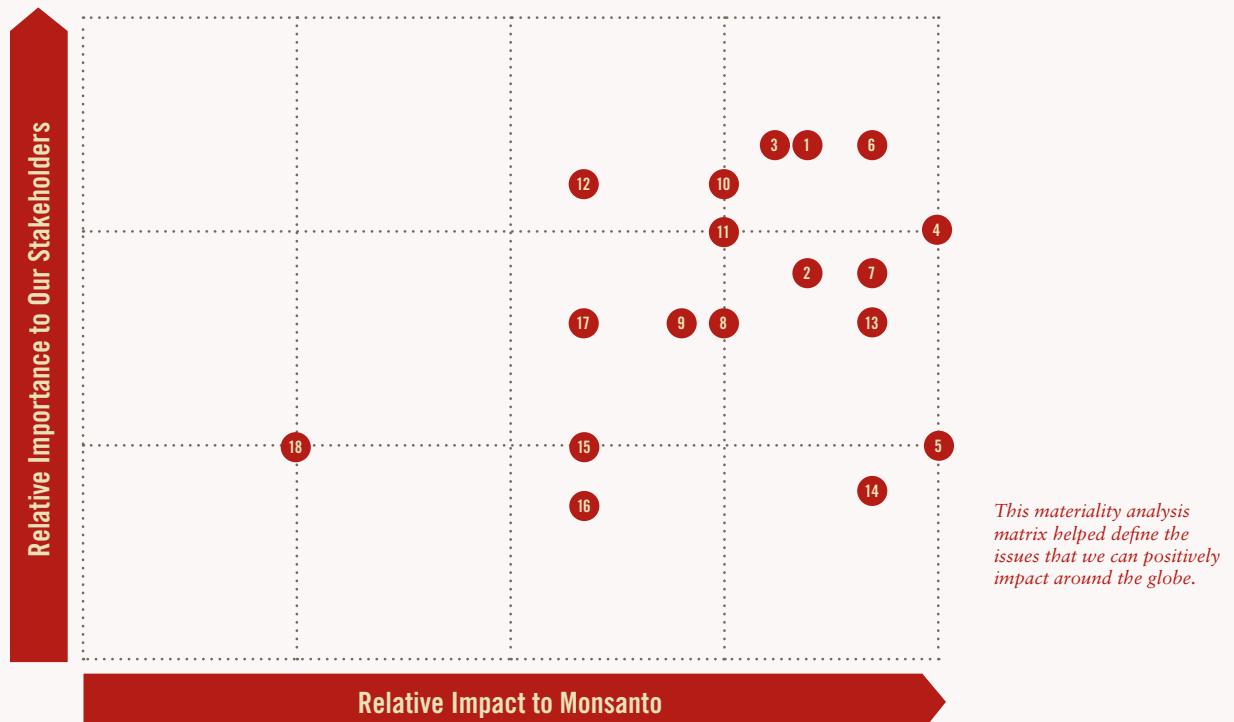
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## COMMITMENTS, CONT.

### Materiality Matrix: Issues Mapping

#### ISSUE DESCRIPTIONS

- 1 **Water:** Protecting and preserving water resources in agriculture
- 2 **Nutrition:** Access to safe, nutritious agriculture-based products
- 3 **Food Security:** Protect and grow yield to meet growing global needs for food, fiber and energy
- 4 **Continuous Improvement in Agriculture:** Systems-based solutions & enhanced information that creates value for farmers
- 5 **Employees:** Attracting, developing and empowering our people while providing a safe, diverse and rewarding working environment
- 6 **UN7 Product Safety & Stewardship:** Products and technologies that meet or exceed regulatory requirements relative to safety, the environment and use
- 7 **Farmer Livelihoods:** Improving the lives of our farmer customers and the economic vitality of farming communities
- 8 **Dialogue & Engagement:** Actively engaging with stakeholders for awareness, perspective and input
- 9 **Technology Innovation & Access:** Safeguarding intellectual property while enabling access to products and innovations
- 10 **Business Ethics & Transparency:** Operating in a compliant, ethical and socially responsible way
- 11 **Environment:** Stewarding the environment throughout our operations, managing our footprint. See also Biodiversity, Climate Change, Water
- 12 **Climate Change:** Helping farmers mitigate and adapt to climate change
- 13 **Local Communities:** Enhancing the communities in which our employees and customers live and work
- 14 **Youth in Ag & Science:** Championing the next generation of agricultural innovators
- 15 **UN1 Human Rights:** Supporting the human rights of our employees and business partner employees
- 16 **Sustainable Supply Chain:** Promoting sustainable behavior in our supply chain
- 17 **Biodiversity:** Supporting increases in natural habitats and habitat protection
- 18 **Legacy Matters:** Indemnification obligations related to certain historical business operations and chemical products



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## INTEGRATING SUSTAINABILITY



The materiality analysis process and stakeholder engagement continues to help us integrate sustainability objectives into business planning and external stakeholder relationships.

We don't see this process as simply a way to improve our report; we see it as an evolutionary step in the way we do business. Every day brings a new opportunity to address and refine these issues. Our culture of curiosity and innovation has always prompted us to ask: **“What's next?”** We're constantly looking for ways to effect positive change.

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Establish Formal Stakeholder Engagement  
Materiality Analysis  
Operational Footprint Management

Define Monsanto's Sustainability Goals and Commitments

Embed in the Business Operations  
Drive Business Objectives

Measure Report  
Communicate

Repeat

Through this process, our focus has been refined and changed. And it shouldn't be a surprise that it will change as we hear more from our internal and external stakeholders. But today, these processes and graphs serve not only as a place to plant our flag, but a window through which others can see our passion and progress.

## COMMITMENTS, CONT.

### What's Next?

Our people believe we have a responsibility and an opportunity to use our resources to address some of the world's most pressing challenges; however, we only play one part. In order to meet new challenges, we will continue to seek out new partnerships and solutions.

This year, we took an important step by formalizing our materiality and stakeholder engagement processes. We also established a baseline for our seed facilities related to energy and water. Going forward, we will continue to engage with our partners and get input on how we can make the biggest impact in improving lives through agriculture. We will also work with our stakeholders to establish additional projects and goals; both for our own operations and for the work we do with our farmer customers and society.



We communicate these partnerships and goals in this report and also throughout all of our communication channels. Our teams will periodically provide updates on our website, through collaborative engagements and through direct communications to stakeholders.

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Finally, while we are proud of the progress we've demonstrated with this year's report, we are committed to continuous improvement in our sustainability reporting. An important area of improvement for us is to work to gain third party assurance for our sustainability report. While a number of programs individually have been verified through third parties, e.g. our Product Safety and Stewardship, Human Rights and certain Environmental, Safety and Health programs, we believe it is a critical part of our commitment to supplying transparent, verifiable information for all material provided in our report. We are working with third party advisors to develop a process for assurance and have begun the pre-assurance steps. This approach allows us to identify any gaps and develop a robust assurance process going forward.

## COMMITMENTS, CONT.

## THE MONSANTO PLEDGE

The Monsanto Pledge has been in place since 2000. It outlines our commitment to how we do business. It's a declaration that compels us to listen more, to consider our actions and their impact broadly, and to lead responsibly. It helps us to convert our values into actions, and to make clear who we are and what we champion.

### Integrity

Integrity is the foundation for all that our people do. Integrity includes honesty, decency, consistency, and courage.

Building on these values, we are committed to:

### Dialogue

We will listen carefully to diverse points of view and engage in thoughtful dialogue. We will broaden our understanding of issues in order to better address the needs and concerns of society and each other.

### Transparency

We will ensure that information is available, accessible, and understandable.

### Sharing

We will share knowledge and technology to advance scientific understanding, to improve agriculture and the environment, to improve crops, and to help farmers in developing countries.

### Benefits

We will use sound and innovative science and thoughtful and effective stewardship to deliver high-quality products that are beneficial to our customers and to the environment.

### Respect

We will respect the religious, cultural, and ethical concerns of people throughout the world. The safety of our employees, the communities where we operate, our customers, consumers, and the environment will be our highest priorities.

### Act as Owners to Achieve Results

We will create clarity of direction, roles, and accountability; build strong relationships with our customers and external partners; make wise decisions; steward our company resources; and take responsibility for achieving agreed-upon results.

### Create a Great Place to Work

We will ensure diversity of people and thought; foster innovation, creativity and learning; practice inclusive teamwork; and reward and recognize our people.



## THE MONSANTO PLEDGE IN ACTION

## COMMITMENTS, CONT.

## The Monsanto Pledge in Action

Our employees live the commitments of the Pledge everyday. We have established a series of policies and programs that formalize the Pledge into our business structure and practices. Our policies help codify the Pledge within our organization and across different stakeholders, and our programs are activities that help us fulfill the principles of the Pledge. Examples of these can be found below. For more details on the Monsanto Pledge in Action, please see [www.monsanto.com/whoweare/Pages/monsanto-pledge.aspx](http://www.monsanto.com/whoweare/Pages/monsanto-pledge.aspx).



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## SUSTAINABLE YIELD PLEDGE AWARDS

The Sustainable Yield Pledge Awards promote, recognize and reward people and work that exemplify Monsanto's Pledge values and support our commitment to make agriculture more sustainable.

Our senior leadership selected six category winners. Distinguished external judges selected a Judges' Choice winner, and our employees selected the People's Choice winner. The 2012 ceremony was held in the summer of 2012.

### Award Categories

#### **Producing More**

Projects that contribute to meeting the growing demand for high quality food, fuel and fiber for all people.

#### **Conserving More**

Projects that contribute to improved resource use and environmental impact.

#### **Improving Lives**

Projects that contribute to increased quality of life throughout the world.

#### **Customer Relationships**

Projects that provide value to and build strong ties with our customers and their needs.

#### **Community Engagement**

Projects that benefit the communities in which we operate.

#### **Operational Excellence**

Projects that improve our operational standards or efficiencies.

*"I very much enjoyed the opportunity to learn about Monsanto —both from the scientific perspective and to see the remarkable projects that your people have worked on around the world. It was a privilege to be part of your Sustainable Yield Pledge Awards, and I hope that our paths will cross again soon."*

**External Judge**

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## 2012 Pledge Winners

**GRI EN26** **UN8,9 PRODUCE MORE**

### Helping Cotton Farmers Produce More in India's Vidarbha Region

Crops in Vidarbha, located in Maharashtra, in central India, are predominantly rain fed. And when the region endures frequent droughts, crop yields and farmers' incomes drop. Monsanto launched Project V-Care into this environment to improve crop management practices, primarily through education and training in eight cotton districts.

Learn more at [youtu.be/1B5VJ1ZDgdE](http://youtu.be/1B5VJ1ZDgdE)

**GRI EN26** **UN8,9 CONSERVE MORE**

### Fontanelle's Aqua View® Initiative Conserves Water

Fontanelle's Aqua View initiative is a systems approach comprised of water management tools, quality seed genetics, educational programs and support services designed to help growers in irrigated areas maximize the value of their seeds and traits with savings of approximately 10.5 million gallons in 2010 and 8.4 billion gallons in 2011.

Learn more at [youtu.be/pY\\_z8eMtkb0](http://youtu.be/pY_z8eMtkb0)

## IMPROVE LIVES

### Responding to Drought in East Africa

In the Horn of Africa, the worst drought in 60 years foretold widespread famine in 2011. By the time the United Nations declared the first famine in nearly 30 years, more than 13 million people in Somalia, Ethiopia, Kenya and Uganda needed food, water and safety to survive. Monsanto and its employees forged new partnerships with three experienced, well-respected relief organizations: World Food Program USA, Kenya Red Cross Society and Catholic Relief Services.

Learn more at [youtu.be/MWoC\\_mzg618](http://youtu.be/MWoC_mzg618)

## CUSTOMER RELATIONSHIPS [PEOPLE'S CHOICE]

### Helping Farmers Recovering from the Catastrophic Frost in Sinaloa, Mexico

In February 2010, freezing temperatures in Sinaloa wiped out 90 percent of the corn crop, an overwhelming loss to the Mexican economy that potentially would impact local food resources and the international corn market. Within 48 hours, Monsanto put more than 50 people in place to focus on a plan of action to deal with the damaging frost.

Learn more at [youtu.be/5zET97Kkq9U](http://youtu.be/5zET97Kkq9U)

## 2012 JUDGES' CHOICE:

### IMPROVING THE LIVES OF WOMEN FARMERS IN KENYA

## 2012 PEOPLE'S CHOICE:

### HELPING FARMERS RECOVERING FROM THE CATASTROPHIC FROST IN SINALOA, MEXICO

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COMMITMENTS, CONT.

### COMMUNITY ENGAGEMENT [JUDGES' CHOICE]

#### Improving the Lives of Women Farmers in Kenya

Zallipah Githui returned to her village in Ngorano, Kenya, from her job at Monsanto to help improve the lives of farmers and their families. She spent her own money and contributions from Monsanto employees and provided hybrid corn seeds, fertilizers and the services of an agronomist to sixteen women farmers in Ngorano, and has plans to turn her initial efforts into a not-for-profit organization called Rural Woman Development Initiative.

Learn more at [youtu.be/DTMiXDWPX08](https://youtu.be/DTMiXDWPX08)

### OPERATIONAL EXCELLENCE

#### Changing Can Be Challenging

Our teams, in collaboration with U.S. distribution partners, streamlined operations, increased efficiencies and decreased costs, resulting in a more professional dealer network with pinpoint inventory accuracy right down the line.

Learn more at [youtu.be/iLk4sRRf9HI](https://youtu.be/iLk4sRRf9HI)



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## COMMITMENTS, CONT.

# OUR COMMITMENT TO SUSTAINABLE AGRICULTURE

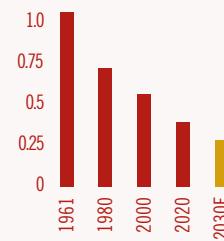
Each day, the world supports another 200,000 people more than the day before. As the population increases, so does the demand for food, fiber, energy and water.

By 2030, global demand for soybeans will be 125 percent more than it was in 2000. Arable land per capita in 2030 will be just one third of what was available in 1980. And without essential improvements in productivity, there is a projected 40 percent gap in the amount of global water supply that will be available in 2030 versus expected demand. We must wisely use our natural resources to meet these future challenges.



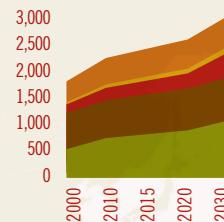
## Arable Land Per Capita Losing Ground to World Population Growth & Economic Development

Arable Land per  
Capita Worldwide in Acres



Source: IHS Global Insights,  
Agriculture Division

## Global Demand for Crops Projected to Grow Dramatically Million Metric Tons

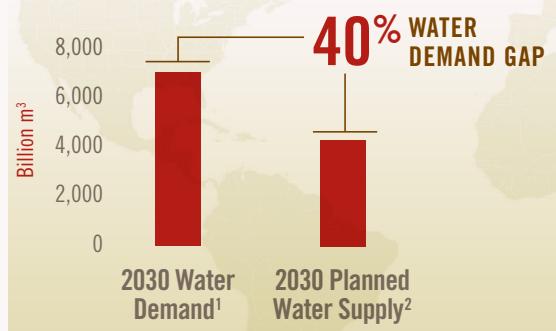


- Rice +28%
- Cotton +102%
- Soybeans +125%
- Wheat +40%
- Corn +76%

Source: IHS Global Insights,  
Agriculture Division

## Water Gap

### Productivity Improvements Required to Close Future Water Gap



<sup>1</sup> DEMAND in 2030 based on frozen technology and no increase in water efficiency after 2010

<sup>2</sup> SUPPLY at 90% reliability and including infrastructure investments scheduled and funded through 2010; supply in 2005 is 4,081 BCM per year; supply in 2030 under projected technological and infrastructural improvements equals 4,866 BCM per year; net of environmental requirements

Source: Water 2030 Global Water Supply and Demand model; agricultural production based on IFPRI IMPACT-WATER base case

## COMMITMENTS, CONT.

To do our part in addressing these challenges, in 2008, we set ambitious goals for continuous improvement in the agriculture sector following a year of analysis and dialogue sessions with more than 100 experts in the agriculture, food, international development, not-for-profit and government sectors. The goals were established to challenge our organization to align our unique breeding, biotechnology and agronomic management capabilities with the anticipated needs of our stakeholders.



**YIELDS WILL  
NEED TO  
DOUBLE BY  
2030**

Monsanto's **sustainable agriculture goals** are threefold:

#### **Producing More**

Developing improved seeds and agronomic practices to help farmers double yields by 2030 from 2000 levels for corn, soybeans, cotton and canola. In addition, we pledged \$10 million to support rice and wheat breeding, crops essential to food security, by establishing Monsanto's Beachell Borlaug International Scholars Program.

#### **Conserving More**

Conserving resources by developing seeds and agronomic practices that by 2030 use one third fewer key resources than in 2000 per unit of output to grow crops, while working to lessen habitat loss and improve water quality.

#### **Improving Lives**

Helping improve the lives of farmers and their families, including 5 million people in resource-poor farm families by 2020.

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## COMMITMENTS, CONT.

We acknowledge that Monsanto, acting alone, cannot accomplish these goals. However, as an agricultural company focused on increasing crop yields sustainably, we have pledged our best efforts to support the needs of farmers as they tackle these challenges. We are also committed to working with partners, new and already established, who offer diverse capabilities to address the daunting challenges.



## GRI EN18 SUSTAINABLE AGRICULTURE GOALS SCORECARD

PROGRESS TO GOAL: ● ACHIEVED ● AHEAD OF PACE ● ON PACE ● OFF PACE

## IMPROVING LIVES

Helping to improve lives, including 5 million resource-poor farm families by 2020

## PRODUCING MORE

Doubling yields from year 2000 levels by 2030

## CONSERVING MORE

Reducing resources by one third by 2030  
Land use, irrigation water, energy, soil loss, greenhouse gas emissions

● **2.7 MILLION**  
SMALLHOLDER FARMERS ADOPTING BIOTECH

● **\$5.48 BILLION**  
IN ADDITIONAL NET INCOME AS A RESULT  
OF TECHNOLOGY ADOPTION

●	Corn	13%
●	Soybeans	10%
●	Cotton	33%
●	Canola	21%

●	Corn	-4%
●	Soybeans	-15%
●	Cotton	-19%

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## COMMITMENTS, CONT.

## Producing More

Our people are committed to providing a suite of solutions to farmers so that they can work to double yields in our core crops to meet increased demand. Through our many partner-based initiatives, we also continue to develop and provide solutions for smallholder farmers in places like Africa and India.



## GOAL

Double the yields of corn, soybeans, cotton and spring-planted canola between 2000 and 2030

## PROGRESS INDICATOR

National average crop yield levels in leading countries

## METHOD

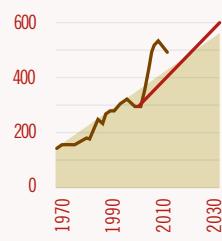
Country-by-country comparisons, year-over-year

Monsanto tracks progress against the goal of doubling yields based on the enabling policy conditions for investing in yield-enhancing technologies within the major corn, soybean, cotton and canola producing countries. In 2012, each country was objectively classified as having high, medium and low yield enabling policy conditions by The Context Network.\* The classifications are based on the ability of farmers to access the full complement of yield-enhancing technologies (breeding, biotechnology and agronomic management). We then track and report progress on the goal of doubling yields for the groups of countries with high technology adoption. The data is reported employing a three-year rolling average for the crop production years 2010, 2011 and 2012.

For the 2011 reporting year, cotton farmers have made the most progress toward the goal of doubling yields. They are on pace to do so with farmers in South Africa leading the way. Cotton farmers in India are ahead of pace and Brazilian farmers are on pace to the goal. U.S. farmers were on pace toward the goal; however, their yields lagged recently due to severe weather conditions.

In canola producing regions, Canadian farmers have the best performance, but have only recently fallen off the pace due to weather and disease pressures. U.S. farmers have increased yields since 2000; however, they will need to see more rapid progress to get back on pace.

**Cotton Yield Response**  
in India (KG/HA)



**Canola Yield Response**  
in Canada (MT/HA)



— 3 year rolling average  
— Goal  
■ Historical trend (1970–2000)

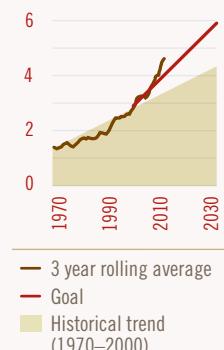
Source: USDA PS&D Database

\* Report: [www.contextnet.com/120420%20Global%20Crop%20Production%20Systems.pdf](http://www.contextnet.com/120420%20Global%20Crop%20Production%20Systems.pdf)  
The Context Network report uses different terminology for remaining countries.

## COMMITMENTS, CONT.

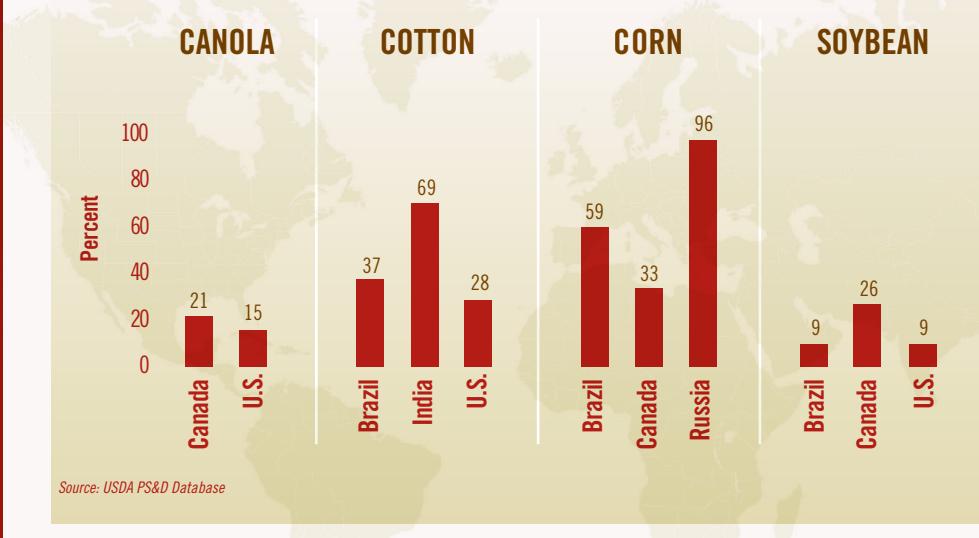
Among corn producing countries, Russia, Ukraine, Brazil, Paraguay and the Philippines have some of the best results and are well ahead of pace on the goal of doubling yields. Countries such as Uruguay and Canada are effectively on the pace required. Overall, among the countries with the highest level of access to technology, progress slipped back to just 13 percent above the yield levels achieved in 2000. This is in large part due to two poor weather years for corn production in the United States. The drought of 2012 was considered to be similar to the two worst drought years in the past 100 years (1988 and 1933). Prior to the most recent poor weather years, U.S. corn farmers were on pace to double yields. While corn farmers are off pace due to the drought, without improvements in irrigation and seed technologies, yields could have been much worse. [Find more information on the 2012 drought in our Environment chapter](#). With normal weather patterns in the U.S. corn belt, significantly higher yields are expected.

## Corn Yield Response in Brazil (MT/HA)



The most challenging crop relative to the goal of doubling yields is soybeans. Almost across the board, yields have been significantly off pace with what will be required to double yields by 2030. The industry has seen only a 10 percent gain since 2000 levels. Canadian farmers have exhibited the highest gains with yields at 26 percent more than 2000 levels. Roundup Ready 2 Yield™ soybeans have been widely adopted in Canada and recent weather patterns have been favorable. U.S. soybean yields have slipped back with the recent poor weather; however, the adoption of Genuity® Roundup Ready2Yield® soybeans with the advanced breeding improvements that provide the potential for higher yields in better weather conditions may help the needed course correction for the U.S. trajectory. In Brazil we anticipate high demand by farmers to plant Monsanto's INTACTA RR2 PRO soybeans given the yield benefits that have been observed in field trials.

## Pace to Goal—Doubling Yields (2000–2030)—Selected Countries



## COMMITMENTS, CONT.

## Conserving More

Monsanto is proud to be a founding member of Field to Market: The Keystone Alliance for Sustainable Agriculture. Field to Market has risen to the challenge of comprehensively measuring the resource intensity of major row crops in the United States. Key performance indicators measured by Field to Market include land use, climate impact, energy use, irrigated water use and soil loss.

Employing a three-year rolling average of Field to Market data and analytical methods in 2011, cotton farmers in the U.S. are tracking ahead of pace to achieve the goal of one third fewer key resources per unit of crop output. U.S. cotton farmers have achieved a **19 percent** increase in resource efficiency and are ahead of pace. Soybean farmers have achieved a **14 percent** increase in resource use efficiency and are on pace with the goal. Corn farmers have seen a **4 percent** increase in efficiency when it comes to conserving natural resources. While corn farmers are off pace, it is largely due to the historic 2012 drought in the United States. In fact, progress toward this goal for cotton, soybean and corn farmers was significantly impacted by the 2012 drought. [Find more information on the drought in our Environment chapter.](#)

Monsanto is supporting efforts to document similar data and analytical methods in additional countries. Multi-stakeholder efforts in Canada, Brazil and Spain have developed efforts largely aligned with the Field to Market effort in the United States. Moreover, Monsanto is consistently voicing our support for more robust efforts to collect data on a global basis that would allow for more consistent monitoring of resource-use intensity levels in agricultural production systems.

In addition to participating in a value chain effort like Field to Market, we have invested time and resources into creating new technologies that will allow farmers to use fewer resources while still increasing yield. We believe that when we provide better seeds and promote innovative agronomic practices, farmers can move toward achieving our “Conserve More” goal of using one third fewer key resources per unit of output to grow crops and dramatically lessen their global footprint.

For example, studies have shown that irrigation to support crop production accounts for 70 percent of global fresh groundwater annually. And the total global demand for water is projected to increase by 40 percent through 2030\*. There is no doubt that farmers need to find innovative ways to use less water. We are working hard to deliver solutions that aid in that endeavor. Our facility in [Gothenburg](#), Nebraska, has been pioneering new ways to use less water through systems-based agriculture. We’re also making progress in energy consumption and soil health through our research into [Integrated Farming Systems<sup>SM</sup> \(IFS\)](#). This innovative approach works to deliver maximum yield potential to farmers through breeding technology combined with equipment technology advances.

## GOAL

Reduce aggregate use of key resources by one third per unit of output between 2000 and 2030

## PROGRESS INDICATOR

Efficient use of land, water and energy; minimization of soil loss and greenhouse gas emission

## METHOD

Reporting of eco-efficiency data in the U.S. and other leading countries as available

Pace to Goal  
Using 1/3 Less Key Resources by 2030  
by percent



## Commitments

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\*[www.mckinsey.com/App\\_Media/Reports/Water/Charting\\_Our\\_Water\\_Future\\_Exec%20Summary\\_001.pdf](http://www.mckinsey.com/App_Media/Reports/Water/Charting_Our_Water_Future_Exec%20Summary_001.pdf)

## COMMITMENTS, CONT.

**Improving Lives**

Monsanto believes that agriculture can only be sustainable if the livelihoods of farmers and their families are improving. We seek to improve the lives of all farmers we are privileged to serve; however, we also set a goal of achieving a measurable improvement in the lives of at least 5 million people living in resource-poor farm families between 2008–2020.

While we all have a stake in the future of agriculture, farmers' livelihoods are rooted in the success of their farms. As they become more efficient, prospects improve to increase their household income levels. When incomes are improved in farming, rural communities where farming is prominent achieve higher rates of job creation and economic expansion.

**The Effect of Investing in Agriculture on Incomes**

Agriculture is still one of the largest sources of employment and wealth creation across the globe. According to research done by the United Nations University, the agriculture sector is significantly more effective than non-agriculture sectors in reducing poverty among the poorest of the poor.

**GOAL**

Helping to improve lives, including 5 million resource-poor farm families by 2020

**PROGRESS INDICATOR**

Net income gains among farmers adopting improved crops and systems

**METHOD**

Global meta-analysis of net income effects attributable to improved crops and systems

**Reducing Poverty Among the Poorest of the Poor**

AGRICULTURE IS UP TO **3.2** TIMES BETTER THAN OTHER INVESTMENTS AT REDUCING EXTREME POVERTY RATES IN LOW INCOME, RESOURCE-RICH COUNTRIES\*

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Based on global meta-analysis data compiled by ISAAA and PG Economics, 2.7 million resource-poor farmers have adopted biotech crops since 2008. These farmers achieved \$5.48 billion in additional net income as a result of this technology adoption. Based on farm household population levels in the locations where these technology adoptions occurred, 9 to 15 million people in resource poor farm families are estimated to have shared in these benefits. Due to the economic multiplier effect of agriculture, the communities where these farmers lived are estimated to have received \$3 to \$7 in additional value in their communities for every \$1 of additional income realized by the farmer.

\*Source: World Institute of Development Economics Research  
[www.wider.unu.edu/publications/working-papers/2010/en\\_GB/wp2010-36/](http://www.wider.unu.edu/publications/working-papers/2010/en_GB/wp2010-36/)

## COMMITMENTS, CONT.

Working with African governments and organizations, the Bill and Melinda Gates Foundation, the Howard G. Buffett Foundation, the U.S. Agency for International Development (USAID), and the International Maize and Wheat Improvement Center (CIMMYT), the [Water Efficient Maize for Africa \(WEMA\)](#) program aspires to help African farmers increase productivity and improve their livelihoods, so they can feed their families and afford education and health care for their children. The WEMA program is developing new drought-tolerant and insect-protected corn hybrids for smallholder farmers. Part of our contribution is to provide the technology royalty-free to African seed companies, so that these new hybrids make it into the hands of farmers in sub-Saharan Africa. WEMA is one example of the many public-private partnerships we participate in to address food security in the developing world.



GRI EN11, 12, 13, 14

## SIGNATURE PARTNERSHIPS SCORECARD

PROGRESS TO GOAL:

● ACHIEVED

● AHEAD OF PACE

● ON PACE

● OFF PACE

● <b>MONSANTO'S BEACHELL-BORLAUG INTERNATIONAL SCHOLARS PROGRAM</b> \$10 million investment over 5 years resulted in the support of 52 scholars from 21 countries. Scholars received full scholarships to study wheat and rice breeding.
● <b>MISSISSIPPI RIVER WATERSHED PARTNERSHIP</b> \$5 million investment in the Mississippi River watershed. Through partner organizations (The Nature Conservancy, Delta Wildlife and the National Audubon Society) on-farm best management practices were developed to reduce nutrient run-off; demonstration rain gardens were established for urban storm water education; and 1,000 water control structures were installed in the Delta to improve water quality, reduce erosion and provide wildlife habitat.
● <b>CONSERVATION INTERNATIONAL</b> Partnership to preserve biodiversity and prevent deforestation in the Cerrado and Atlantic Forest regions of Brazil. The program has reached more than 5,000 farmers and citizens and preserved more than 8,000 hectares.
● <b>WATER EFFICIENT MAIZE FOR AFRICA</b> Developing pipeline of new drought-tolerant hybrids for sub-Saharan Africa. Phase II of the program was officially launched in 2013 and the first WEMA hybrids are scheduled to be in the hands of Kenyan farmers this fall.
● <b>PROJECT SHARE</b> Pilot program for Indian cotton and corn farmers. Over four years the project is on pace to reach more than 10,000 Indian farmers with tools they need to boost production as well as their income.

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COMMITMENTS, CONT.

## GOVERNANCE & POLICIES

Our people are committed to the values of strong corporate governance. Our business decisions are guided by the core tenets described in our Monsanto Pledge.

These principles, combined with our corporate governance guidelines and the charters of our Board of Directors and its committees, influence and affect our decision-making process. And, while it's vital that we live up to our responsibilities and standards, it's just as important to us that our people and partners are committed to the principles of our ethical corporate governance program.



## PRODUCT STEWARDSHIP & SAFETY

GRI PR MA

GRI PR1

UN7,8

More Than Just the Price of Doing Business

At Monsanto, product stewardship and safety aren't just boxes we need to check. They are commitments that live at the very center of our business model. Our customers are farmers, and no one understands and values proper stewardship as they do. We're proud to deliver products that are ethically developed and held to stringent performance and safety standards, because it's just the right thing to do for farmers, their customers and our planet. We also work hard to openly share information about our stewardship and safety programs for our products and business processes. For a comprehensive overview of our stewardship and safety commitments, please visit our website at [www.monsanto.com/products/Pages/safety-technical-information.aspx](http://www.monsanto.com/products/Pages/safety-technical-information.aspx).

Our people also seek to enhance the dialogue about the safety of our products by sharing research studies from independent global experts from the business, academic and NGO communities. We keep a growing list of research studies on our website at [www.monsanto.com/newsviews/Pages/food-labeling.aspx](http://www.monsanto.com/newsviews/Pages/food-labeling.aspx).

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## COMMITMENTS, CONT.

What constitutes product safety and stewardship for us? Simply put, product stewardship is the responsible development, management and use of technologies and products across our seeds, traits and crop protection businesses throughout their entire product life cycle.

This ideal lives in the heads and hearts of our people as they make decisions on the direction of the company. It's in the greenhouses and laboratories as our plant scientists develop new products. And it continues with our people with mud on their boots, looking out over the farm fields across the world.

It's not enough for us to simply commit ourselves to the safety and stewardship of our products; we seek to meet the highest standards for the agricultural industry, as well.

That's one of the reasons we became a founding member of the Excellence Through Stewardship® program. This program establishes a series of best practices in the field of agricultural biotechnology.

## The Tools We Use

How do we evaluate the safety and benefits of our products for our customers, consumers and the environment? It's a critical expectation, and we're constantly improving our tools and processes to meet the challenge. The Life Cycle Stewardship Activities Management Process (LCStAMP) is our process to design stewardship requirements and to guide products through their life cycle. It helps us track responsible product development, management, use and eventual discontinuation. We created a web-based IT tool called Stewardship Activities Management Process Electronic Repository (StAMPER), which allows us to monitor and record status, compliance and other important safety factors as products move through their respective life cycles.

**GRI LA10** The Product Stewardship team developed computer-based training on product stewardship and StAMPER, and the results would make anyone proud. The program achieved an initial completion rate of more than 85 percent and continues to be deployed across the globe.

And while StAMPER is an important part of data collection, it's just a part of a bigger program. **There are four phases or components that make up this framework:**

**85%**  
**INITIAL  
COMPLETION  
RATE OF THE  
PRODUCT  
STEWARDSHIP  
TRAINING  
INITIATIVE**

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### LIFE CYCLE STEWARDSHIP ACTIVITIES MANAGEMENT PROCESS (LCStAMP) FRAMEWORK

#### FIRST COMPONENT

Identify the key activities that impact product stewardship

#### SECOND COMPONENT

Stewardship planning and review sessions

#### THIRD COMPONENT

Stewardship activities management process electronic repository (StAMPER)

#### FOURTH COMPONENT

Independent audit or verification measures to confirm and document progress

## COMMITMENTS, CONT.



### True Stewardship in Action—Genuity® DroughtGard™ Hybrids

The U.S. drought of 2012 was devastating to farm yields. Like many agricultural crises, it provided an opportunity to test the efficacy of new technologies. By applying the LCStAMP management process and working hand-in-hand with farmers, our teams tested seed that uses less water during times of drought stress, reducing yield loss from drought.

Genuity® DroughtGard™ Hybrids are part of a system combining best agronomic recommendations, plant breeding, and the world's first drought tolerant trait. This system has shown higher yields in water-stressed environments, which helps manage risk.



**DUE FOR  
RELEASE  
IN 2013**

### GROUND BREAKERS® SHARING KNOWLEDGE WITH FARMERS

Inventions happen in the laboratory. But, to determine the true value of the technology, the products have to perform in the field. In 2012, we introduced a new program called Ground Breakers, which allows farmers early access to products in our pipeline.

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This program allows farmers to obtain a better understanding of product benefits and an opportunity to give essential first-hand perspectives on the performance of Monsanto's newest corn and soybean products. In return, we get critical feedback on how our products perform in real world, commercial-scale planting conditions, which helps inform our commercial decisions.

Over 250 farmers across the Corn Belt were selected to participate in this program. The farmers—identified as the most progressive and influential in their communities—were the first to try some of the newest Monsanto products before they hit the market.



**250**  
**FARMERS**  
**ACROSS THE**  
**CORN BELT**

COMMITMENTS, CONT.

## GROUND BREAKERS® FARMER PROFILE

### Ground Breakers® Farmer Clay Scott

The Ground Breaker program is designed to give us unfiltered feedback, and Clay Scott is one of the U.S. farmers involved in the program. Here's what he had to say about the initiative as a whole, and our Genuity® DroughtGard™ Hybrids.

“Being a Ground Breakers® farmer gave me the chance to learn and experience the new technology right from the start and let me see how I can apply that technology to my farm.

“I think the program gives farmers the ability to test these new and regulated products on their farms while still being able to manage through the regulations.

“DroughtGard Hybrids, along with the other technology and breeding advancements, will give us the opportunity and a new tool to manage our risk in drier conditions and occasional droughts and yet still get the maximum yield per gallon of water. It also gives the farmers another tool to combat the drought and dry conditions while still giving them the opportunity to see some top end yields when conditions return to normal.

“This was a tough year and it really should have lent itself to barren and non-pollinated corn, and instead we saw some of the best pollination and kernels that I have ever seen.

“When you plant the DroughtGard Hybrid corn the first thing you want to see when the drought starts to appear is if it's working. You really don't see the benefit until you shuck back that ear and you see the kernel set and the grain fill, and that's the most important part. Big tall corn with no ears doesn't serve any purpose. It's all about the grain fill and bushels in the bin, and that's where we saw the benefit.

“We've seen what it goes through when conditions are brutal, and I'm excited to see what kind of yields we can see in a better crop season.”



*“This was a tough year and it really should have lent itself to barren and non-pollinated corn, and instead we saw some of the best pollination and kernels that I have ever seen.”*

**Clay Scott,**  
*Ground Breaker Farmer*

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## COMMITMENTS, CONT.

## EXCELLENCE THROUGH STEWARDSHIP®

We are proud to be a founding member of the Excellence Through Stewardship® program. This industry-coordinated initiative promotes global adoption of stewardship programs, quality management systems and supports responsible management of biotechnology derived products from inception through use and removal from the market.

Commitment to the program includes independent third party audits, which are performed on a three-year audit schedule. This audit program verifies stewardship programs and quality management systems are consistent with Excellence Through Stewardship® initiatives. The audit schedule requires an audit of Monsanto's global headquarters and country of primary activity (United States) and two additional global regions within a three-year cycle. Our teams have completed verification audits in the U.S., Canada, Brazil and Latin America South (Argentina and Chile). A successful re-verification audit of the U.S. was completed in 2012. Third party verification audits in 2013 include India and Latin America North (Mexico and Costa Rica).



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## COMMITMENTS

## CHALLENGE:

# SHARING RESULTS AND ENCOURAGING CONVERSATION



When you're dealing with patent-sensitive, original research and formulations, confidentiality is an imperative. Protecting one's original innovations and inventions is important to facilitate the innovative cycle long-term. After all, the years of research and development, not to mention the investment, should be rewarded. Most companies and academic institutions recognize this, but still companies tend to isolate themselves in order to protect their properties.

Recently, our team stepped forward and allowed professors at Mississippi State University to share the results regarding our pre-commercial dicamba and glyphosate products and encouraged them to share the contents of the results of the study they had conducted. Normally, study results on pending products are kept confidential, but we wanted them to talk openly about the study to regulators. We only asked that they didn't share formulation ingredients.

This is noteworthy because our competition would be able to see the data and look closely at the information when published. Encouraging an open discussion like this can also be seen as a financial risk. Some think it leaves us open to formulation theft. But, in this instance we wanted the data shared. This sharing expedited product acceptance and farmer access to the technology.

Creating a collaborative environment where information can be shared freely to benefit farmers and the world is a new step for us. But it was the right thing to do.

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## COMMITMENTS, CONT.

## GREATER CHOICES ARE IN THE HANDS OF FARMERS

As a leader in biotech trait development, we are often the first company to wrestle with the complicated issues presented by this important technology. Transitioning proprietary biotechnology traits to generic status is a key industry issue, and the discussion has been generated in part by Monsanto's first-generation Roundup Ready® ("RR1") soybean trait, as the last U.S. patent will expire in early 2015.



THE LAST  
U.S. PATENT  
WILL EXPIRE  
IN EARLY  
2015 AS WE  
CONVERT TO  
THE GENUITY  
ROUNDUP  
READY 2 YIELD  
SOYBEAN  
TRAIT

Even after U.S. patents have expired, seeds that contain biotech traits, like RR1, **will still be regulated in many countries to which U.S. soybeans are exported.** These seeds must be authorized for import into major trading partner countries. Prior to patents expiring, the seed company that developed the biotechnology trait is responsible for obtaining and maintaining these export authorizations. After patents expire, the original seed company may or may not remain in the market, but any seed company can use the biotech event in the development of new seed products. However, the extensive data and regulatory intellectual property necessary to sustain the regulatory approvals for the biotechnology event remains the property of the original producer. Therefore, industry stakeholders across the value chain agreed that there should be a process to continue the maintenance of regulatory authorizations and the proper stewardship of seed products containing the generic event.



## COMMITMENTS, CONT.

Beginning in 2010, the Biotechnology Industry Organization (BIO), the American Seed Trade Association (ASTA) and their members, including Monsanto, worked to develop a private contractual mechanism for a smooth transition to a post-patent or generic marketplace, named The Accord. The Accord describes the rights and obligations of the parties to the Accord to access the generic biotech event and the regulatory data supporting that event to enable commercialization of seed products containing off-patent biotechnology. Additionally, it assures that international regulatory and stewardship responsibilities will be maintained by those parties. The Accord consists of two agreements: The Generic Event Marketability and Access Agreement (GEMAA) and the Data Use and Compensation Agreement (DUCA). Both of these are voluntary, but they are binding contracts among the signatories.

The GEMAA provides access to the generic event, and requires that regulatory approvals necessary to enable U.S. exports are maintained while parties to the GEMAA market seed products containing that single generic biotech event. The DUCA accomplishes both of those objectives, while also providing access to the regulatory data to enable the commercialization of multiple-event seed products containing the generic event.

Although Monsanto is discontinuing the use of the RR1 event and converting to the new and superior Genuity Roundup Ready 2 Yield soybean event, we plan to support key import approvals for the RR1 event through 2021, or pursuant to the DUCA. For seed companies that want to use the RR1 trait, that provides at least ten years (six of them post-patent) either bilaterally or through the DUCA to make arrangements to provide ongoing regulatory support for the RR1 trait. Under the Accord, possible arrangements include Monsanto supporting RR1 past 2021, sharing regulatory responsibility in a joint agreement, or transferring the existing RR1 regulatory data package to other seed companies that would provide continued support.

Together, the two Accord agreements facilitate continued grower access to seed products containing a generic biotech event (e.g. the RR1 event in 2015), protect trade in U.S. commodity crops containing the generic event, and facilitate product development and competition in the post-patent marketplace.

For more information on the Accord, visit [www.agaccord.org](http://www.agaccord.org).



**WE PLAN TO SUPPORT KEY IMPORT APPROVALS FOR THE RR1 EVENT THROUGH 2021, OR PURSUANT TO THE DUCA**

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COMMITMENTS, CONT.

## TOUR PROGRAM

For more than 20 years, Monsanto has opened its doors to visitors wanting tours of our facilities. Our tour sites host growers, agri-businesses, students, teachers and other stakeholders who want to see what we do. We've also welcomed community officials and civil society leaders as well as members of the media.

Visitors can see our research labs, growth chambers, and greenhouses and meet the scientists who are working hard to improve agriculture and improve lives.

These sites give our visitors a firsthand look at what makes us tick, and they illustrate how science has moved the world of agriculture forward. Additionally, they provide a window into the future of agriculture by showing new prototypes and advancements.

For example, our Gothenburg, Nebraska Water Utilization Learning Center is a 324-acre research farm with more than 80 demonstrations. The center displays how farmers can use a systems-based approach to manage drought and improve yields while using less water and fertilizer.



*Ernest Jaworski  
Agricultural Science  
Gallery in  
St. Louis, Missouri.*

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In 2012, we renovated our tour site in St. Louis. The Ernest Jaworski Agricultural Science Gallery is a huge step forward in interactive touring. This site allows visitors to stop at various points in the room and explore our history and technology as deeply as they like. Blending digital, video and tactile displays, this tour illustrates the big, global challenges facing the world and the partners we're working with to address food security, resource scarcity and a growing population.

Our tour program strives to share information about Monsanto and share our vision with visitors. These sites, including the new Ernest Jaworski Agricultural Science Gallery, continue our long tradition of doing just that.

## COMMITMENTS, CONT.

## MONSANTO'S CODE OF BUSINESS CONDUCT

We are committed to building relationships based on integrity. This value, in alignment with the Monsanto Pledge, helps us earn and retain the trust of people across multiple stakeholder interests with whom we interact in the normal course of our business.

Our commitment against corruption starts with a strong culture of integrity set at the highest levels of the company. We analyze all of our business units for risks related to corruption and maintain constant vigilance in auditing all business units for compliance with our Anti-Corruption Policy, Code of Business Conduct (Code), Corporate Controller Policies and other compliance related protocols. Regional Working Groups meet to consider and, where appropriate, approve employee interactions with government officials before those interactions occur. Working Group membership includes the highest-ranking business, finance and legal executives in each business region or unit. These teams are accountable for employee compliance with Monsanto's anti-corruption program and controllership policies.

Maintaining a strong culture of integrity in a dynamic corporate environment requires continuous review, consideration and oversight. In 2011, the Business Conduct Office (BCO) implemented updated global anti-corruption risk mitigation protocols, launched these protocols across all of our business units in multiple languages through our Regional Working Group structure and completed numerous training and communication campaigns to ensure employee awareness.

In 2012, the Board of Directors approved an update to the Code, which was published and distributed to all employees in 30 different languages. These important initiatives were presented to our organization with a fresh look powered by a new branding theme that carries over into our broader training and communication efforts. Updates to the Code include an on-line interactive version for employees and external links for use by suppliers and vendors who conduct work related to or on behalf of Monsanto in compliance with our Code.

For more information, please visit: [www.monsanto.com/whoweare/Pages/business-conduct.aspx](http://www.monsanto.com/whoweare/Pages/business-conduct.aspx)



IN 2012,  
AN UPDATED  
CODE WAS  
PUBLISHED IN  
**30**  
DIFFERENT  
LANGUAGES

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Monsanto's Code helps employees recognize and deal with a broad range of potential issues. The Code provides guidance on the importance of respecting each other, protecting the environment, health and safety, proper stewardship of our products, research methodology, use of company resources, and accurate communication about our finances and products.

## COMMITMENTS, CONT.



It also addresses the many legal and ethical facets of integrity in business dealings with customers, suppliers, investors, the public, and governments that regulate us and the communities in which we do business. The Code also provides employees with information on several ways to raise questions or request guidance before making decisions or taking actions.

Employee training promotes awareness of the Code and prepares employees to act appropriately in business situations when faced with an ethical dilemma. Training helps employees anticipate situations likely to arise in the dynamics of our business and to be prepared to meet those challenges. In 2012, the Business Conduct Office (BCO) supported training programs for more than 20,000 employees using computer-based presentations. Training focuses on Monsanto's social, legal and ethical responsibilities including:

- Code of Business Conduct and annual certification of compliance
- **GRI S03** **UN10** Anti-corruption and Monsanto's anti-corruption practices
- **GRI HR3** **UN1** Human rights
- **UN1** Respect in the workplace
- **UN1** Employee opportunities to raise business conduct concerns for both employees and managers
- Software anti-piracy
- Information privacy
- Insider trading
- Conflicts of interest
- Trade and professional association participation
- Lobbying

Training for newly hired employees includes sections on these topics to assure awareness across our organization.

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## COMMITMENTS, CONT.

The BCO also promotes awareness of the Code by maintaining training materials on a dedicated website accessible by computer-enabled employees in all global regions. Employees are encouraged to seek additional guidance on the Code and our commitment to integrity from their managers, their human resources generalists and the senior management team in their region.

Posters placed throughout all of our physical locations direct employees to toll-free telephone numbers and the Business Conduct Office confidential mailbox to enable direct access by all employees who feel their concerns may not be fully heard or appreciated in their local environment. Retaliation for reporting good-faith concerns to the BCO is strictly prohibited.

## Recognizing Integrity: Business Conduct Awards

Each year, we recognize employees who demonstrate integrity in exceptional ways.

## Program Overview and History

In 2010, the Business Conduct Office (BCO), in cooperation with other functional areas, developed an awards program that recognizes exemplary behavior that supports and reinforces the BCO's compliance and ethics program and the company's culture of integrity.

## Program Concept

The program recognizes group or individual employee contributions that serve to strengthen Monsanto's culture of integrity, recognize and address compliance with all legal, regulatory and company policy requirements, or create efficiencies in existing compliance practices.

## Award Categories

- **Integrity Champion Award:** Compliance awareness or educational projects or initiatives that result in employees, vendors or customers conducting business in a way that clearly demonstrates a commitment to integrity.
- **Compliance in Action Award:** Initiatives or action that detect and address internal control weaknesses that may lead to non-compliance issues.
- **Operational Excellence Award:** Ideas and resulting action plans that create meaningful process improvements and efficiencies to existing compliance activities.
- **Courage in Integrity Award:** Demonstration of individual courage and foresight to recognize and proactively address observed non-compliance under adverse conditions.

For 2012, across all categories, we recognized 77 employees as regional award winners who contributed in a meaningful way to their region's culture of integrity and 68 employees as global award winners who contributed to Monsanto's corporate culture of integrity in ways that hold the potential for improvement across all or multiple business units.



FOR 2012,  
MONSANTO  
RECOGNIZED  
**68**  
EMPLOYEES  
AS GLOBAL  
AWARD  
WINNERS  
CONTRIBUTING  
TO THE  
CORPORATE  
CULTURE OF  
INTEGRITY

## COMMITMENTS, CONT.

### **GRI LA MA** Improving Compliance in India: India Regional Compliance Council

In response to the unique demands for enhanced compliance in our India business operations, Monsanto established the Regional Compliance Council. The purpose of this group is to further senior leadership oversight and engagement on the complex maze of statutory compliance requirements in that region. Where warranted, this council can quickly implement changes, introduce new compliance processes or procedures and create new policies. With these goals in mind, the Regional Compliance Council developed and implemented a compliance framework in 2012 to ensure continued compliance in India.

Over the course of 2012, the Council has helped increase awareness and the essentiality of compliance within the organization and business teams in India. Identification of applicable laws or acts with corresponding training helps teams continue to meet compliance obligations in the face of a dynamic and challenging business environment and changing laws and regulations.

#### **Successful Council initiatives for 2012 include:**

- Policy and compliance documentation alignment
- Establishment of compliance charters for business operations
- A third-party review of operations to assure best practices
- Functional reviews of operations to identify and address weaknesses

The Regional Compliance Council is looking ahead to 2013 for further opportunities to improve, including ways to provide additional employee trainings, establish a feedback process for members of the Council to assess their progress, and employ independent audits to gauge the effectiveness of the Council. The long-term objective is to strengthen compliance across every function of the business.

**THE LONG-TERM  
OBJECTIVE IS TO  
ESTABLISH AND  
STRENGTHEN  
COMPLIANCE  
ACROSS EVERY  
FUNCTION OF  
THE BUSINESS**

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## COMMITMENTS, CONT.

## POLITICAL DISCLOSURES

We are committed to participating constructively in the political process, as such participation is essential to our company's long-term success.

As a company committed to bringing new, valuable technologies to farmers and creating value for shareowners, we are engaged in the political process on matters important to our business.

For more information on our decision-making and corporate governance processes regarding political contributions in the United States, visit [www.monsanto.com/whoweare/Pages/political-disclosures.aspx](http://www.monsanto.com/whoweare/Pages/political-disclosures.aspx).

### Monsanto Included on 2012 CPA-Zicklin Index

The Center for Political Accountability (CPA) is a U.S. not-for-profit, non-partisan organization that was created to bring transparency and accountability to corporate political spending. Since 2003, CPA has become a recognized national leader, spearheading a highly visible and effective campaign for corporate political disclosure.

Working with more than 30 shareholder advocates, CPA is the only group to directly engage companies to improve disclosure and oversight of their political spending. Reporting includes contributions and payments to trade associations and to other tax-exempt organizations, such as not-for-profit "social welfare" 501(c)(4) organizations, that are used for political purposes within the United States.

Improvements in our reporting in this area earned Monsanto the rank of 13<sup>th</sup> out of 200 companies in terms of transparency in political disclosures. We continue to champion transparency in this important area and proudly work with centers like the CPA to improve our disclosures.

To view the results, visit [www.politicalaccountability.net](http://www.politicalaccountability.net).

**RANKED  
13<sup>TH</sup>  
ON 2012  
CPA-ZICKLIN  
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## COMMITMENTS, CONT.

# UNGC COMMUNICATION ON PROGRESS

In 2009, Monsanto Company became a member of the UN Global Compact, the world's largest sustainability and corporate citizenship initiative. The Global Compact is a framework for businesses, stating 10 principles in the areas of human rights, labor, the environment and anti-corruption. It is comprised of more than 10,000 participants, including over 7,000 businesses in 145 countries around the world.

These are the principles and you can find our Communication on Progress at [sustainability.monsanto.com](http://sustainability.monsanto.com)



## Human Rights

UN1

**Principle 1:** Businesses should support and respect the protection of internationally proclaimed human rights; and

UN2

**Principle 2:** make sure that they are not complicit in human rights abuses.

## Labour

UN3

**Principle 3:** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

UN4

**Principle 4:** the elimination of all forms of forced and compulsory labour;

UN5

**Principle 5:** the effective abolition of child labour; and

UN6

**Principle 6:** the elimination of discrimination in respect of employment and occupation.

## Environment

UN7

**Principle 7:** Businesses should support a precautionary approach to environmental challenges;

UN8

**Principle 8:** undertake initiatives to promote greater environmental responsibility; and

UN9

**Principle 9:** encourage the development and diffusion of environmentally friendly technologies.

## Anti-Corruption

UN10

**Principle 10:** Businesses should work against corruption in all its forms, including extortion and bribery.

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## COMMITMENTS, CONT.

## OUR PEOPLE

Monsanto has always made our employees a high priority. We employ more than 21,000 people, and we know that without each and every one of them engaged and reflecting our values and commitments, we can't achieve the goals we've set for ourselves. We work hard to provide appropriate resources, training and development for our employees because we see them as our most valuable resource.

In order to hear our employees' voices and opinions, we use surveys, town hall-style meetings and conferences to open up pathways of communication. We provide educational activities and support for employee involvement in their communities. These programs are offered to our employees because we want them to be involved not just in Monsanto's business, but also in the business of helping the world. We want to help improve their lives, so they can help improve the lives of others.

**WE WANT TO  
IMPROVE OUR  
EMPLOYEES'  
LIVES, SO  
THEY CAN  
IMPROVE  
THE LIVES  
OF OTHERS.**

### Quarterly Pulse Survey

Every quarter we sample 25 percent of our regular employees, collecting information to calculate an engagement index:

1. Overall pride in Monsanto
2. Overall job satisfaction
3. Willingness to recommend Monsanto as a great place to work
4. Willingness to offer discretionary effort
5. Intent to stay or leave the company

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Additional questions help measure employee attitudes about overall leadership effectiveness, as well as a range of other topics related to current issues facing the company. The survey is global and is administered in 20 languages, and the results are analyzed and presented to the Executive Team and the Board of Directors every quarter.

## COMMITMENTS, CONT.

## Involved in the Communities Where We Live and Work

Philanthropy and community outreach have always been a big part of our culture. We encourage our employees to give to their selected charities and communities and provide the support they need, including matching grants to charities our people support. In 2010, our people introduced Monsantogether in the Americas, a program that supports personal charitable involvement by our employees and encourages them to volunteer in their communities.

This program allows employees to choose their own volunteer service and rewards them for their contributions by giving grants to the organization where the employees spent their time. In 2012, we exceeded 50,000 volunteer hours working in communities through this program. Everything from food pantries to animal shelters, whatever our employees feel is important to them becomes important to us.

WE ENDED  
THE 2012  
CALENDAR  
YEAR AT  
**54,057**  
TOTAL  
VOLUNTEER  
HOURS

## SINCE THE PROGRAM'S LAUNCH IN 2010:

- 600** team volunteer events organized
- 6,129** individual projects completed
- 3,691** employees participated in volunteer events
- 90,114** employee volunteer hours logged
- 165** global sites participate in the program
- \$402,500** in total grants awarded



**Monsantogether**

Enriching Communities. Helping Others.

In 2012, Monsanto sites across the U.S. joined forces to help fight rural hunger in their local communities through a Rural Hunger Volunteer Week. Over 50 sites, or nearly half of Monsanto U.S. facilities, volunteered more than 2,000 volunteer hours across 20 states. This program builds upon the Invest an Acre program with plans to make the volunteer week an annual campaign to unify their efforts. Hugh Grant, Monsanto's Chairman and CEO, also got involved and led a team of 40 employees at the world headquarters through volunteer efforts at the St. Louis Area Foodbank.

Other world regions are also getting involved and giving back. Employees in Latin America South launched a pilot project of Junior Achievement P.A.M.P.A (Model Agricultural Entrepreneur Learning Program) at schools in Zárate, Rojas, Pergamino and Buenos Aires. P.A.M.P.A.'s purpose is for students to acquire tools to better understand agricultural activities. Through Monsanto-offered classes, students simulate the operation of rural enterprises and analyze the decision-making on issues related to the agriculture world to help them understand the impact in the economy and on the quality of life.



COMMITMENTS, CONT.

## AWARDS

We are always proud when our sustainability platforms and continuous improvement initiatives are recognized. These honors spotlight the thousands of employees who are working with farmers and partners around the world to improve agriculture and improve lives.

### **UNG** Best Corporate Citizens List

First published in 1999, the “100 Best Corporate Citizens” list ranks large-cap Russell 1,000 companies based on publicly available information. Companies are ranked on seven key categories: climate change, employee relations, environmental, financial, governance, human rights and philanthropy. In 2012, we were ranked 36<sup>th</sup> overall. This is the fourth time we’ve been included on the list.

### **UNG** 2020 Women on Boards

2020 Women on Boards is a national campaign to increase the percentage of women directors on U.S. company boards to 20 percent or greater by 2020. This year, Monsanto was recognized with a top “W” award for having 20 percent or more women on our Board of Directors.

### Thompson Reuter's Top 100 Global Innovators

We were proud to be named one of Thomson Reuters 2012 Top 100 Global Innovators based on a series of proprietary, patent-related metrics developed by Thomson Reuters Intellectual Property Solutions Business. Reuters utilizes a scientific, unbiased approach to identify organizations that are dedicated to innovation, committed to protecting patent rights globally, and whose inventions have worldwide influence.

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**RANKED**  
**36<sup>TH</sup>**  
**IN THE**  
**“100 BEST**  
**CORPORATE**  
**CITIZENS”**  
**LIST**

### Canada's Top Family-Friendly Employers

Now entering its 13<sup>th</sup> year, Canada's Top Family-Friendly Employers recognizes the top 20 employers offering the nation's most progressive and forward-thinking programs for employees with young children. We were recognized for providing alternative work arrangements including flexible hours, telecommuting and shortened and compressed workweek options.

### *Financial Times' List of “Most innovative U.S. In-House Legal Teams”*

Our in-house legal team was recognized by the *Financial Times* as one of the 14 “Most Innovative U.S. In-House Legal Teams.” We were nominated for our use of “virtual” teams used to ensure the success of cases and our particular value-creating legal expertise.

## COMMITMENTS, CONT.

### #3 on Best Places to Work in Argentina

Monsanto Argentina moved up to the large company division (1,000+ employees) in 2012 after placing #3 in medium companies (250–1,000 employees) in 2011. This recognition is bestowed by the Great Place to Work Institute, which measures companies on their policies, practices and employee opinions.

### #14 on the Top 25 World's Best Multinational Workplaces

We were proud to be one of the 25 multinational companies selected for the list from a group of 251 qualifying multinational corporations. We were recognized for our outstanding workplace culture and in recognition of our reputation as a global employer-of-choice. We are the only St. Louis-based company and only agriculture company recognized in the award's second year. To be eligible for the list, qualifying companies must have appeared on at least five national Great Place to Work® lists, have at least 5,500 employees worldwide, and at least 40 percent of their global workforce must work outside the company's home country. We placed on the National Great Place to Work Lists for Brazil, India, Argentina, Central America and Mexico.

### #5 on *Science Magazine's* 2012 Top Employers

This survey measures reputation or perception as an employer with people across the scientific industry. To develop the rankings, *Science* sent the Top Employers survey to over 23,000 people who had registered with AAAS or ScienceCareers.org. The final survey results were based on 4,276 respondents. Our top three attributes from the survey were: innovation leader in the industry, makes changes needed, and does important quality research.

### #16 on *Forbes* list of the World's Most Innovative Companies

In *Forbes*'s most recent rankings of the top 100 most innovative companies, Monsanto was ranked 16<sup>th</sup> in the world and 9<sup>th</sup> in the U.S. These rankings were based on factors that include the company's five-year average sales growth (percent), five-year net income growth (percent), enterprise value (in \$ billions) and the "Innovation Premium". According to the *Forbes* release, the Innovation Premium "is a measure of how much investors have bid up the stock price of a company above the value of its existing business based on expectations of future innovative results (new products, services and markets). Members of the list must have \$10 billion in market capitalization, spend at least 1 percent of their asset base on R&D and have seven years of public data.

### Achievers 50 Most Engaged Workplaces™ Award

This annual award recognizes top employers that display leadership and innovation toward engaging their employees. The Achievers 50 Most Engaged Workplaces™ Awards panel of judges evaluated each applicant based on the Eight Elements of Employee Engagement™: Communication, Leadership, Culture, Rewards & Recognition, Professional & Personal Growth, Accountability & Performance, Vision & Values and Corporate Social Responsibility.

**RANKED  
16<sup>TH</sup>  
ON *FORBES*  
LIST OF THE  
WORLD'S MOST  
INNOVATIVE  
COMPANIES**

## COMMITMENTS, CONT.

### **UNG** #8 on the “Top 50 Employers” in *Workforce Diversity For Engineering & IT Professionals Magazine*

The readers of *Workforce Diversity For Engineering & IT Professionals* magazine selected the top companies in the country for which they would most prefer to work or believe would provide a positive working environment for engineers and IT professionals who are members of minority groups.

### #29 on Best Companies to Work for in Brazil

For the 13<sup>th</sup> consecutive year, we were selected one of the best companies to work for in Brazil. It is organized by *Época* magazine and the consulting company Great Place to Work®. Carried out in 49 countries, this study assesses the organizational practices of personnel management and the trust that employees have in the workplace.

### #18 on Best Companies to Work for in India

Monsanto India ranked 18<sup>th</sup> on the 2012 list developed by *The Economic Times* and Great Place to Work Institute. The company also ranked 4<sup>th</sup> on their list of companies with less than 1,000 employees. The award recognized our focus on corporate social responsibility, employee safety and work-life balance. In addition, our referral programs for women and the disabled were highlighted as best practices. Monsanto India ranked 33<sup>rd</sup> on the 2010 list of Best Companies in India.

### Monsanto Caribe LLC recognized as one of the Best Employers in Puerto Rico

Monsanto Caribe LLC was recognized as the third-best medium-sized employer (151–399 employees) in Puerto Rico for 2012. Aon Corporation and the newspaper El Nuevo Dia, collaborated on the ninth edition of the study The Best Employers in Puerto Rico.

### One of *Computerworld's* 100 Best Places to Work in IT

Monsanto ranked 29<sup>th</sup> on the overall list and 18<sup>th</sup> among large companies, up from 57<sup>th</sup> overall in 2011. *Computerworld* singled out our employee recognition awards and leadership development programs as strengths for the company.

### #12 on *The Scientist* Best Places to Work in Industry Survey

We earned the #12 spot on the 2012 overall rankings, moving up three spots from #15 in 2011. The survey ranks companies based on a range of attributes. We were recognized for our benefits, training and development.

**RANKED**  
**12<sup>TH</sup>**  
**ON THE**  
**SCIENTIST**  
**BEST PLACES**  
**TO WORK IN**  
**INDUSTRY**  
**SURVEY**

## COMMITMENTS, CONT.

### A Platinum Level Fit-Friendly Company

The American Heart Association recognized us for the second consecutive year as both a Platinum Level Fit-Friendly Company and as a recipient of a Worksite Innovation Award for supporting wellness programs in St. Louis. In demonstrating progressive leadership and making the health and wellness of our employees a priority, we were listed as one of 28 companies in the United States receiving both honors in 2012. The Platinum Level is the highest level of recognition from the American Heart Association's Start! Initiative.

### **UNG** #44 on the *DiversityInc* Top 50 Companies for Diversity List

For the fifth straight year, we have been named to the *DiversityInc* Top 50 Companies for Diversity List. A total of 587 companies participated in 2012, up 11 percent from last year. In addition to its #44 overall ranking, we were ranked #9 on The *DiversityInc* Top 10 Companies for Recruitment & Retention.

### **GRI EN18** Named to the Maplecroft Climate Innovation Index Leaders

The financial index is a list of the top 100 companies selected based on leadership in climate-related innovation and resource management programs, including reduction of greenhouse gas emissions, use of new technologies, pursuit of climate-related opportunities and environmental policies. For the second time in two years, we were cited for our efforts in delivering innovations that can help sustainably meet global demand by helping farmers get more from every acre of land, every drop of water and every unit of energy.

### #11 on the List of the Best Multinationals in Latin America

To be eligible to rank on this list, multinationals must have been recognized in at least three national lists of Latin America in the past year, have at least 1,000 employees worldwide, and have a minimum of 40 percent of total employees working outside the country of origin (where the company is headquartered). Additionally, we were recognized for the success of our operations in Brazil, Mexico, Argentina and Guatemala.

**RANKED  
11 TH**

**ON THE LIST  
OF THE BEST  
MULTINATIONALS  
IN LATIN  
AMERICA**

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### #29 on Glassdoor's 2012 Best Places to Work Employees' Choice Awards

Glassdoor's Employees' Choice Awards rely solely on the input of employees, who provide constructive feedback on their work environment and senior management throughout the year via an anonymous survey. The survey addresses eight key workplace factors that include work/life balance, career opportunities, communication, compensation and benefits, fairness and respect, employee morale, recognition and feedback, and senior leadership.

## COMMITMENTS, CONT.

## DIVERSITY AT MONSANTO

At Monsanto, we foster an environment of inclusiveness and collaboration throughout our more than 400 global locations. We see the diversity of our more than 21,000 employees as a critical piece of our plan to meet the needs of farmers all over the world.

That's why our teams have employees who live and work near the communities where our customers farm. They are the link between the workplace and marketplace. Their diverse cultures are a huge benefit to us and provide viewpoints that we would not otherwise have.

We support nine employee-led diversity groups that provide networking and learning opportunities for people with varied backgrounds. Senior leaders act as liaisons for each of these groups and provide leadership support as needed.

We also formed a Diversity Council in 2007. This Council seeks to advance our culture around inclusion and assist in developing diversity champions at every level of the organization. To make sure we link the importance of diversity to driving innovation and delivering strategic business results, this Council is helmed by our strategy/operations director.

### Nine Diversity Networks

**Monsanto Asian Connection:** Launched in 2003 as a diversity network focused on developing Asian American employee cultures within Monsanto.

**ENCOMPASS:** A resource group for our gay, lesbian, bisexual and transgender employees and their advocates.

**African Americans in Monsanto:** Works to continuously develop African American employees in support of Monsanto's goals and objectives, and creating an inclusive environment that enables African Americans to be successful while adding value to the company.

**Monsanto Latin Network:** Enhances the Monsanto experience by creating development opportunities for its members, fostering leadership, leveraging and raising the awareness of Latin diversity, and creating a sense of community.

**Monsanto Young Professionals:** Provides young professionals in their 20s and 30s with the unique opportunity to connect with peers and management, explore Monsanto's global business, gain leadership experience and give back to the community.

**Monsanto St. Louis Women's Network:** Focuses on leadership development, mentoring and building relationships within the organization.

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**The Family Network:** Enhances our efforts to create an environment where contributions at work are balanced with employees' fulfillment of personal and family responsibilities.

**VANGUARD (Veterans and National Guardsmen):** Formed to assist with attracting, developing and retaining talented employees who have a military background.

**The Access Network:** Supports the retention, recruitment and advancement of our employees, candidates and guests with visible and hidden disabilities..

## Enhancing Company Culture

At Monsanto, we are constantly learning and making improvements so we can attract and retain the best talent and provide a work environment that encourages and rewards loyalty, hard work and passion. In our vision for this culture, diversity is a cornerstone. Our people proudly sponsor efforts that support career development, networking, recruitment, promotion of cultural awareness and the creation of an inclusive environment.

We continue to look for ways to support our employees, enhance our culture of inclusion, broaden our perspectives and go beyond just thinking about diversity in terms of race and gender. After all, supporting our employees and promoting an inclusive environment is critical for business.

## The Monsanto Vanguard Network

Sometimes the casualties of war aren't easy to see. After decades of war, Afghanistan's agricultural base had been largely destroyed. The natural resources on which 80 percent of Afghans depended were destroyed or rendered unusable. And, without modern farming practices to support conventional crop production, people were turning to illegal crops such as poppy to generate sufficient income to sustain themselves and their families.

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To help Afghan farmers better develop an agricultural system for legal crops, increase yields and income, the U.S. National Guard Agricultural Development Teams (ADT) deployed to the country. The Monsanto Vanguard Network, established in 2009 to assist Monsanto with attracting, developing and retaining talented employees with a military background and comprised of mostly veterans and National Guardsmen, worked with ADT to assist the personnel upon their return home and to help teams stationed in Afghanistan promote sustainable agriculture and modern farming techniques.

## COMMITMENTS, CONT.



Vanguard Operation Resupply drive in Spring 2012.

### Operation Resupply

On April 15, 2012, the Taliban attacked the forward operating base for the Agriculture Development Team (ADT). During the attack a fire broke out, destroying the barracks and all the personal belongings of the team.

Our Vanguard Network, made up of veterans and military dependents, immediately went to work. After all, these were our friends and people we knew. It became a mission for us to help. Our team obtained a list of the needs of the unit's 102 men and women from Operation Homefront, a not-for-profit organization that works to support troops and their families.

For a week, our team collected donations from employees, plus refurbished laptop computers. We packed 49 boxes and shipped them only 17 days after the attack.

This effort earned the team the National Guard's Minuteman Award, given to individuals or organizations that embody the National Guard's commitment to, "answer the nation's call at a moment's notice."

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## COMMITMENTS, CONT.

### Our People: By the Numbers

GRI LA1

#### The total workforce broken down by employees and supervised workers.

Employees	21,164
Supervised Workers	0
<b>TOTAL</b>	<b>21,164</b>

Note: We do not centrally track contract workers. Our Environmental, Safety & Health Group applies an algorithm to the total number of hours worked by contract workers to derive a Full Time Employee equivalent for OSHA reporting purposes.

GRI LA1

#### The total number of permanent employees broken down by employment type.

Full time	20,731
Part time	433
<b>TOTAL</b>	<b>21,164</b>

GRI LA1

#### The total workforce broken down by region using a geographic breakdown based on the scale of the organization's operations.

Asia Pacific	814
Brazil	2,454
Canada	241
China	216
Europe/Middle East/Africa	3,652
India	929
Latin America North	1,208
Latin America South	1,339
United States	10,311
<b>TOTAL</b>	<b>21,164</b>

GRI LA2

#### Total number of employees leaving employment during the reporting period broken down by gender.

Female	634
Male	1,257
<b>TOTAL</b>	<b>1,891</b>

GRI LA2

#### Rate of employees leaving employment during the reporting period broken down by gender.

Female	3.00%
Male	5.94%
<b>TOTAL</b>	<b>8.93%</b>

GRI LA2

#### Total number of employees leaving employment during the reporting period broken down by age group.

Under 30	322
30-50	1,122
Over 50	447
<b>TOTAL</b>	<b>1,891</b>

GRI LA2

#### Rate of employees leaving employment during the reporting period broken down by age group.

Under 30	1.52%
30-50	5.30%
Over 50	2.11%
<b>TOTAL</b>	<b>8.93%</b>

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## COMMITMENTS, CONT.

**GRI LA2** **Total number of employees leaving employment during the reporting period broken down by region.**

Asia Pacific	230
Brazil	303
Canada	13
China	11
Europe/Middle East/Africa	269
India	100
Latin America North	100
Latin America South	87
United States	778
<b>TOTAL</b>	<b>1,891</b>

**GRI LA2** **Rate of employees leaving employment during the reporting period broken down by region.**

Asia Pacific	1.09%
Brazil	1.43%
Canada	0.06%
China	0.05%
Europe/Middle East/Africa	1.27%
India	0.47%
Latin America North	0.47%
Latin America South	0.41%
United States	3.68%
<b>TOTAL</b>	<b>8.93%</b>

**GRI LA12** **The percentage of total employees (from LA1) who received a formal performance appraisal and review during the reporting period.**

<b>TOTAL</b>	<b>93.30%</b>
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**GRI LA13** **The percentage of employees in the gender category (female/male).**

Female	30.79%
Male	69.21%
<b>TOTAL</b>	<b>100%</b>

**GRI LA13** **The percentage of employees in minority groups.\***

**23.44%**

\*U.S. only. Excludes white males and white females.

**GRI LA13** **The percentage of employees by age group.**

Under 30	15.76%
30-50	62.37%
Over 50	21.87%
<b>TOTAL</b>	<b>100%</b>

**GRI LA13** **The percentage of individuals within the organization's governance bodies by gender.**

<b>% BY TOTAL LEADERS</b>	
Female	26.45%
Male	73.55%
<b>TOTAL</b>	<b>100%</b>

**GRI LA13** **The percentage of individuals within the organization's governance bodies in minority groups.\***

<b>% BY TOTAL LEADERS</b>	
<b>TOTAL</b>	<b>16.60%</b>

\*U.S. only. Excludes white males and white females.

**GRI LA13** **The percentage of individuals within the organization's governance bodies by age group.**

<b>% BY TOTAL LEADERS</b>	
Under 30	1.22%
30-50	70.25%
Over 50	28.53%
<b>TOTAL</b>	<b>100%</b>

## COMMITMENTS, CONT.

## SAFETY ISN'T A BIG ENOUGH WORD

At Monsanto, the safety of our employees has always been a core value of our culture. Our Pledge is a cornerstone on which we built our business and a fundamental part of our present and future.

To put it simply, we don't think it's acceptable for people to be injured on the job, and it's vital that we manage our business in such a way that our employees are educated to make better choices at work, on the road or at home with their families. We strive for zero injuries, not just fewer injuries. And while we haven't attained zero yet, we think it's worth striving for every day.

Our safety initiatives and programs are created to support our core value of safety. We continually evaluate and re-evaluate our process and work hard to elevate the conditions in our sites worldwide to protect our employees and reduce injuries. As part of Monsanto's overall safety and health requirements, each of our sites have a Safety and Health Program Management System. In organizing and administrating the health and safety programs at each site, committees or teams are established with the responsibilities for the various elements of the site's safety programs. This increases involvement, engagement and ownership in safety programs. **GRI LAG** Almost 25 percent of our employees are involved in safety and health committees and the ongoing implementation of our health and safety programs.

### The Monsanto Star Award—Above and Beyond Safety

The Monsanto Star program demonstrates our commitment to safety. A homegrown effort, this certification program provides employees the opportunity to earn safety certifications for their site. Originally built off the U.S. Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP), our certification provides both U.S. and international sites the opportunity to showcase, on a multi-year basis, their improving practices and procedures.

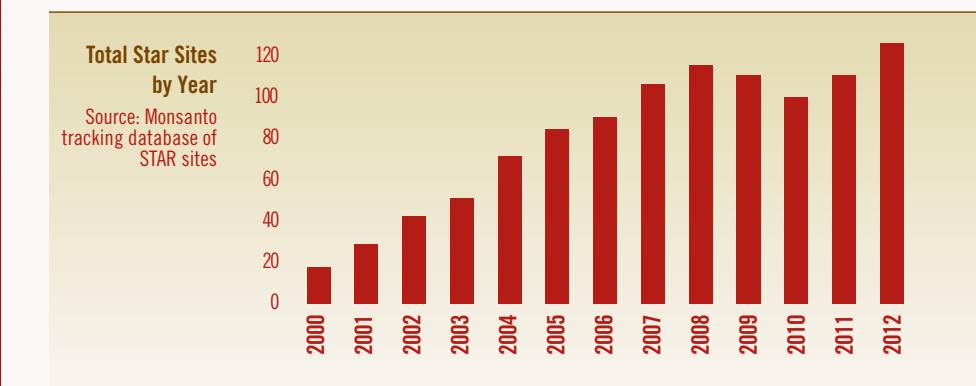
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**126**  
STAR SITES  
IN 2012

## COMMITMENTS, CONT.

## Additional Accolades

In addition to the Monsanto Star program, our teams are proud of all the independent accolades and awards our sites have been given. It's a further testament to our desire to put safety above all else, and cement our reputation as one of the leaders in agriculture site safety.

### Some of the awards received in 2012:

**The Zero Accident Award:** Awarded by the Ministry of Manpower & Transmigration of the Republic of Indonesia, this was bestowed upon our Tangerang plant for achieving 1.4 million hours of operations free from accident.

**CICM Responsible Care Award:** Given by the Chemical Industries Council of Malaysia, this categorized award highlights excellence in safety. Our Pasir Gudang plant won three gold awards for pollution prevention, process safety code and employee health and safety code. This is the eighth year our plant has won three gold awards, and the sixth year in a row.

**Superstar among Stars:** Our Luling, Louisiana site was given this award for being better than 75 percent of the industry when it came to safety in their region. This is a truly elite award given only to those who achieve a stellar safety record.

**Contractor Excellence:** The Heart of Zachary Award was received by two of our routine contractors. They were graded not just on attaining a year without recordable incidents, but are graded on nine elements: injury performance, near miss reporting, continuous improvement, safety task assessment, site safety plan, supervisory safety skills training, hazard recognition, annual supervisor performance evaluation and hand safety.

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*Dave Snively,  
Executive Vice President,  
General Counsel  
and Secretary presenting  
a Monsanto Star Award  
in St. Louis, Missouri.*

## COMMITMENTS, CONT.

## Acquiring Companies and Their Safety Risks

The business of agriculture carries inherent risks, and companies manage these risks differently. When we acquire a new business, we assess its safety culture and identify areas for improvement. We work with our partners to heighten education and awareness about safety and strive for continuous improvement. We find that when we standardize safety procedures at our new sites, we reduce injury by a substantial rate.

## The Lockout/Tagout Solution

Hand injuries can be debilitating, and are the number one injury that our sites record and respond to. In an effort to limit the number of debilitating hand injuries, Monsanto instituted a step change in our lockout/tagout program for our employees and contractors.

Lockout/tagout is an established procedure to reduce injury for those employees working with machinery. When servicing a machine, employees place a lock on a box or electrical outlet. This lock prevents accidental activation of the machine and also reduces the risk of an arm injury from workers placing their hands inside a machine. A global risk assessment was conducted, focusing on opportunities in our lockout/tagout program in our Row Crops Manufacturing business. The assessment consisted of managers conducting spot surveys of employees performing lockout/tagout and teams surveying our equipment for improvements, which generated thousands of opportunities globally and allowed us to make our lockout/tagout program safer.

This program reduced incidents of injury from 21 percent to 4 percent. And while that number is far from zero, we're proud of the improvement, and we keep looking for more ways within this procedure and others to continue to reduce the number of accidents.

Proper ergonomic practices for office workers also prevent hand injuries incurred from repeated tasks. Monsanto-trained employees, called "Ergonauts," meet with each new employee to set up the workspace and teach good ergonomic habits.

REduced  
INCIDENTS OF  
INJURY FROM  
**21%**  
TO **4%**

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## COMMITMENTS, CONT.

## Proud to Be Our Neighbor's Keeper

Monsanto knows we have a responsibility to take care of those not only working at our sites, but those who live in the communities in which we have those sites. Our chemical business knows this well. We handle a number of high hazard materials when we produce pesticides and chemicals in our product line. When we create, handle, load and unload these materials, we have procedures and stringent processes in place to protect the environment and our neighbors.



A Process Safety Technical Team consisting of key technical contacts from each of our chemical manufacturing sites meets regularly to share best practices and process safety information. We have also adopted the safety metrics recommended by the Center for Chemical Process Safety.

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As we continue to improve our safety procedures, our people periodically employ a consulting firm to use a process safety cultural survey tool at all of our chemical manufacturing sites. This tool allows them to compare our sites to internal and industry benchmarks. The results help identify areas of improvement in goals, responsibilities, procedures, equipment, process safety reporting, safety values, worker empowerment and process safety training. These variables help us identify where we need to improve and how best to go about making our sites the safest in the world. We work hard every day to earn their trust and respect of the communities surrounding our plants.

## COMMITMENTS, CONT.

## OFF-THE-JOB SAFETY

We do all we can to provide safe products and a safe environment in which our employees work. And we also have programs in place to protect them off the job.

Since the program began, we've collectively touched 550,000 employees, family members, members of the communities where we live and work and customers through the numerous outreach activities.

These are a few of the programs we provide to our employees to ensure their safety after they leave the premises:

### Vehicle Safety

#### Drowsy Driving Campaign

Monsanto invited Kerrie Warne, from Tyler Raising Education/Awareness for Driving Drowsy (TyREDD), and Matthew Uhles, from the Clayton Sleep Institute, to speak to employees about the dangers of drowsy driving.

Warne created the organization TyREDD to advocate about the dangers of driving while drowsy after her son, Tyler Warne, was tragically killed in a drowsy driving car accident.

Drowsy driving or sleepiness can impair drivers by causing slower reaction times, vision impairment, lapses in judgment and delays in processing information. It is a major traffic safety problem that is largely unrecognized.

At Monsanto, we do all we can to keep employees informed on a variety of safety topics such as vehicle safety, including defensive driving, controlling your speed, how to prevent rollover accidents, seatbelt usage, texting and driving and drowsy driving.

We feel the message is vital for all of us, whether parents of teenagers, shift workers, people working long hours or simply anyone who drives. The feedback we received following the presentation from Monsanto colleagues around the world has been overwhelmingly positive, as it's a topic that is not discussed frequently enough.

**550,000**

EMPLOYEES, FAMILY MEMBERS &  
MEMBERS OF THE COMMUNITY REACHED

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## COMMITMENTS, CONT.

### Anti-Venom Outreach

With so many of our employees working in rural areas, poisonous bites are a concern. We've found that the best practice for dealing with venomous bites is to put prevention first. Monsanto's Anti-venom Program was introduced in 2011 and in its first year, it saved the lives of two farmers for which we received a SAFE Community Award.

Tactics included creating awareness, maintaining "No Panic" situations during emergencies, effective sharing of information, making anti-venom kits available in 24-hour hospitals, maintaining kits on sites and combating unscientific and superstitious methods of snake-bite treatment.

To date, this program has saved as many as 38 people within the communities in which we operate.

### Emergency Preparedness Campaign

According to the Red Cross, In North America, nearly 60 percent of Americans are wholly unprepared for a disaster of any kind, while 54 percent don't prepare because they believe a disaster is unlikely to affect them.

Our people worked with the Red Cross and launched a 4-year North American campaign to develop a Global Home Emergency Preparedness initiative. This program gives employees the supplies and information they might need during an emergency and educates them on the need to be prepared.

Eventually this program will benefit employees worldwide, with programs tailored to specific threats in each region. For example, our St. Louis employees will be informed on tornado preparedness, while California employees may be briefed on earthquake and wildfire preparedness, and other employees around the world will be informed on best-practices for their local threats.

Additionally, our team sponsored a contest in which each employee was given a Red Cross Emergency Preparedness checklist and asked to fill it out at home with their family. Five participating employees were drawn at random and awarded home emergency preparedness gear worth \$250.

As a company committed to safety we do all we can to provide our employees the knowledge and resources to be more safe not just at work but in their homes as well.

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## COMMITMENTS, CONT.

## INJURY AND ILLNESS DATA

Rates of injury, occupational diseases, lost days, total recordable rate and total number of work-related fatalities by region and gender.\*

### Absenteeism rate not available

**2.1** This indicator should provide a regional breakdown for the following, by gender:

#### Total Workforce Employees

	SUM OF FEMALE	SUM OF MALE	SUM OF GENDERS
Asia Pacific (N. Asia, PANSEA, India)	696	1,979	2,675
EMEA (Europe, Middle East, Africa)	1,172	2,277	3,449
Latin America North	693	1,472	2,164
Latin America South	1,283	3,472	4,755
North America (CA, PR, U.S.)	4,248	8,631	12,879
<b>GRAND TOTAL</b>	<b>8,092</b>	<b>17,831</b>	<b>25,923</b>

Employees by Region

Head Count

**2.2** Since some reporting organizations include minor (first-aid level) injuries in their data, indicate whether such injuries are included or excluded.

#### First aids excluded

**2.3** In calculating “lost days,” indicate whether “days” means calendar days or scheduled work days.

#### Calendar days

The point at which the “lost days” count begins (e.g., the day after the accident or three days after the accident).

#### One day

**2.4** Report regional breakdown and total of injury, occupational diseases and “lost days” in the reporting period by gender, using the following formula:

$$IR = \frac{\text{TOTAL # of Injuries}}{\text{Total Hours Worked}} \times 200,000$$

$$ODR = \frac{\text{TOTAL # of Occupational Disease Cases}}{\text{Total Hours Worked}} \times 200,000$$

$$LDR = \frac{\text{TOTAL # of Lost Days}}{\text{Total Hours Worked}} \times 200,000$$

$$TRR = \frac{\text{TOTAL # of Injuries + Occupational Diseases}}{\text{Total Hours Worked}} \times 200,000$$

Note: We do not centrally track contract workers. Our Environmental, Safety & Health Group applies an algorithm to the total number of hours worked by contract workers to derive a Full Time Employee equivalent for OSHA reporting purposes.

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Note: The factor 200,000 is derived from 50 working weeks at 40 hours per 100 employees. By using this factor, the resulting rate is related to the number of employees, not the number of hours.

\*During a reassessment of injuries and work hours for Contractors Not Supervised by Monsanto, and Employee and Supervised Contractors, more work hours and the corresponding injuries were added to Employees and Supervised Contractors and less hours and the corresponding injuries were allocated to Contractors Not Supervised by Monsanto impacting the overall TRR for each vs. 2011 data.

## COMMITMENTS, CONT.

## Employee and Supervised Contractors\*

By Region, Illness, Injury, Gender

	INJURY	OCC DISEASES	DAYS AWAY	INJURY & OCC DISEASES
	INJURY RATE (IR)	OCC DISEASE RATE (ODR)	LOST DAYS RATE (LDR)	TOTAL RECORDABLE RATE (TRR)
<b>Asia Pacific (N. Asia, PANSEA, India)</b>	<b>0.20</b>	<b>0.00</b>	<b>1.19</b>	<b>0.20</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.15
Male	0.00	0.00	0.00	0.34
Recordable Injury (IR)	0.20	0.00	1.19	0.00
Female	0.15	0.00	0.00	0.15
Male	0.22	0.00	1.17	0.34
<b>EMEA (Europe, Middle East, Africa)</b>	<b>0.69</b>	<b>0.04</b>	<b>9.37</b>	<b>0.73</b>
Recordable Illness (ODR)	0.00	0.04	0.19	0.00
Female	0.00	0.05	0.15	0.93
Male	0.00	0.03	0.04	0.62
Recordable Injury (IR)	0.69	0.00	9.19	0.00
Female	0.88	0.00	4.50	0.93
Male	0.59	0.00	4.69	0.62
<b>Latin America North</b>	<b>0.30</b>	<b>0.00</b>	<b>3.72</b>	<b>0.30</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.30
Male	0.00	0.00	0.00	0.30
Recordable Injury (IR)	0.30	0.00	3.72	0.00
Female	0.30	0.00	0.00	0.30
Male	0.30	0.00	1.68	0.30
<b>Latin America South</b>	<b>0.26</b>	<b>0.00</b>	<b>4.06</b>	<b>0.26</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.25
Male	0.00	0.00	0.00	0.27
Recordable Injury (IR)	0.26	0.00	4.06	0.00
Female	0.25	0.00	1.74	0.25
Male	0.27	0.00	2.31	0.27
<b>North America (CA, PR, U.S.)</b>	<b>0.91</b>	<b>0.08</b>	<b>4.66</b>	<b>0.99</b>
Recordable Illness (ODR)	0.00	0.08	0.53	0.00
Female	0.00	0.12	0.33	1.02
Male	0.00	0.06	0.20	0.98
Recordable Injury (IR)	0.91	0.00	4.13	0.00
Female	0.69	0.00	0.59	1.02
Male	0.92	0.00	3.54	0.06
<b>Grand Total</b>	<b>0.51</b>	<b>0.11</b>	<b>4.35</b>	<b>0.54</b>

\*Contract Workers Supervised by Monsanto Employees

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## COMMITMENTS, CONT.

## Contractors Not Supervised by Monsanto Employees

By Region, Illness, Injury, Gender

	INJURY	OCC DISEASES	DAYS AWAY	INJURY & OCC DISEASES
	INJURY RATE (IR)	OCC DISEASE RATE (ODR)	LOST DAYS RATE (LDR)	TOTAL RECORDABLE RATE (TRR)
<b>Asia Pacific (N. Asia, PANSEA, India)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.00
Male	0.00	0.00	0.00	0.00
Recordable Injury (IR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.00
Male	0.00	0.00	0.00	0.00
<b>EMEA (Europe, Middle East, Africa)</b>	<b>1.28</b>	<b>0.32</b>	<b>36.36</b>	<b>1.28</b>
Recordable Illness (ODR)	0.00	0.32	0.32	0.00
Female	0.00	0.00	0.00	0.00
Male	0.00	0.48	0.48	1.93
Recordable Injury (IR)	0.96	0.00	36.04	0.00
Female	0.00	0.00	0.00	0.00
Male	1.45	0.00	54.51	1.93
<b>Latin America North</b>	<b>7.65</b>	<b>0.00</b>	<b>15.30</b>	<b>7.65</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	11.82
Male	0.00	0.00	0.00	5.66
Recordable Injury (IR)	7.65	0.00	15.30	0.00
Female	11.82	0.00	47.26	11.82
Male	5.66	0.00	0.00	5.66
<b>Latin America South</b>	<b>0.54</b>	<b>0.00</b>	<b>6.78</b>	<b>0.54</b>
Recordable Illness (ODR)	0.00	0.00	0.00	0.00
Female	0.00	0.00	0.00	0.00
Male	0.00	0.00	0.00	0.75
Recordable Injury (IR)	0.54	0.00	6.78	0.00
Female	0.00	0.00	0.00	0.00
Male	0.75	0.00	9.34	0.75
<b>North America (CA, PR, U.S.)</b>	<b>0.97</b>	<b>0.13</b>	<b>4.76</b>	<b>0.97</b>
Recordable Illness (ODR)	0.00	0.13	0.00	0.00
Female	0.00	0.00	0.00	0.38
Male	0.00	0.09	0.00	1.26
Recordable Injury (IR)	0.85	0.00	4.14	0.00
Female	0.19	0.00	0.00	0.38
Male	1.16	0.00	6.14	1.26
<b>Grand Total</b>	<b>0.90</b>	<b>0.04</b>	<b>7.20</b>	<b>0.90</b>

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## COMMITMENTS, CONT.

**2.5** Report fatalities in the reporting period by gender, using an absolute number, not a rate.

	EMPLOYEES	CONTRACTORS
Female	0	0
Male	2	1

**2.6** Report the system of rules applied in recording and reporting accident statistics. The “ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases” was developed for the reporting, recording and notification of workplace accidents.

OSHA

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## FOOD & NUTRITION:

GRI PR MA

GRI EN MA

GRI EN26

At Monsanto, we are committed to helping solve one of the world's biggest food challenges: productivity. In order to feed the world's growing population and meet global food and nutrition security needs, farmers must produce more food in the next fifty years than they have in the past 10,000 years combined.\*

With increasingly limited resources, and the threat of continued climate change, experts believe the only way farmers can achieve the required levels of production will be to produce more on every available acre. That's why our people are working hard to contribute to the goal of doubling yields in our core crops by 2030. We are proud to be working with our partners to help develop innovative programs and technologies throughout the world to help reach that goal.

\* Source: J. Hatfield, US National Laboratory for Agriculture and the Environment.

# OUR ROLE IN FOOD PRODUCTION AND SECURITY

Many of our stakeholders are increasingly interested in agriculture and in understanding how food is produced. Food production often starts with a seed, and this is where much of our employees' work is focused.

As a leading agriculture company involved in one of the first steps of food production, we recognize we play a critical role in providing farmers with tools and services that promote a safe, healthful and affordable food supply. We are committed to careful testing and review to ensure the safety of our products. We are also committed to diverse market approaches that provide both farmers and consumers with choices in the marketplace.

As members of families and communities, our people care about food security and nutrition security and how we can help contribute to a balanced plate for people all over the world. Our stakeholder outreach and materiality process continues to help us identify partnerships and opportunities for us to make a unique contribution in this area.

We take a **three-part approach** to provide tools and options that can help farmers of all sizes produce more food while conserving resources:

**1. Traditional Markets:** This approach allows farmers to fully benefit from our R&D commitments to improve our core crops, including our progress to help farmers double yields of corn, canola, cotton and soybeans—and to provide improved vegetable varieties with farmer and consumer appeal. We make these improved seeds broadly available by licensing to seed companies of all sizes in order to support a competitive marketplace that provides the greatest seed choices for farmers.

**2. Philanthropic Donations:** This approach utilizes the sharing element of our Pledge as well our foundation, the Monsanto Fund. As agriculture evolves, so does the company's and the Fund's efforts to improve the lives of people by providing resources to meet their needs. The philanthropic efforts of the Monsanto Fund and our business are focused on strengthening both farming communities and the communities where we live and work. This includes providing financial support to not-for-profit organizations and sharing technology with public research institutions to improve crops that are important to hunger alleviation, but not core to the company's business (such as cassava and cowpea).

**3. Cooperative Development Partnerships:** This approach combines traditional market approaches and philanthropic donations to provide unique solutions that improve choices for farmers. This includes technology sharing partnerships in our core crops such as the Water Efficient Maize for Africa (WEMA) partnership and working with local non-governmental organizations (NGOs) to address market barriers as in our Grow Africa commitment in Tanzania.

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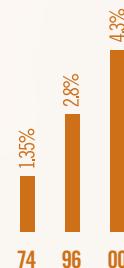
**WE ARE  
COMMITTED  
TO CAREFUL  
TESTING  
AND REVIEW  
TO ENSURE  
THE SAFETY  
OF OUR  
PRODUCTS.**

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# CANADIAN CANOLA – SIGNIFICANT INVESTMENTS TOGETHER WITH INNOVATION YIELD INCREDIBLE GAINS



Canola  
Yield Gains  
by percent



The story of canola production in Canada is a great example of how private industry investment in breeding and biotechnology, coupled with an industry wide focus on improved agronomic practices, can lead to enhanced farm profitability generated by increased yields.

Canola is a “made-in-Canada” success story. Canola was originally called rapeseed and was produced for the industrial lubricant market from the 1940s to 1960s. In the 1960s, public sector Canadian scientists modified the oil profile to produce “double low rapeseed.” The name of the modified grain in Canada was formally changed to “canola” in 1974.

During these years, the yield gains were modest as the public breeders dealt with the impact of the modified oil. The demand for canola for human consumption (now that the oil profile had been modified) increased acreage, but the yields farmers saw on their farms did not push past 20 bushels per acre.

Private investment in canola breeding began in the early 1980s, and with more investment came increased annual genetic gain. The first private canola variety was registered in 1984. With the dawn of the private investment era, yields began to increase.

In 1995, the first herbicide-tolerant canola, called Clearfield® canola, was introduced. This was quickly followed by Bayer’s LibertyLink® -tolerant canola and Monsanto’s Roundup® Ready canola. With better weed control came increased yields, and yield gains during this era jumped from 1.35 percent to 2.8 percent per year.

## FOOD & NUTRITION

In late 1990, we entered the canola market with an ownership position in Limagrain's canola germplasm. Over time, we assumed 100 percent control of this open-pollinated breeding program and in 2004 acquired Advanta's canola breeding program to gain access to hybrid breeding technology.

Other breeding programs also converted their systems to hybrid development and since that time an average yield gain of 4.3 percent per year has been recorded. The market has quickly adopted hybrid, herbicide-tolerant canola and with this advanced technology, we've seen an industry focusing on maximizing the genetic potential of these hybrids through the best agronomic practices.

Our role in this growth has been significant. The strategy of broadly licensing the Roundup Ready trait has provided farmers with the option of purchasing top performing hybrids in their brand of choice. As acres have increased, the focus on improved disease resistance has become vital to ensuring this crop can be grown sustainably in Western Canada. Diseases such as blackleg, sclerotinia and clubroot are major issues that are now being dealt with by an industry that continues to innovate and bring solutions and recommendations to farmers.

The global demand for canola is surging, and the industry is trying to determine if it can sustainably produce 25 million metric tons of production—an increase of 10 Million Metric Tons (MMT's) over the current projected demand.

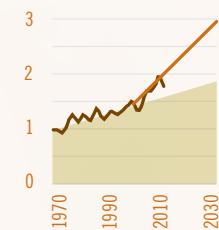
While the annual yield growth rate in Canada has been impressive for the past year, 2012 was a reminder of the ongoing challenges that growers face. In some parts of the country, excessive moisture was a challenge. In other parts of the country, excessive heat and new levels of disease pressure took a toll on yields. Nevertheless, with the high rate of investment in discovering and developing better seeds and agronomic management practices, the future is bright for Canadian canola farmers.

We continue to invest in Canadian canola and work hard to achieve that production objective. In 2010, we opened a \$12 million breeding center at the University of Manitoba Smartpark in Winnipeg, MB. This LEED-certified facility houses the latest scientific tools of molecular breeding. We also made significant investments (\$3 million) in our Crop Technology Centre in Saskatoon to field test the line-up of new canola hybrids being brought to market under the DEKALB® brand name.

To meet the expected demand for canola seed, a state-of-the-art canola manufacturing facility was opened in Lethbridge, Alberta in 2012. This \$15 million facility conditions canola seed to ensure DEKALB brand products meet our high quality standards.

The story of canola is proof positive that our investments in seed technologies are delivering results for farmers and improving both their economic and environmental sustainability. Farmers all over the world can be confident that we're looking for the next innovation that will help increase their yields and enhance their ability to help feed the world.

**Canola Yields in Canada:  
3-Year Rolling Average  
Against Goal**



— 3 year rolling average  
— Goal  
— Historical trend (1970–2000)

*Source: USDA Data*

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## FOOD &amp; NUTRITION, CONT.

## PARTNERING FOR AFRICAN AGRICULTURE

Understanding the severity of the challenges that smallholder farmers face, Monsanto and our partners are working with African NGOs, scientists and governments to support African smallholder farmers.

Three-quarters of the world's most severe droughts over the past 10 years have occurred in Africa. These droughts make farming risky for millions of smallholder farmers, most of whom are women. Corn or maize is the most widely grown staple crop in Africa—more than 300 million Africans depend on it as their main food source. Maize production is severely affected by drought, which can lead to unpredictable and low yields, and at worst, complete crop failure.

Like drought, insects present another challenge to African farmers who often have few resources to manage them. During drought, maize that is able to survive becomes particularly susceptible to pests, especially stem borers. This can put even greater stress on farmers' abilities to grow and harvest enough maize to feed their families.

Monsanto's commitment to Africa and smallholder farmers continues to grow. From our initial involvement in the World Economic Forum's (WEF) New Vision for Agriculture to our current involvement in Water Efficient Maize for Africa (WEMA) and Grow Africa, our people are committed to playing our part in helping to improve the lives of rural African farmers through education, improvements in infrastructure and innovation.

### A New Vision for Agriculture

Our teams played an active role in the formation of the WEF's New Vision for Agriculture, which engages leaders of business, government, civil society, farmers and development partners to achieve sustainable agricultural growth in the face of a growing world population. In 2012, 26 leading partner companies, representing the entire food value chain, were working to build a framework for advancing global agriculture over the course of the next several decades. The New Vision for Agriculture focuses on **three critical goals**:

1. To meet nutritional demands, while providing affordable choices across the food chain.
2. To conserve or enhance the quality and quantity of natural resources and meet the challenges of a changing climate.
3. To drive rural and national economic development around the globe with well-targeted investments.

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## FOOD &amp; NUTRITION, CONT.

The initiative established a **“20/20/20”** framework for achieving the WEF goals. The formula specified the following: increasing productivity by 20 percent per decade, reducing the environmental footprint by 20 percent per decade, and increasing the income of the rural family by 20 percent per decade.

As a result, the partners are working to improve the global food system, while improving livelihoods and ecosystems worldwide. The Vision’s knowledge partners—including The Food and Agriculture Organization of the United Nations (FAO), the Harvard University Kennedy School’s Corporate Social Responsibility Initiative, and the International Food Policy Research Institute—are actively involved in this cause. While the New Vision for Agriculture remains a global initiative, seven African countries have engaged in a partnership specifically for their region that builds on the Vision’s public-private partnership model.

## Grow Africa

The Grow Africa partnership is an African-led, multi-stakeholder platform and a public-private partnership. This initiative helps smallholder farmers increase their productivity, thereby improving their lives.

At the 2012 G8 Summit, we announced a **“\$50 million commitment”** over the next 10 years to support sustained agricultural development in sub-Saharan Africa. We saw this investment as a natural outgrowth of our commitment to improve lives and produce more food. We look forward to working with African leaders and communities and supporting them in turning their ideas into action. We believe we can help fuel the development of systems that can increase productivity while strengthening the African agricultural value chain.

Smallholder farmers in sub-Saharan Africa don’t always have access to markets or information. They often don’t have agro-dealer networks or grain buyers to assist them. One of the many platforms within the Grow Africa partnership is helping to build a supportive infrastructure for farmers. We’re also focusing on ways to assist farmers with getting their crops to market, which will increase their incomes and improve their communities.

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INCREASE  
PRODUCTIVITY

**20%**  
PER DECADE

REDUCE  
ENVIRONMENTAL  
FOOTPRINT

**20%**  
PER DECADE

INCREASE  
RURAL FAMILY  
INCOME

**20%**  
PER DECADE

## FOOD &amp; NUTRITION, CONT.

## Tanzania: A Holistic Approach

Agriculture is a central component of Tanzania's economy, and the Tanzanian government has made agriculture a national priority. Tanzanian President Jakaya Kikwete initiated a program to achieve food security, poverty reduction and increased economic growth called Kilimo Kwanza (Agriculture First). Building on this vision, President Kikwete designated the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) as the focus of a new partnership in 2010, which aims to enable agricultural growth in this region. Monsanto has been a partner of SAGCOT since the beginning, and at the 2012 G8 Summit, we announced our commitment to work with local partners in Tanzania to help improve the maize and vegetable value-chain in the region. Through partnerships with NGOs, farmer organizations, research organizations, and the Ministry of Agriculture, Monsanto is focusing its resources and efforts on supporting smallholder farmers in the SAGCOT.

Initial partnering concepts include the following:

- **Support of the Tanzania Agro-dealer Strengthening Program (TASP)** to train 600 agro-dealers in the Iringa, Kilolo, Njombe, and Songea districts
- **Expansion of access to affordable financial services** that will enable farmers to generate more income for their families and contribute to the economic development of their communities
- **Provision of innovative tools and training** to agriculture extension workers to enhance soil health in the SAGCOT
- **Support of farmer outreach days** throughout the corridor to reach approximately two hundred thousand farmers with demonstrations and training opportunities of agricultural best practices
- **Support of tomato farmer groups** to collectively purchase inputs, receive training, and market their products

Our people understand that in addition to raising yields, it takes markets to make agriculture work. We are exploring collaborations with grain handlers and companies interested in value-added products. We intend for these collaborations to help raise productivity and grain quality, reduce waste through better storage, and support mechanisms that improve grain price predictability and enhance economic opportunity for Tanzanian farmers.

MAP: © 2012 Google, OpenStreetMap, and the U.S. Geological Survey



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## FOOD &amp; NUTRITION, CONT.

## Water Efficient Maize for Africa

What if we could stop using Africa as an example of food scarcity and a non-existent agriculture infrastructure? This question is at the heart of our commitment to Africa. That's why we've been working to develop new technologies and seed that will help African farmers manage risk and ensure a more secure food supply.

The current food supply crisis in Africa has been well documented. But forecasters see something even more troubling on the horizon. As the population increases and climate change becomes a greater factor in food security, risk of hunger could increase up to 20 percent by 2050.\* We started working with some distinguished partners five years ago to improve the resilience of African agriculture in the face of climate change.



Water Efficient Maize for Africa (WEMA) is a public/private partnership project that aims to improve food security and rural livelihoods among smallholder farmers and their families by helping develop seeds that mitigate drought risk and manage insect pressure. Led by the African Agricultural Technology Foundation (AATF), and funded by the Bill and Melinda Gates Foundation, the Howard G. Buffett Foundation and the United States Agency for International Development (USAID), WEMA key partners include the National Agricultural Research Institutes in Kenya, Mozambique, South Africa, Tanzania and Uganda, the International Maize and Wheat Improvement Center (CIMMYT) and Monsanto.

Monsanto's commitment to this partnership was to develop a new drought-tolerant maize hybrid by the end of 2013. This improved seed will be a major step forward for rural African farmers, the economy and the continent's food security. Additionally, we leveraged the expertise of our partners to develop locally adapted hybrids, and we donated the biotech drought-tolerant and insect protection traits.

\* Climate Change And Hunger, Responding to the Challenge, November 2009

Published by the World Food Programme, the International Food Policy Research Institute, the New York University Center on International Cooperation, the Grantham Institute at Imperial College London, and the Walker Institute, University of Reading (United Kingdom).

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## FOOD &amp; NUTRITION, CONT.

## Our Approach

We focused specifically on **three avenues**:

- 1. Deliver maize seed genetics** and know-how for breeding efforts
- 2. Offer agricultural expertise** to develop the locally adapted hybrids
- 3. Donate biotech** drought-tolerant and insect-protection traits

These three avenues lead to maximizing yield under the specific challenges and stresses of an African climate.

## Organization and Project Management on a Huge Scale

In phase one of the project, we built strong levels of trust with our partners that enabled the project to build testing networks and earn regulatory field trial approvals. Communication was key as our partners were spread across the globe, and included ten institutions on three continents in seven countries, each with their own cultures and different priorities.

We're proud of the implementation of a sharing model that was beyond what any of our partners had envisioned when the project began. In all, we shared 600 inbred lines of corn seed. The partners' ability to work with different cultures and organizational expertise enabled us to exceed the goals we set, and we'll be able to deliver the seed to farmers a year ahead of schedule. Independent reviewers and partners concluded that WEMA was one of the best public/private partnerships they had ever seen and highly recommended funding for phase two.

## Phase Two. Moving Forward.

As we enter the next phase of the WEMA project, we will continue to develop a pipeline of conventional and transgenic drought-tolerant and insect-pest resistant maize hybrids for Africa. We're also committed to developing a deployment system that allows seed companies of all sizes to access and deliver WEMA varieties to farmers. It's anticipated that at least 25 novel hybrids will be developed and delivered: five in 2013, five in 2014, six in 2015, seven in 2016 and five in 2017. These WEMA varieties are expected to enable farmers to harvest 20-35 percent more grain under moderate drought conditions. It's the goal of the partnership that by 2017, these seeds will improve food security and the livelihoods of more than 25 million people in sub-Saharan Africa.

BY 2017, IT'S  
ANTICIPATED  
THAT AT LEAST

**25**

NOVEL  
HYBRIDS WILL  
BE DEVELOPED  
& DELIVERED

WEMA'S GOAL:

IMPROVING  
FOOD SECURITY  
AND THE  
LIVELIHOODS  
OF MORE THAN

**25**

MILLION  
PEOPLE IN  
SUB-SAHARAN  
AFRICA

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## FOOD &amp; NUTRITION, CONT.

## Adapting Quickly

Because of the WEMA project management success while working on the drought-tolerant and insect-protected seed, our team was able to move quickly, utilize our resources and address an unforeseen issue. The Maize Lethal Necrosis (MLN) Virus spread quickly across Kenya, Tanzania and Uganda in mid-2012. This disease results from the combined infection by two viruses: Maize Chlorotic Mottle Virus (MCMV) and either Maize Dwarf Mosaic Virus (MDMV) or Wheat Streak Mosaic Virus. Infected plants are short and the leaves show chlorosis and die around flowering time.

The combined WEMA team researchers planted nurseries in the U.S., Chili and Kenya to identify sources of resistance and select new entries for the National Performance Trials for the WEMA project. The result of this quick action is that most of the new hybrids in the WEMA African seed program are MLN tolerant.



THE RISK  
OF HUNGER  
COULD  
INCREASE  
UP TO  
**20%**  
BY 2050

The WEMA project is now the largest breeding program in sub-Saharan Africa, bigger than any seed company or private institution. This breeding program has been used as an example in interactions with the World Economic Forum's (WEF) New Vision for Agriculture, WEF Grow Africa, the G-8 New Alliance for Food and Nutrition Security, and as a model for public/private partnerships at numerous summits and international events, including the World Food Prize.

Food security in Africa is challenged by population growth, climate change and drought, but innovative new tools can help farmers in Africa manage risk and improve food security. Through partnerships and investment in science we focus on creating innovative new tools for farmers in Africa.

For more information on Water Efficient Maize, visit  
[www.monsanto.com/improvingagriculture/Pages/water-efficient-maize-for-africa.aspx](http://www.monsanto.com/improvingagriculture/Pages/water-efficient-maize-for-africa.aspx)

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## TRANSFERRING KNOWLEDGE TO THE DEVELOPING WORLD

Our experience with innovation from working on our core crops of corn, cotton, canola and soy have applications that can be transferred to address critical food sources in other parts of the world, especially Africa. Our people have shared technology across multiple crops and countries along with expert technical advice. We have also partnered with public research centers to help improve yields and pest resistance of staple crops that are critical for certain areas of Africa.

### Virus Resistant Cassava

Cassava is one of the most important staple food crops for more than 200 million sub-Saharan Africans. In the East African countries of Uganda, Kenya, Tanzania, Mozambique, Rwanda, Burundi and Malawi, approximately 130 million people depend on this crop, and farmers produce nearly 30 metric tons annually.



AFRICAN  
FARMERS  
PRODUCE  
NEARLY

**30**  
METRIC  
TONS OF  
CASSAVA  
ANNUALLY

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Despite cassava's natural drought tolerance and ability to flourish on marginal lands, it is very susceptible to various pathogens and virus diseases. In fact, the popular Ebwanateraka cassava has been virtually wiped out of production due to cassava brown streak disease (CBS) and cassava mosaic disease (CMD). Monsanto is partnering with the Danforth Plant Science Center, the National Crops Resources Research Institute in Uganda and the Kenya Agricultural Research Institute to apply biotechnology to develop cassava varieties with increased resistance to CBS and CMD. The project is supported by the Monsanto Fund, and our partners at the Bill and Melinda Gates Foundation, the Howard G. Buffett Foundation and the United States Agency for International Development (USAID). To date, no conventional sources of resistance to CBS have been identified, so biotechnology may provide the best solution for preventing the spread of this devastating disease. We believe the Virus Resistant Cassava for Africa (VIRCA) project will improve the lives of millions of people by allowing them not only to grow adequate food, but increase productivity so farmers will have the funds needed to educate their children and afford good medical care. The Monsanto Fund has committed \$5.4 million dollars beyond our initial five-year commitment of \$7.5 million to the first phase of the project. Along with funding from our partners, the VIRCA project has received over \$11.9 million to finance the second phase of this important effort.

## FOOD &amp; NUTRITION, CONT.

The Danforth Plant Science Center, in conjunction with the National Crop Research Institute, Uganda, the Kenya Agricultural Research Institute and the International Institute for Tropical Agriculture are leading this project to improve the health and wellbeing of farmers, their families and other consumers of cassava.

These enhanced cassava cultivars created by the VIRCA project will be readily available to farmers in the same way traditional cassava is being offered currently. This means farmers will be able to freely multiply, save and share their planting materials.

## Cowpea—A Key Protein Source for West Africa

Cowpea is considered the most important food grain legume in the dry savannas of Africa. The cowpea is rich in protein and is an important crop for both tackling malnutrition and adapting to climate change as it tolerates hot, dry conditions.

This crop is grown on more than 12.5 million hectares of land and is a good source of food for livestock and provides good cash incomes for farmers. Unfortunately, infestation by the *Maruca vitrata* pod borer has led to yield losses of up to 80 percent and most farmers do not have access to effective insecticides.

The not-for-profit African Agricultural Technology Foundation (AATF) is addressing the problem with the following strategies:

- Accessing specific genes to protect cowpea against the *Maruca* pod borer
- Facilitating licensing agreements and regulatory compliance for development
- Providing product stewardship for responsible and sustainable use of the enhanced seeds



**COWPEA IS  
GROWN ON  
MORE THAN**

**12.5**  
**MILLION  
HECTARES  
OF LAND**

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We are proud to partner with the Network for the Genetic Improvement of Cowpea for Africa, Commonwealth Scientific and Industrial Research of Australia, the International Institute of Tropical Agriculture, the Kirkhouse Trust and several others to promote technological interventions that will help improve cowpea productivity and in doing so, improve the diet and income of smallholder farmers throughout Africa. Monsanto supports innovation sharing to give farmers enhanced tools and knowledge and the company has donated intellectual property to the project on a humanitarian basis under a royalty-free license.

## FOOD &amp; NUTRITION, CONT.

## MONSANTO'S BEACHELL-BORLAUG INTERNATIONAL SCHOLARS PROGRAM (MBBISP)

Rice and wheat are two staple crops critical to the food security of billions of people around the world. Together, they feed more than half of the world's population. However, yield improvements in rice and wheat lag behind other crops.

In 2009, we launched Monsanto's Beachell-Borlaug International Scholars Program, offering fellowships for Ph.D. students who study rice and wheat breeding. Students from around the world apply for these fellowships, and Monsanto funds their education, research and leadership development. The goals of this program are to aid in the development of highly educated rice and wheat breeders who can serve as future leaders in the field of agriculture and provide opportunities for young scientists to experience the important work and mission of public sector research institutions, particularly in developing countries.

Currently we're entering our fifth year and have recently finished our latest round of applications. Our program has supported **52 scholars** from **21 different countries**.

Every year, these scholars attend the World Food Prize, which is considered to be the "Nobel Prize of agriculture." This exposure allows them to network with leaders and academics in international development, food security and plant science.

In 2012, we added communication and leadership training to the program to complement their world-class scientific training period. At Monsanto, we view this additional training as key to the leadership development of these scholars.

This program is named for Dr. Norman Borlaug and Dr. Henry Beachell, two of the most important names in rice and wheat agriculture. Together they helped create the "Green Revolution," and they're credited with saving a billion people with their scientific innovations.

Visit [www.monsanto.com/mbbischolars](http://www.monsanto.com/mbbischolars) to learn more about the program.

**OUR GOAL:  
TO ADD  
10  
MORE  
SCHOLARS  
THIS YEAR**

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## FOOD &amp; NUTRITION, CONT.

## ENHANCING NUTRITION

Our people are committed to delivering products that provide both sustainable and healthful options for producers, food companies and consumers.

By applying breeding and biotechnology innovations, we help provide farmers with better oilseeds and vegetable seeds. Such innovations help farmers and others in the value chain bring consumers products that help support a healthful lifestyle. With greater choice and access to appropriate tools, farmers can continue to support food security and nutrition needs around the world.

### Improved Oils

Improving soybean oil's nutritional composition provides the opportunity to positively impact consumer diets and achieve dietary guidance recommendations. *The USDA/HHS Dietary Guidelines for Americans, 2010* recommends keeping trans fat consumption as low as possible and consuming no more than seven percent of your daily calories as saturated fat.

Our Vistive® Gold soybeans, in Phase 4 of our pipeline, produce high-oleic, low-saturate, low-linoleic soybean oil that has 85 percent less saturated fat than palm oil, 70 percent less saturated fat than fry shortening and 60 percent less saturated fat than conventional soybean oil. When commercialized, Vistive Gold soybean oil will provide food companies with more stable oil for frying, cracker and snack food production as well as baking applications that can lower levels of saturated fat and eliminate trans fats, allowing consumers to enjoy the foods they love with less saturated fat.

Health and nutrition experts also recommend increasing omega-3 consumption to help maintain cardiovascular health. Stearidonic acid (SDA) omega-3 soybean oil, in Phase 4 of our pipeline, will allow food companies to offer a wide variety of everyday foods such as dairy products, soups, sauces, beverages and bars, with heart-healthy omega-3s, yet without compromising product quality\*. Our life's SDA™ stearidionate (SDA) omega-3 soybean oil has a superior taste profile\* compared with other omega-3 oils and has a nutritional profile that helps support many consumers' health and wellness goals. Additionally, one acre of SDA omega-3 soybeans provides as much eicosapentaenoic acid (EPA), a healthy polyunsaturated omega-3 fatty acid, as 10,000 three-ounce servings of salmon, reducing the pressure to overfish.



**85 %**

**LESS  
SATURATED  
FAT THAN  
PALM OIL**

**70 %**

**LESS  
SATURATED  
FAT THAN FRY  
SHORTENING**

**60 %**

**LESS  
SATURATED  
FAT THAN  
CONVENTIONAL  
SOYBEAN OIL**

\*FDA has observed that "supportive but not conclusive" research shows that the consumption of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) omega-3 fatty acids may reduce the risk of coronary heart disease."

## FOOD &amp; NUTRITION, CONT.

## Vegetables and Melons

Despite the well-documented health benefits associated with fruit and vegetable consumption, very few Americans actually meet dietary guidance recommendations. We support balanced diets for people around the world, and we seek to make vegetables and melons more appealing to and convenient for consumers. Our plant breeders are using traditional and advanced plant breeding techniques to develop improved vegetables and melons with excellent quality, nutrition and flavor—all characteristics that help increase the appeal and consumption of vegetables.

Here are some of the appealing and convenient vegetables and melons we've been developing:



### BellaFina® sweet mini bell peppers

Perfect size for snacking, salads and recipes with little waste (about one-third the size of typical colored bell peppers), and bursting with flavor and vitamin C.



### Melorange® melons

More fragrant and sweeter than wintertime cantaloupes.



### Beneforte® broccoli

Each serving provides two to three times the phytonutrient glucoraphanin compared to a serving of other leading broccoli varieties when produced under similar growing conditions, boosting your body's antioxidant enzyme levels at least two times more than other broccoli. Glucoraphanin boosts the body's antioxidant enzyme levels, which helps maintain antioxidant activity of vitamins A, C and E in your body.



### Frescada® lettuce, cross between romaine and iceberg lettuce

Keeps the sweet taste and crisp texture of iceberg with the high levels of Vitamin C, Folate and deeper green color of Romaine.

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## FOOD &amp; NUTRITION, CONT.

## Better Vegetable Seeds Lead to Sustainable Practices

Monsanto strives to provide farmers with seeds that require fewer inputs, which helps conserve resources. From disease- and insect-tolerant traits to herbicide tolerant varieties, we help farmers improve yields, reduce chemical sprays and continue to increase their productivity. By helping farmers become more sustainable, we reduce their need to expand cultivated acres and help preserve wildlife habitats and biodiversity.



**MONSANTO STRIVES TO PROVIDE FARMERS WITH SEEDS THAT REQUIRE FEWER INPUTS, WHICH HELPS CONSERVE RESOURCES**

Some examples of how our vegetable seeds help farmers conserve more resources are:

- **Performance Series™ broccoli** crowns mature uniformly, making them easier to harvest with fewer passes through the field.
- **Performance Series cucumbers** (Downy Mildew resistance) reduce the number and cost of fungicidal sprays.
- **New tomato hybrids** are being developed using molecular and conventional breeding techniques that will provide resistance to devastating Gemini viruses, increasing farmer productivity.
- **Performance Series sweet corn** can reduce insecticide sprays by up to 85 percent, which enables a reduction in fuel and energy use, thanks to fewer trips across the field.

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## FOOD &amp; NUTRITION, CONT.

**CHALLENGE:****SUPPORTING THE SCIENCE,  
FARMERS AND OUR VALUE  
CHAIN PARTNERS**

Consumers are increasingly interested in agriculture and in understanding how food is produced. Food production often starts with a seed, and as a company involved in one of the first steps of food production, we are one of many stakeholders involved in the dialogue about labeling.

Monsanto supports food companies' choices to voluntarily label food products based on their customers' preferences [e.g., organic or non-Genetically Modified (GM)], provided the label is truthful and not misleading. Food companies are in the best position to determine what type of information meets the needs and desires of their customers.

Each country establishes its own food labeling laws. Within the United States, the government has established clear requirements for labeling of food products, including those containing GM ingredients, and we support these rules and regulations. In the United States, the Food and Drug Administration (FDA) oversees food labeling. The FDA has concluded that there is no need to mandate labeling of the process—such as agricultural biotechnology—by which food was developed or produced, because accurate information regarding the food is already required. Consistent with this approach, if a production or processing difference results in a change in the food itself, or alters the food in some way, then that difference will be reflected on the label. The American Medical Association (AMA) supports the FDA's science-based approach and approved a formal statement asserting that there is no scientific justification for special labeling of foods containing GM ingredients.

We agree with the AMA and support the FDA guidelines on labeling food products containing GM ingredients. However, we oppose the mandatory labeling of food and ingredients developed from GM seeds because it could be interpreted as a warning or imply that these ingredients are harmful or somehow inferior to their conventional or organic counterparts.

**MONSANTO IS  
100%  
SUPPORTIVE  
OF FOOD  
COMPANIES'  
CHOICES TO  
VOLUNTARILY  
LABEL FOOD**

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## FOOD &amp; NUTRITION, CONT.

Additionally, we oppose mandatory labeling initiatives because:

- The safety of GM products on the market is well-established. Multiple health societies, hundreds of independent scientific experts and dozens of governments have determined that biotech crops are safe. We go to great lengths to ensure the safety of our products, which you can learn more about in our chapter on Commitments.
- We believe we have a responsibility to our value-chain partners. Some pro-labeling campaigns appear to call into question the safety of our partners' food and beverage products.
- Labeling may actually contribute to challenges in acceptance of the technology, not just in the U.S., but also around the world, especially in developing countries that, in some cases, need them most.

Over the past two decades, seeds improved through biotechnology have become the preferred choice of millions of farmers around the world. This rapid adoption of the technology has occurred because of the real benefits experienced by farmers, many of them small shareholders. Proponents of these labeling initiatives are very clear in their intention to stop the use of GM seed in the U.S. and globally. They seek to discredit the safety of GM seed in the U.S. and pass similar laws in other countries.

In the end, we choose to defend choice—for farmers, consumers, and food companies. We believe the choice to voluntarily label food products should sit with the companies who make and package food. Many labeled certified organic or non-GM products are available for consumers who prefer to purchase them, consistent with their personal preferences. These varied offerings provide additional choices for all consumers and avoid the potential of misleading the public with mandated labeling that raises concerns about the quality, safety or healthfulness of the products they have come to know and trust.

OVER THE PAST TWO DECADES, SEEDS IMPROVED THROUGH BIOTECHNOLOGY HAVE BECOME THE PREFERRED CHOICE OF MILLIONS OF FARMERS AROUND THE WORLD.

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## ENVIRONMENT:

### GRI EN MA

We're an agricultural company, and our business is helping farmers all over the world increase yields while using fewer resources per unit produced. We are stewards of the land, a responsibility we don't take lightly. From our partnerships with various environmental research organizations, to developing seeds that help mitigate water stress, to agriculture systems that use less land, Monsanto is dedicated to the environment.

## ENVIRONMENT

## SUSTAINABLE OPERATIONS

### A NEW WAY TO PRODUCE

Our sustainability efforts aren't limited to a single department; they're shared throughout the company. Arguably the area in which this sustainability effort is most prevalent is within our manufacturing operations. Our people have always produced and supplied exceptional products for our customers. Now, we're looking not just at making exceptional products, but making the process of how we make these products exceptional. Everything from the resources we use to cultivate, grow and package our seeds, to the shipping of our products from factory to farm.



WE'VE BEEN  
INVOLVED IN  
SUSTAINABILITY  
SINCE THE  
**90s**

We've been involved in sustainability since the 1990s. But our growing commitment to tools like the Global Reporting Initiative (GRI) has provided us with a way to illustrate and record our involvement. Our teams always made it a point to tour our facilities and measure their resource expenditures. When our focus shifted to agriculture, we found that the recording of data within the industry wasn't as rigorous. But that didn't stop us from being responsible and continuing to explore new ways to do business that were more sustainable. This report gives us a chance to share some of the great stories our company, our business partners and farmers have wanted to tell for some time. For us, sustainability isn't just monitoring and policing. It's illuminating the way things can and should be done.

Our commitment to sustainable practices is further cemented with our addition of a Global Manufacturing Sustainability Director. This position is responsible for a broad scope of work, looking not only at ways to conserve inputs during the production of row crop and vegetable seeds, but also looking beyond seed manufacturing to breeding, biotechnology and crop protection activities for ways to improve sustainability.

## ENVIRONMENT, CONT.

Additionally, it's our hope that the specific sustainability networks within the businesses will take the innovations that are already occurring and translate them to company-wide implementation, where feasible. For example, if one site uses discharge from municipal water treatment to irrigate their crops, can other sites apply this practice? These networks will seek to apply the best sustainability ideas rapidly across the company.

Our internal Sustainability Strategy Council has put forth an aggressive sustainability platform, and our manufacturing operations team has incorporated this vision into their FOCUS list of priorities.

**GRI EN6** The FOCUS initiative was created as a mission statement for our manufacturing process.

**These priorities are as follows:**

**F**

**Freedom to Operate**

- Model safety, health and environmental excellence
- Ensure compliant business practices
- Implement and support Monsanto's Human Rights Initiatives

**O**

**Operational Excellence**

- Deliver high quality products and services
- Implement cost effective, flexible and reliable processes
- Effectively support new product launches and commercial innovation
- Leverage technology to improve cost, quality and product performance

**C**

**Customer and Partner Focused**

- Excel in customer service
- Become our customers' supplier of choice
- Strengthen our role as a vital Monsanto business partner

**U**

**Unlock Potential**

- Develop our talent and provide opportunities for growth
- Create a culture of innovation, where great ideas flourish
- Support communities

**S**

**Sustainability**

- Employ sustainable and efficient operations from supplier to customer
- Reduce our environmental footprint and continuously measure performance

**THE  
FOCUS  
INITIATIVE  
WAS CREATED  
AS A MISSION  
STATEMENT  
FOR OUR  
MANUFACTURING  
PROCESS**

## ENVIRONMENT, CONT.

Sustainability could fit under a number of these categories, but we wanted to give it its own priority. We apply these principles throughout our supply chain across all 300 of our owned, contracted and leased resources, in over 35 countries.

Additionally, the GRI framework is an important tool that we can add to our internal initiatives. It's our hope that we start with a set number of indicators and with every passing year, we'll do more and more, with a desired goal of eventually reporting on all material environmental indicators. It's an ongoing process, and we're committed to seeing it through.

## Collecting Data

As technology and operating systems continue to evolve, and our sustainability program continues to develop, we've had to find new ways to measure and collect data. Our newest tool is a software program that allows us to more efficiently gather environmental footprint data at an individual site level. The goal is to better understand resource consumption and to find ways not just to reduce our footprint, but to also do so in ways that make the most positive impact. The data will allow us to see where making adjustments with inputs like water or energy can have the greatest benefit, and help us set and achieve sustainability goals across our operations.

We're in the early stages of development, but we're moving quickly. We've engaged in a multi-year program of data gathering using the GRI framework and our existing EcoEfficiency Program to establish a baseline for the company. This year, we started with our "bricks and mortar" locations (all those locations that have a physical structure on-site) and will, in successive years, expand this scope to include all owned, contracted and leased locations.

As we progress towards our goal to report on all material GRI environmental indicators, and do so on all owned, contracted and leased sites, we will gradually replace our EcoEfficiency reporting for just the crop protection sites with more inclusive reporting for all of our locations. This year, we are integrating the GRI Energy Indicators (EN3 and EN4), Greenhouse Gasses Emissions (EN16) and the Water Indicators (EN8, EN10, and EN21) from all of our "bricks and mortar" locations, along with our crop protection EcoEfficiency information.

Our progressive and inclusive approach to expand data capture and reporting beyond our own operations, and track resource use in the field, is unique to the agriculture industry. When complete, this approach will be a significant accomplishment. Although gathering data for hundreds of "brick and mortar" field locations spread throughout the world presented significant obstacles in language, and reporting units, and although we know that more challenges await as we integrate our reporting approach into the thousands of field locations worldwide, we believe that our inclusive approach will produce a deeper understanding of our opportunities to improve our environmental footprint.

ENVIRONMENT, CONT.

Reported data in the following tables and graphs is rounded to three significant digits or, for small values, presented as no less than one tenth the indicator reporting unit. This approach enhances data usability while providing sufficient detail without becoming numerically cumbersome.

	CROP PROTECTION	SEEDS & TRAITS	COMPANY TOTAL
--	-----------------	----------------	---------------

GRI EN3 DIRECT ENERGY CONSUMPTION (1000 GJ)

Natural Gas and Other Gaseous Fuels	4,700	2,140	6,830
Oil (Including Diesel)	159	598	757
Coal, Coke and Other Solid Fuels	1,400	0.1	1,400
Waste Fuel	3,020	0	3,020
<b>TOTAL</b>	<b>9,280</b>	<b>2,730</b>	<b>12,000</b>
<b>BIO MASS FUELS USED IN DIRECT ENERGY GENERATION</b>	<b>207</b>	<b>950</b>	<b>1,160</b>
<b>BIO MASS FUELS SHIPPED OFF-SITE FOR ENERGY GENERATION</b>	<b>0</b>	<b>67.3</b>	<b>67.3</b>

GRI EN4 INDIRECT ENERGY CONSUMPTION (1000 GJ)

INDIRECT SOURCES:

Purchased Electricity	6,670	1,460	8,120
Imported Steam	1,350	0	1,350
<b>TOTAL</b>	<b>8,020</b>	<b>1,460</b>	<b>9,470</b>

CONSUMED PRIMARY SOURCES IN ELECTRICITY GENERATION  
(PERCENT OF TOTAL INDIRECT ENERGY)

Hydro, Biomass, Geothermal, Nuclear, Solar, Wind	72%	36%	64%
Natural Gas and Other Gaseous Fuels	16%	18%	17%
Coal, Coke, and Other Solid Fuels	10%	39%	17%
Oil (Including Diesel)	1%	6%	2%

GRI EN3 GRI EN4 SUMMARY (1000 GJ)

TOTAL ENERGY CONSUMPTION — DIRECT AND INDIRECT	17,300	4,190	21,500
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**Note for Table EN03:** Data for biomass fuels is reported in the above table. By definition, GRI EN03 does not include combustion of biomass fuels because they are a renewable resource. We are providing this data to be transparent and highlight our efforts to generate and utilize renewable fuel sources.

**Note for Table EN04:** The total amount of electricity is shown above along with the fractional amount of raw materials estimated to be necessary to produce this electricity. The conversion factors for electricity to raw material resource were taken from the EPA and the World Resources Institute GHG Protocol Initiative databases.

UNITS AND SUBSTANCES KEY

GJ = gigajoules

mt = metric tons

O<sub>2</sub> = oxygen

SO<sub>2</sub> = sulfur dioxide

m<sup>3</sup> = cubic meters

CO<sub>2</sub> = carbon dioxide

PO<sub>4</sub> = phosphate

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ENVIRONMENT, CONT.

	CROP PROTECTION	SEEDS & TRAITS	COMPANY TOTAL
<b>GRI EN8 WATER WITHDRAWAL (ML-1000M<sup>3</sup>)</b>			
Surface Water	2,810	718	3,530
Ground Water	14,600	1,750	16,300
Municipal Water	1,570	848	2,420
Collected Rainwater	74.3	128	202
Purchased Wastewater for Reuse (R1)	0	15.9	15.9
Purchased – Bottled or Lab Water	0.3	1.5	1.8
<b>TOTAL</b>	<b>19,100</b>	<b>3,460</b>	<b>22,500</b>
<b>GRI EN10 WATER REUSE AND RECYCLE (ML-1000M<sup>3</sup>)</b>			
Volume of Condensate/Cooling Tower Water Recycled/Reused	35,800	32,100	67,800
Volume of On-Site Process Waste Water Recycled/Reused	270	35.9	306
<b>TOTAL</b>	<b>36,000</b>	<b>32,100</b>	<b>68,100</b>
<b>GRI EN16 TOTAL DIRECT AND INDIRECT GHG EMISSIONS SOURCE (1000 MT)</b>			
Direct GHG Emissions (CO <sub>2</sub> -eq)	1,320	161	1,480
Indirect GHG Emissions (CO <sub>2</sub> -eq)	320	219	539
<b>TOTAL</b>	<b>1,640</b>	<b>380</b>	<b>2,020</b>
<b>GHG EMISSIONS FROM BIOMASS FUELS</b>			
CO <sub>2</sub> eq from Biomass Used (Consumed) On-site	25	103	128
CO <sub>2</sub> eq from Biomass Sold for Off-site Energy Generation	0	7.3	7.3
<b>GRI EN21 PROCESS WASTE WATER DISCHARGED (ML-1000M<sup>3</sup>)*</b>			
Discharged to Off-Site Treatment (eg. POTW)	790	431	1,220
Permitted Discharges to the Environment – Subsurface (eg. Deepwell/Leachfield)	1,830	35.0	1,870
Permitted Discharges to the Environment – Surface Water (eg. River)	16,200	36.6	16,200
<b>TOTAL</b>	<b>18,800</b>	<b>503</b>	<b>19,300</b>
<b>PROCESS WASTE WATER QUALITY DATA FOR DIRECT SURFACE WATER DISCHARGES (MT)</b>			
BOD	48.6	0	48.6
Nitrate (as N)	28.8	0	28.8
Phosphates (as PO <sub>4</sub> )	224	0	224
Total Suspended Solids (TSS)	71.2	0	71.2

\*Process waste water only, does not include Domestic Sewage per GRI Guidelines

**Note for Table EN16:** While GRI EN16 reporting does not include GHG emissions from combustion of biomass fuels, data for GHG emissions associated with biomass fuel generation and use is reported in the above table. We are providing this data to be transparent regarding our GHG emissions and to highlight our efforts to generate and utilize renewable fuel sources.

**UNITS AND SUBSTANCES KEY**

GJ = gigajoules

mt = metric tons

O<sub>2</sub> = oxygen

SO<sub>2</sub> = sulfur dioxide

m<sup>3</sup> = cubic meters

CO<sub>2</sub> = carbon dioxide

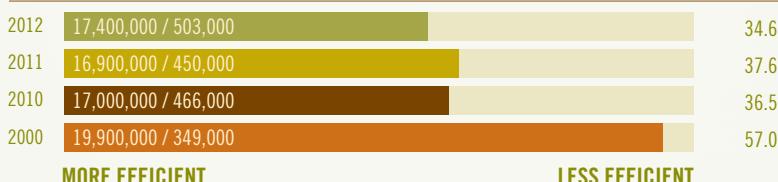
PO<sub>4</sub> = phosphate

## ENVIRONMENT, CONT.

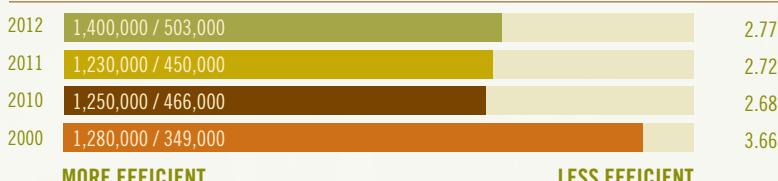
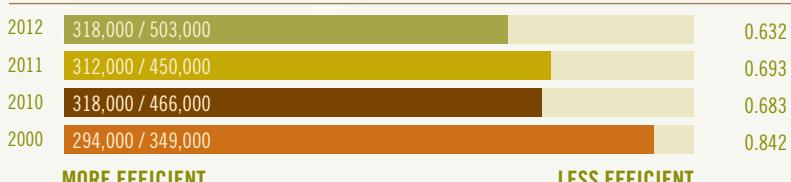
## EcoEfficiency Data on Crop Protection

The following graphs show information for our crop protection sites only.

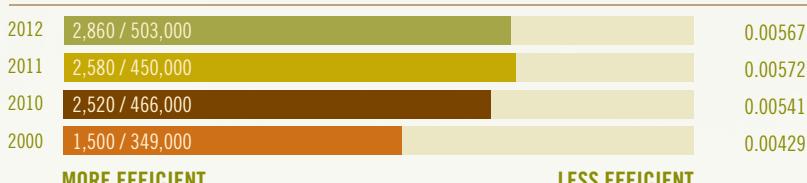
The data for these graphs was collected through recognized reporting procedures. The methodology used was developed in cooperation with the World Business Council for Sustainable Development. This system permits comparisons of new data to the baseline data from calendar year 2000. That graphical data is shown on a per product basis to provide consistent comparability across the years. The values on the graphs were calculated using un-rounded data so comparisons to the previous tables (where numbers were rounded to two significant digits) may not result in exact matches.

**GRI EN3 Energy Consumption | Energy (GJ) / Product Output (mt)****UNITS AND SUBSTANCES KEY**

GJ	= gigajoules
m <sup>3</sup>	= cubic meters
ML	= megaliter
mt	= metric tons
CO <sub>2</sub>	= carbon dioxide
O <sub>2</sub>	= oxygen
PO <sub>4</sub>	= phosphate
SO <sub>2</sub>	= sulfur dioxide

**GRI EN16 Direct Greenhouse Gas Emissions | CO<sub>2</sub>-eq (mt) / Product Output (mt)****GRI EN17 Indirect Greenhouse Gas Emissions | CO<sub>2</sub>-eq (mt) / Product Output (mt)****GRI EN20 Chemical Oxygen Demand (COD)**

O<sub>2</sub>-eq (mt) / Product Output (mt), COD to Surface Water



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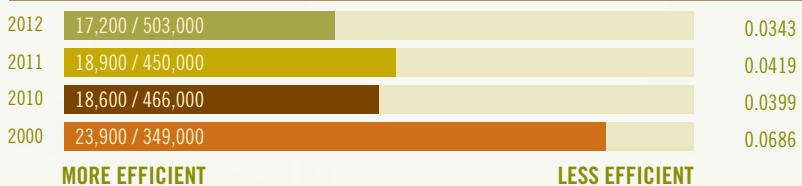
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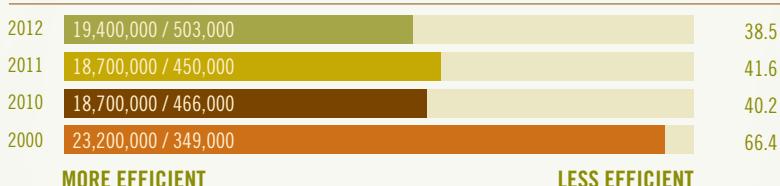
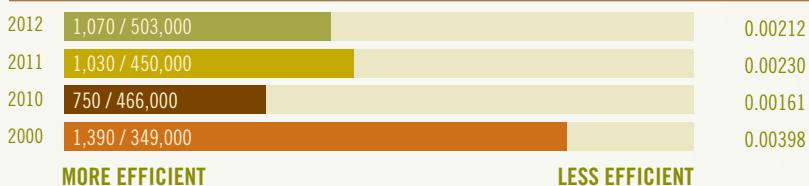
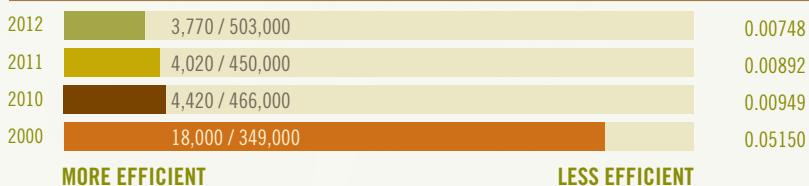
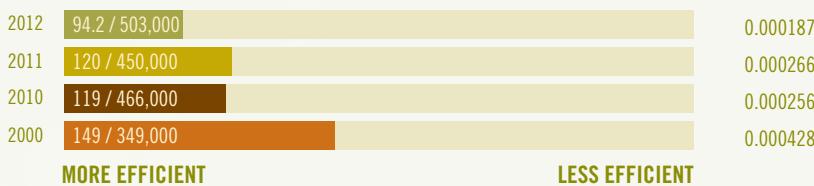
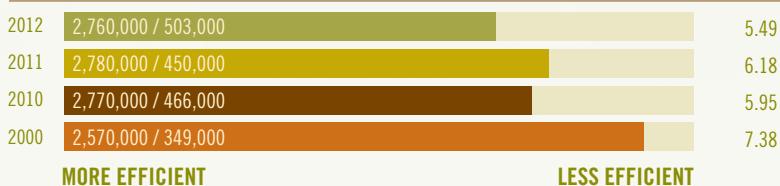
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## ENVIRONMENT, CONT.

**GRI EN22 Waste Shipped Offsite | Waste (mt) / Product Output (mt)****UNITS AND SUBSTANCES KEY**

GJ	= gigajoules
m <sup>3</sup>	= cubic meters
ML	= megaliter
mt	= metric tons
CO <sub>2</sub>	= carbon dioxide
O <sub>2</sub>	= oxygen
PO <sub>4</sub>	= phosphate
SO <sub>2</sub>	= sulfur dioxide

**GRI EN8 Fresh Water Consumption | Water (m<sup>3</sup>) / Product Output (mt)****GRI EN22 Eutrophication | PO<sub>4</sub>-eq (mt) / Product Output (mt) | Phosphates to Surface Water****GRI EN22 Acidification Emissions | SO<sub>2</sub>-eq (mt) / Product Output (mt)****GRI EN22 Photochemical Oxidant Creation | Volatile Organic Compounds (mt) / Product Output (mt)****GRI EN1 Raw Material Consumption | Materials (mt) / Product Output (mt)**

## ENVIRONMENT, CONT.

## SUSTAINABLE MANUFACTURING FOOTPRINT EFFICIENCY PROJECTS

### Using Discarded Corn Seed for Fuel

As we work to increase our sustainability efforts, we are examining innovative ways to reduce the environmental footprint of our sites. From recycling efforts to emissions, we're constantly looking for ways to reduce and reuse our materials.

In 2007, our manufacturing operation located at the Muscatine, Iowa, plant began using discarded corn seed as supplemental fuel in their coal-fired boiler. Normally, this seed is shipped to third party incinerators or landfills to be destroyed or disposed of.

The Muscatine team found that they could burn the seed on premise, and the results were outstanding. Since 2007, the plant has been able to burn approximately 8,000 tons of seed per year, displacing 4,500 tons per year of coal. The financial impact was just as impressive. Monsanto was able to save approximately \$800,000 per year between the reduced coal costs at Muscatine and the reduced costs of discard seed disposal from the seed sites. In 2012, the Muscatine plant was able to further increase the amount of seed corn burned, resulting in an additional \$106,000 per year in fuel savings and \$50,000 annually in avoided disposal costs.

Additionally, beyond the plant, this program led to a reduction of the carbon footprint in the community. The plant cut its carbon dioxide levels by 10,600 tons. And as an added benefit, the corn is a cleaner burning fuel than coal, resulting in a reduction of 19 tons of sulfur dioxide annually.



BURNING  
**8,000**  
 TONS OF SEED  
 PER YEAR  
 DISPLACES  
**4.5**  
 TONS OF COAL



## ENVIRONMENT, CONT.

## Changes in Packaging Make a Huge Difference

Our manufacturing operation located in São José dos Campos, Brazil is constantly looking for new ways to improve their environmental performance. One project stands out for making incredible strides towards new levels of sustainability for packaging.

The Ecoplastica Triex packaging for Roundup® agricultural herbicides reuses and recycles plastic gallons of pesticides collected from the field. This sustainable approach contributes to 45 percent less greenhouse gas emissions, or 3.6 kg less CO<sub>2</sub> than traditional packaging.

For their pioneering efforts in the use of recycling packaging for herbicides, **the São José dos Campos manufacturing operation received the Brazilian “50 Good Companies” award.**

The São José dos Campos plant is also an example of how our sustainability focus is changing not only the products we create, but also how we create them. Working with partners, suppliers, customers and internal teams, this plant has created a blueprint that makes us proud, and we look to implement this initiative at all of our plants.

Through their energy conservation projects, they were able to reduce the amount of CO<sub>2</sub> released into the atmosphere by 10,000 tons yearly. They reduced solid waste by 48 percent and reduced the amount of water consumption by 800 million liters per year.

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**REDUCED CO<sub>2</sub> RELEASED 10,000 TONS PER YEAR**

**REDUCED SOLID WASTE 48% PER YEAR**

**REDUCED WATER CONSUMPTION 800 LITERS PER YEAR**

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## ENVIRONMENT, CONT.

GRI EN23

# ACCIDENTAL AND EPISODIC SPILLS

In 2012, the following accidental, episodic spills and releases from our facilities were significant enough to be reported to one or more governmental agencies. In cases of material spilled on the ground or in a wetland, the spilled material was promptly cleaned up. In all cases, root causes of the releases were identified and corrected, and there was no adverse impact to human health or the environment.

- In January 2012, 100 gallons of hydraulic fluid was released on the ground at the Soda Springs, Idaho, facility.
- In February 2012, process off-gas containing 2,190 pounds of ethyl chloride was released to the atmosphere at the Muscatine, Iowa, facility.
- In April 2012, one liter of fuel oil was released to an on-site wetland at the Chesterfield, Missouri, facility.
- In September 2012, an employee was exposed to acid mist and vapor from a 20-pound release of sulfuric acid at the Luling, Louisiana, facility. Even though the employee was wearing appropriate protective equipment, the employee was taken to the hospital, treated, and released.

GRI EN28

## Fines

In 2012, Monsanto paid no significant penalties for non-compliance with environmental laws and regulations. In reporting for GRI metric EN28, we are informed by United States Security and Exchange Commission guidance that environmental proceedings to which a governmental authority is a party or known to be contemplated by governmental authorities and involving monetary sanctions greater than \$100,000, be reported to the public.

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## USDA Regulated Field Trial Incidents

Each year, as part of our product development process, Monsanto conducts thousands of authorized field trials with crops containing regulated biotechnology traits. Entities who conduct these field trials must follow United States Department of Agriculture (USDA) performance standards and self report certain deviations from those standards. In 2012, Monsanto self-reported seven (7) field trial incidents of potential deviation from compliance standards to USDA. The USDA issued Notices of Compliance for three (3) of these incidents and has not issued any formal response to the remaining four (4) self-reported incidents. In 2012, the USDA issued one (1) Notice of Non-compliance for a deviation it identified during a field trial inspection. In all cases, Monsanto identified root causes and took corrective action, and there were no adverse impacts to human health or the environment.

ENVIRONMENT, CONT.

## GLOBAL PROCUREMENT RESPONSIBLE BUYERS

When it comes to our sustainability initiatives, our people have moved forward and achieved what we think are big steps in the right direction. And while we've got more to do, our search has led us to look not just at our business, but also at every aspect of our global supply chain. If we are truly serious about conserving more by reducing the amount of land, water and energy needed to grow crops, then that vision should also translate into all of our decisions across our operations. That's why in 2012 we began looking closely at our global procurement program.

### WE ARE HERE

**Reacting**  
No clear strategy defined

**Anticipating**  
Commitments made for reporting

**Collaboration**  
Sustainable outcomes incorporated within optimization decision-making variables  
Some supply chain partner collaboration possible

**Orchestrating**  
Sustainability is central to the SC strategy  
An environment of innovation and experimentation is encouraged, and sustainable business attributes are linked to financial outcomes  
Supply chain partner collaboration delivers shared benefits

GLOBAL  
PROCUREMENT

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Procurement is the management and operation of attaining raw materials, goods and services for a business. We think that a sustainability platform within our supply chain is a must-do as we move forward. Just think what Monsanto could accomplish if we used our buying power to drive continuous improvement in our supply chain. To put it simply, we need to be responsible buyers.

It's not an easy process. It requires a diligent search of not only our direct suppliers, but also of our suppliers' suppliers as well. It's a significant investment of both time and resources, but we feel it's an investment that needs to be done to ensure our global footprint is reduced.

## ENVIRONMENT, CONT.

We're early in the process, but our global procurement team drafted a mission platform that outlines exactly what we hope to attain:

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**Our Mission is to improve lives by holding ourselves and our suppliers responsible and accountable to achieve sustainability excellence within our environmental, economic and social scope through unwavering commitment to sustainability excellence and by leveraging our global spend.**

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This means not just in our manufacturing and delivery of seeds, but in almost every purchase we make. We need to work with our suppliers and make sure they are on the same page when it comes to sustainability. We hope to lead the agricultural industry and demonstrate a responsible way to do business that puts sustainability first.



ENVIRONMENT, CONT.

## OUR PARTNERS MAKE US BETTER

Throughout our history, our team has always understood that in order to make a difference and be a champion for resource sustainability, we would need partners that were up to the task.

As the world's population rises and resources become scarcer, we believe the answers are not going to be found from one source. Only as a result of a collective, global effort will we solve such a complex and monumental issue. Our collaborators come from every realm of science and philanthropy and together, we're tackling the issues of sustainability head-on.



**5**  
**YEAR**  
**PARTNERSHIP**  
**WITH**  
**CONSERVATION**  
**INTERNATIONAL**

### GRI EN18 Conservation Efforts and Partnerships in Brazil

In 2008, our team signed a \$13 million shared-fund, five-year partnership with Conservation International (CI), a not-for-profit organization based in Washington, DC. Over the past four years, we've seen incredible advances in capacity building, research, articulation of partnerships and the recovery of degraded areas in Western Bahia, Cerrado, as well as other states of the Brazilian Northeast Region's Atlantic Forest. These areas are hotspots of biodiversity, where conservation is a priority because of the dramatic expansion of Brazil's agricultural sector and its exceptional level of native plants.

This partnership finds innovative ways to assist in, and has created opportunities for, effective conservation and forest preservation. Efforts have also been made to combat illegal deforestation and encourage farmers to comply with environmental laws.

## ENVIRONMENT, CONT.

**PROFILE OF MR. VILSON GATTO, FARMER**

“My property has an area of 2,671 hectares, 800 of which I planted with soybeans. I had been trying to restore 2 hectares of degraded land that was situated by a small stream that runs across my property, causing erosion. The area was also considered a Permanent Protected Area (PPA), which, according to Brazilian legislation, has to be kept with its natural vegetation.

“When the Monsanto and CI team came to me proposing to participate in the 100 percent Legal Campaign, I immediately jumped on board. So last year, using new technology of direct sowing, I sowed one hectare of ‘native Cerrado vegetation,’ a mixture of native seeds that hopefully, in the future, will be better than the ‘real thing.’

“I can already see the seedlings of native species growing. Now, all of my PPA degraded area is restored, and I am 100 percent compliant with the Brazilian environmental legislation.”

— Mr. Vilson Gatto, Brazilian farmer

CI continues to advise Monsanto on new ways we can improve our environmental practices and protect the region. As part of our partnership, both institutions are working to find ways to produce concrete and measurable results that guarantee conservation and biodiversity in Brazil.

*“I can already see the seedlings of native species growing. Now, all of my PPA degraded area is restored, and I am 100 percent compliant with the Brazilian environmental legislation.”*

**Mr. Vilson Gatto,**  
*Brazilian Farmer*

**Partnering with Conservation International in the Atlantic Forest**

In our first phase, Conservation International assisted 80 low-income families by installing ecological stoves in their homes. These stoves, developed by the Center for Environmental Research, decreased the amount of firewood used by families by 50 percent, reducing emissions of green house gasses directly, and indirectly reducing deforestation caused by selective logging. Another important result was the improvement in community health because the old technology produced unclean air inside of homes.

CI was able to assist in creating the Natural Heritage Private Reserve (PRNP) in Pernambuco. This preserve covers more than five thousand acres and is now a safe-haven for 18 endangered or threatened species and subspecies. This list includes the white-necked eagle, one of the most critically endangered birds in the world.

**Cerrado, The Western Bahia Corridor**

The fourth year of the Produce and Conserve program—a partnership program between our team and CI—was highlighted by the launch of the 100 percent Legal Campaign. This program was aimed at involving several institutions and state governments in actions that promote the conservation and restoration of the Permanent Preservation Areas (PPAs) in the city of Luis Eduardo Magalhaes. The purpose of this effort was to make the municipality the first to comply with new environmental legislation and be an example throughout the surrounding areas. CI provided technical support for farmers for the recovery of PPAs, including mechanized planting of muvuca—a mixture of native and agricultural seed.

**NOW A SAFE-HAVEN FOR**

**18**

**ENDANGERED OR THREATENED SPECIES AND SUBSPECIES**

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ENVIRONMENT, CONT.

## MONSANTO ADDS AGRICULTURAL BIOLOGICALS TO R&D PIPELINE

We understand that agriculture is constantly evolving and is influenced by broad societal trends. Farmers need new tools that allow them to maintain productivity—in the face of climate change, and the challenges of weed and insect resistance to current methods of control—while simultaneously minimizing the impact on the environment. Consumers want healthy and abundant food grown in a responsible way and seek transparency about the way food is produced.

Our people listened to these concerns and in 2012, we expanded our R&D pipeline to include agricultural biologicals, a category of sustainable crop protection solutions made from materials found in nature that can complement or replace agricultural chemical products. Agricultural biologicals (also referred to as biopesticides) are typically topical or seed treatment products.



Agricultural biologicals give growers an additional option for their pest control toolbox and could greatly decrease the use of conventional pesticides when used as a component of Integrated Pest Management (IPM) programs. Thanks to their highly targeted mode of action, agricultural biologicals are effective on problem pests, while maintaining beneficial insect populations and leaving birds, fish, bees and other wildlife unharmed. Additionally, agricultural biologicals can be effective in very small quantities, and they decompose quickly in the environment.

We are just beginning to unlock the potential of the BioDirect™ technology platform in four focus areas: **weed management, insect management, virus control** and **honeybee health**.

## ENVIRONMENT, CONT.

### Biologic Weed and Pest Management

BioDirect™ Technology is our first biological technology. While still in the early discovery phase, we see it as the next step in the evolution of technologies that will allow farmers to produce more with less. This technology draws on our teams' genomics expertise and uses molecules found in nature that we expect to develop into targeted crop protection solutions.

Resistant weeds, such as Palmer Amaranth (also known as pigweed), deplete crops of vital resources like water, nutrients and sunlight, preventing them from thriving. Early testing indicates that an agricultural biological created with BioDirect Technology can be combined with Glyphosate to control Glyphosate-resistant Palmer Amaranth; enabling farmers to preserve yield in an environmentally sustainable way. This product concept has advanced to Phase 1 in Monsanto's R&D process.



**EFFECTIVE  
AGAINST THE  
COLORADO  
POTATO  
BEETLE  
WHILE  
LEAVING  
BENEFICIAL  
INSECTS  
UNAFFECTED**

Insect control is another area in which BioDirect Technology shows significant promise. For example, potato plants are often threatened by the Colorado potato beetle, a serious pest that feeds on the plant's leaves. The Colorado potato beetle can completely defoliate potato plants, often killing them prematurely and severely reducing yield. Early testing shows that an insecticide created with BioDirect Technology can be effective against Colorado potato beetles, while leaving beneficial insects, like ladybugs, unaffected. BioDirect insect-control products are still in early phases of discovery. BioDirect Technology may also offer new modes of action to control insects that may become resistant to current farming solutions.

### The Future of BioDirect™ Technology

Also in discovery is a product that could potentially reduce the impact of viruses on plants. Viruses have many negative effects on row crops, and can reduce yield. Our teams are leveraging their expertise in genomics to develop a product with BioDirect Technology that would reduce the negative impact of viruses on plants.

BioDirect Technology holds tremendous potential for developing a new generation of agricultural tools that are precise, effective and environmentally sustainable. While BioDirect Technology is still in early stages of discovery and development, this investment demonstrates that Monsanto is listening to farmers and consumers and is working to address their evolving needs.

## ENVIRONMENT, CONT.

## COVER CROPS AND SOIL HEALTH

A cover crop is a crop planted primarily to manage soil fertility, soil quality, water, weeds, pests, diseases, biodiversity and wildlife.

Leaving the soil undisturbed and keeping something growing restores the natural cycles of the soil. Residues and roots create more organic matter in the soil, and increased organic matter serves as a food source to various soil organisms and increases the biological activity. Higher biological activity increases nutrient cycling and availability, while reducing nutrient loss due to run-off. Combined, these activities improve soil health. The use of cover crops is very important to Monsanto as it fits with our overall strategy of conserving more.

In a typical cover crop strategy, a farmer will plant a crop such as rye grass or clover that won't be harvested in the fall. These plants will remain in the ground over the winter, protecting the soil structure and fixing some of the nitrogen that is in the soil. Then in the spring, farmers plant their crop over top of the cover, and they've effectively maintained important nutrients, improved the soil's health, and reduced erosion.

The Tifton USDA-ARS station in the U.S. has many years of experience in actively evaluating ground covers. Monsanto has been fortunate that we've had the opportunity to piggyback on the work established with our colleagues.

We combined our funding with partners and studied the effects of using ryegrass as a cover crop. The ryegrass worked very well and resulted in the soil conservation district funding a program to promote a deep tillage event, fertilizing and planting cover ryegrass before planting cotton. The ryegrass mulch is very successful at reducing problem weeds, such as Palmer Amaranth (pigweed) germination.

While the benefits of using cover crops are widely understood, implementing them successfully can be difficult. But new information and technology are available, and we felt it was important for our teams to be involved to help disseminate that information. Our people were proud to be a co-sponsor with the Howard G. Buffett Foundation of two important farmer workshops on cover crop education. These conferences were administered by the Soil Water Conservation Society and focused on cover crop management and improving soil health. There were 20 sponsors and exhibitors ranging from cover crop seed companies, not-for-profit organizations, government/university and aerial services.

Additionally, we hosted the Monsanto Cover Crops Workshop on June 5, 2012. Sixteen experts presented their thoughts on research needs and potential actions that could be taken with the cooperation of government, academia and industry to help broaden the adoption of cover crop technology.

## ENVIRONMENT, CONT.

**UN8,9 THE CTIC – A THIRTY-YEAR COMMITMENT TO CONSERVATION**

On October 25, we hosted a celebration of the 30th anniversary of the Conservation Technology Information Center (CTIC). This center champions, promotes and provides information on technologies and sustainable agricultural systems that conserve and enhance soil, water, air and wildlife.

The CTIC's mission is vital. That's why a number of Monsanto employees have held leadership positions within the organization. The October event celebrated the work of a great organization and highlighted our long-standing and sustained focus on conservation, a key element of the Monsanto Pledge.

Over its 30 years, CTIC has helped drive some major U.S. conservation successes:

- **No-till acres increased 343 percent** from 1989 to 2004
- **Water erosion decreased from 1.6 billion metric tons/year** in 1982 to **960 million metric tons/year** in 2007
- **Soil loss from wind erosion went from 3.3 tons/acre/year** in 1982 to **2.1 tons/acre/year** in 2007

**ROUNDUP READY PLUS® – A NEW WEED MANAGEMENT APPROACH**

One result of modern agriculture and its reliance on herbicides is the emergence of weed populations that are resistant to them.

All natural weed populations, regardless of the application of an herbicide, probably contain individual plants (biotypes) that are resistant to herbicides. Repeated use of any herbicide will expose weed populations to selection pressure that may lead to an increase in the number of surviving, resistant individuals in the population. Consequently, the resistant weed population may increase to a point where adequate weed control cannot be achieved via the application of that herbicide. Sometimes dubbed "superweeds", these are presenting a challenge to farmers everywhere.

## ENVIRONMENT, CONT.

In 2012, our teams introduced Roundup Ready PLUS®, a platform to help farmers increase the benefits of their Roundup Ready crops by combining herbicide use with weed control best practices and financial incentives for following the program. This platform was designed to improve on-farm productivity, sustain the benefits of conservation tillage, and provide effective weed management for tough to control or resistant weeds.

The primary focus of the platform is to retard further development of tolerance to herbicide products and focus on training programs. We know the solution doesn't just rest on Monsanto products. We're focused on training and supporting farmers to use the best proactive weed resistant management strategies available. We know that it's only through innovative practices, products and information that farmers are able to combat these resistant weeds that are a threat to their livelihoods.

## GRI ENG, 26 FIELDSCRIPTS™ PROGRAM— THE PRESCRIPTION FOR INCREASING YIELDS

With the help of science, farmers have doubled corn yields twice in the history of farming.\*



The first increase was due to the mechanization of agriculture. The second doubling took place during the new age of science. We went from 75 to 150 bushels an acre. That climb was a result of chemical weed control, better seed and better fertility. Now, farmers are ready to use science to help double their yields again. This time, with the help of technology and bioscience working together, the industry hopes to pass the 150-bushel per acre threshold. With population increasing, farmers will need to double yields to meet the increased demand.\*

\*Source: J. Hatfield, US National Laboratory for Agriculture and the Environment.

Integrated Farming System's™ (IFS) FieldScripts program is a promising, one-of-a-kind technology that may hold some of the answers to help reach this goal.

TECHNOLOGY  
THAT MAY  
HELP REACH  
THE GOAL OF  
**300**  
BUSHELS  
AN ACRE

### A Science-Based Approach Meets New Technology

Computer-based agriculture tools have been around for years. However, the interface was challenging and more often than not, the information was held on a USB drive. Farmers would put yield data and feeding prescriptions on the drive and then insert the drive into their cab computer; a system that was confusing and more technical than most farmers would like to deal with.

## ENVIRONMENT, CONT.

Along came the iPad®, changing everything. The iPad had enough processing capability and an intuitive, easy-to-use platform that was simpler to utilize. Precision Planting, an agriculture technology company that Monsanto acquired, saw the benefit in using the iPad technology with their equipment. They engineered a way to connect the iPad in the cab of their tractors and provide farmers with an experience similar to that provided by an iPad or iTunes®.

Our team then worked with Precision Planting and leading information technology (IT) companies to develop and build out a system that farmers could use easily with our biotech seed and agricultural processes.

The farmer will provide inputs like field boundaries, yield data, and fertility test results to their seed dealer. The dealer will work with the farmer to select each field to enroll in FieldScripts. Using Monsanto's extensive seed-by-environment data, the company will deliver a variable rate seeding prescription by yield management zone and a recommendation for the best hybrid for each field. The prescription will be provided through Precision Planting's FieldView® app for the iPad handheld device to the farmer's tractor. The prescription will then be executed using Precision Planting's 20/20 SeedSense® monitor and planter control system.

We've also been working to create infrastructure around the FieldScripts program. By training 42 dealers and two representatives to assist each dealer, our support staff will be able to handle the on-boarding process effectively. Additionally, we've put in place IFS specialists to assist farmers in their initial set-up of the program. We've created an 800 number for farmers to call at anytime, any hour, and get the support they need and their questions answered.

The FieldScripts program is in testing right now. One hundred and forty-four Ground Breakers® farmers in Minnesota, Iowa, Illinois and Indiana are testing the program on at least three fields per farmer. The results are promising. Ground Breakers are reporting a five to ten bushel increase per acre.

The FieldScripts program is about technology and science working together to help farmers feed the world. When we marry the world's best genetics with the world's best planter technology, the goal of doubling yields again may be well within our grasp.

**5-10 BUSHEL INCREASE PER ACRE**  
GROUND BREAKERS ARE REPORTING

ENVIRONMENT, CONT.

## CLIMATE CHANGE AND THE IMPACT ON FOOD SECURITY



THE AVERAGE TEMPERATURE IN THE U.S. HAS RISEN

**1.5°**  
FAHRENHEIT  
SINCE 1895

### Monsanto Fellows

We established the Fellow Program in the late 1940s to recognize the exceptionally talented women and men in the scientific community. This program seeks to encourage originality and innovation in the technical community, to improve cross-functional networking, and to enhance the impact of our technology on the future of the company. Participants in the program are expected to remain active in technology and to serve as company-wide consultants in their areas of expertise. They are also expected to provide strategic technical leadership to Monsanto, identify and recommend new technologies of potential importance to our future, and play an active role in the mentoring and development of scientists across the organization.

There are four levels of Fellows (Associate, Fellow, Senior and Distinguished). Distinguished Fellows are recognized both within Monsanto and externally as an expert in their field, with major influence on our strategic technical direction.

In 2007, a panel of Monsanto Fellows reviewed existing scientific studies and concluded that climate change would affect agriculture. However, a 2013 external draft report has recently concluded that the climate is actually changing more quickly than originally projected. This report was published by the National Climate Assessment and Development Advisory Committee (NACDAC), a federal advisory committee established by the U.S. Government. Over 200 scientists contributed to this report, which is overseen by an advisory panel that includes Monsanto's own Dave Gustafson, Senior Fellow and Director of Environmental and Ag Policy Modeling.

## ENVIRONMENT, CONT.

The new report suggests near-term impacts to agriculture will likely be greater than previously concluded. The average temperature in the U.S. has risen 1.5 degrees Fahrenheit since 1895, with most of that increase coming in the last 30 years. Additionally, the frost-free growing season is expanding, with anywhere from five to 21 extra frost-free days per year compared to the early 20th century.

These kinds of temperature increases and changes in growing seasons can significantly disrupt the agricultural and food production industry. One of the potential impacts of increasing temperatures is severe drought. In 2012, the U.S. got a close look at what a drought can mean to their dinner tables, and farmers got a close look at the havoc that changing temperatures can have on their crops and livelihoods. Climate change scientists look at the drought of 2012 as a sign of things to come. If we have a decade of very high drought and heat, the consequences could be crippling. A two degree Celsius increase in a single decade would be enough to reduce global yields by roughly 10 percent. Couple that decrease with an increase in population, and we are facing a serious threat to global food security.

## Advancing Innovations to Predict the Effects of Climate Change

We know we can't be on the defensive when it comes to climate change. We have to be at the forefront of new advancements and be part of the discussion as it happens on a global scale in real-time. That's why we're a part of the International Life Sciences Institutes (ILSI) Research Foundation's new Center for Integrated Modeling of Sustainable Agriculture and Nutrition Security (CIMSANS). We proudly support this global forum. In fact, Monsanto's Dave Gustafson is serving as interim director.

This organization brings together scientists from the private and public sector to study the impacts of climate change and resource scarcity—especially water—on food security. Reliable prediction of future yields and food availability in staple crops is challenging and is further complicated by the potential effects of climate change. That's why the use of integrated modeling, where simulation tools are used to interlink individual models of climate, crop growth, economic and environmental processes, has emerged as a way to better assess the impact of climate change. CIMSANS was developed to increase the quality of these data inputs and to be transparent about their underlying assumptions, so that public policy decisions and agricultural innovation strategies could be made soundly. CIMSANS has three key objectives: to advance science, create new partnerships, and inform policy.



**3**

**OBJECTIVES:**

**ADVANCE  
SCIENCE**

**CREATE NEW  
PARTNERSHIPS**

**INFORM  
POLICY**

## ENVIRONMENT, CONT.

CIMSANS has agreed to:

- **Support data standardization** and **transparency** in integrated modeling
- **Support efforts to improve the individual component models**, especially for crop growth
- **Support the collection of better input data** for integrated modeling of agricultural production and human nutrition
- **Support the development of a distributed approach** for repositories of standard data sets
- **Partner to create the best available predictions for productivity of key staple crops**, taking into account climate change, water and input availability, technology gains, and supply demand estimates
- **Create sustainable private/public partnerships** that utilize emerging science and technologies to urgently address gaps that affect crop yield gaps, food availability and human nutrition

Through its support of CIMSANS, Monsanto was pleased to help host recent workshops with the Food and Agriculture Organization (FAO), Consultative Group on International Agricultural Research (CGIAR) and other ag research institutes that are part of the United Nations (UN). These workshops help find new ways for governments and others to come up with responses to the future challenges of climate change, water scarcity and price demand.

Climate change is here. Our responsibility is to not only develop products and procedures that help farmers adapt today, but to also be a part of the discussion on how to meet the challenges of tomorrow.

## RIO + 20

Through our key partnerships with the Brazilian Business Council for Sustainable Development (CEBDS) and Conservation International-Brazil, we participated in several projects that address agriculture, biodiversity and climate within Brazil.

Our team, along with the Field to Market initiative in partnership with CEBDS, demonstrated the results of the reduced use of natural resources in soybean, corn and cotton crops within Brazil.



## ENVIRONMENT, CONT.



On the last day of the event, we participated in the launch of the World Business Council for Sustainable Development's *Vision 2050* with CEBDS. This plan outlined the main objectives for Monsanto and our partners in areas such as agriculture and climate. It outlines the main goal of *Vision 2050*, which is feeding 9 billion people by 2050, using half of the natural resources currently used.

## GRI ENG, 7 **WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT**

We joined the World Business Council for Sustainable Development (WBCSD) in 2012 to connect with a global coalition of more than 200 companies that advocate for progress on sustainable development.

Through our partnership with the WBCSD and its members, we advocate for our vision of sustainable agriculture, which aims to help meet the needs of the growing population, protect and preserve our planet's natural resources, and help improve lives.

The WBCSD has defined *Vision 2050*, a report compiled by 29 leading global companies from 14 industries to help ensure a steady course towards global sustainability is set. The goals of *Vision 2050* include:

- **Incorporating the costs of externalities**, starting with carbon, ecosystem services and water, into the structure of the marketplace
- **Doubling agricultural output** without increasing the amount of land or water used
- **Halting deforestation** and **increasing yields** from planted forests
- **Halving carbon emissions worldwide** (based on 2005 levels) by 2050 through a shift to low-carbon energy systems
- **Improved demand-side energy efficiency**, and providing universal access to low-carbon mobility



**OUR GOALS  
INCLUDE:**

**IMPROVE  
YIELD GAINS**

**INCREASE  
WATER USE  
EFFICIENCY**

**PRODUCE  
NEW CROP  
VARIETIES**

## ENVIRONMENT, CONT.

We set our own goals in 2008 that especially align with efforts to double agricultural output, which includes work we're doing to improve yield gains, increase water use efficiency and produce new crop varieties. We believe that by working with the WBCSD, which allows us access to proven, workable solutions to sustainable development challenges and state-of-the-art thinking on business and sustainable development, we can help our company and our farmer customers produce more food while using fewer resources.

The WBCSD is unique because its output is developed and road tested by its members. Its comprehensive work program enables it to cover all aspects of sustainable development in business. We look forward to our collaboration with the WBCSD and member organizations to help address the sustainability challenges of the years to come.

To learn more about the WBCSD, go to [www.wbcsd.org](http://www.wbcsd.org)

## FIELD TO MARKET

We're proud to be a founding member of Field to Market, an initiative of the Keystone Alliance for Sustainable Agriculture.

This partnership brings together representatives from all parts of the food chain—producers, agribusinesses, food and retail companies, conservation organizations, university and agency partners—to create sustainable outcomes for agriculture.



Field to Market®

From the beginning, it was important to our team that we have a presence on the executive committee. And that commitment continues to this day, with Monsanto's Michael Doane serving as a co-chair of the committee that looks closely at new ways to create shared value for each member of the value chain by measuring sustainability performance.

The 2012 Field to Market report evaluates sustainability trends over time on a national scale for U.S. corn, cotton, soybean and wheat production. The trends found in this report can provide a broad context, enable informed discussions and create a baseline against which we can measure future change.

The work of Field to Market on commodity crops is considered a best-in-class practice for measuring sustainability at the farm level. Report findings were used to develop the Fieldprint Calculator, which helps farmers analyze how their management practices affect natural resource outcomes on their farms. In 2012, this calculator became available for potato and rice producers.

Additionally, Field to Market holds Grower Meetings all over the U.S. In October, we held a plenary session at our headquarters in St. Louis, Missouri.

ENVIRONMENT, CONT.

## THE SUSTAINABILITY CONSORTIUM

In 2009, we were one of the founding members of The Sustainability Consortium (TSC). This organization of diverse global participants is working together to make the world more sustainable through better products, services and consumption principles.



Currently, Monsanto's Jennifer Luchte proudly serves as co-chair of the Food, Beverage and Agriculture (FBA) sector-working group.

Initially, our role was to assist in developing the scientific framework for measuring and reporting agricultural sustainability. This framework, called the Sustainability Measurement and Reporting System (SMRS), allows companies to improve the quality of decision-making regarding product sustainability and enables organizations and companies to design better products. Additionally, SMRS helps companies manage their upstream supply and suppliers more effectively and communicate their product sustainability message to their consumers.

The SMRS platform illustrates how effective and innovative TSC can be as they seek to deliver results through science-based tools. This developed framework improves decision-making as it relates to product sustainability throughout product life cycles.

## CHALLENGE: LEGACY ISSUES MEETING OUR OBLIGATIONS

We are in the business of seeds and traits, but we share a name with a company that dates back to 1901.

That Monsanto was involved in a wide variety of businesses. Under various agreements, today we manage several legacy liabilities stemming from those former businesses. These matters include product liability suits and environmental cleanup actions that, in most cases, have nothing to do with our business today. Regardless, we take our commitments seriously and strive to resolve these liabilities responsibly and fully.

Learn more about of Legacy issues at [www.monsanto.com/newsviews/Pages/Issues-and-Answers.aspx](http://www.monsanto.com/newsviews/Pages/Issues-and-Answers.aspx)

ENVIRONMENT, CONT.

## THE CHALLENGE OF WATER



More than any other natural resource, water connects all of us. It's at the center of economic, social, environmental and political issues. Farmers depend greatly on water. The amount, availability, and cleanliness all weigh heavily on farmers all over the world.

In fact, farming uses 70 percent of the world's available fresh water withdrawals. As we look at all of the challenges we face to support an ever-growing population, water may be the most important issue.

From an agricultural perspective, it's the single most limiting factor for crop production, crop growth and development. We'll need to roughly double the food supply to feed our growing planet, and we'll have to do it with less water than we are using for agriculture now. Our team is committed to working with farmers to address the challenge of water and offer sustainable solutions to help them meet their demands while improving yields.

Our company position on water is divided into **three broad areas**:

- **Our Operations**
- **Products & Partnerships**
- **Advocacy & Awareness**

Within each of these areas, there are specific programs that will drive results.

Commitments

Food & Nutrition

Environment

Communities

Index

## ENVIRONMENT, CONT.

## FACTS & FIGURES

### Water Scarcity Mapping

Currently, we are using a process to evaluate all of our sites around the world regarding the use of both surface and ground water and any associated potential impact to water resources in the area. We've taken it upon ourselves to create a computer-based program that will help us more effectively monitor our water usage.

We evaluated a number of potential databases and identified those that were worldwide in scope, from a trusted source, easy to use, and produced the most beneficial outputs. We will be using these publicly available databases to record global water use at our sites to provide valuable insight. This information is expected to be available in future iterations of our sustainability reporting.

### Drought Impact on Yields

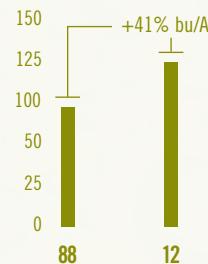
Just over 80 percent of U.S. agricultural land experienced drought in 2012, which made it the most extensively experienced drought since the 1950s. The lack of rain damaged large portions of crops in the U.S. Midwest, leaving field corn and soybeans the hardest hit. Retail food and animal feed prices increased, and forecasters have indicated the nation will feel the pinch well into 2013. More than 2,000 counties in the United States were designated as disaster areas, and about 60 percent of farms were located in areas experiencing drought. In short, this drought affected farmers and made an already challenging job even more challenging. As bad as it was, it could have been much worse, if not for improvements in irrigation, seed and other technologies.

### Yields in 2012 v. 1988

The U.S. drought of 2012 was very similar to the one in 1988. The lack of water pushed farmers to the limit. Yields were down and costs skyrocketed. But the difference between 1988 and 2012 was technology. Because of better breeding, use of biotechnology, and better agronomic practices, the American farmer saw yields that were actually 41 percent higher than they were in 1988—**an average of 35 bushels per acre higher than in the same drought conditions of 1988.** The data shows us, and the farmer, that the work we're committed to is effective. With climate change statistics forecasting a scenario worse than originally projected, it's a fact that water will grow scarce. Compound that scarcity with continuing possible drought-like conditions, and it becomes clear why our people are investing in drought readiness technologies.

#### U.S. Corn Yields in Corn 2012 v. 1988

Maize yield (bu/ac)  
NE, IA, MN, IL, IN and OH



USDA NASS (corn yields),  
NOAA NCDC (drought index)

## ENVIRONMENT, CONT.

## CASE STUDIES

**GRI EN26 Water Conservation Where Water and Land Are Already Scarce—Hawaii**

Our technology and manufacturing sites on three islands in the state of Hawaii provide an interesting perspective on water scarcity. Each year, our seed passes through our sites in Hawaii multiple times in its breeding, biotechnology trait development, trait integration, pre-foundation and foundation seed production development. Water there is limited, and our teams have taken steps to conserve as much as we can.

Our people utilize a drip irrigation method to produce crops. This method delivers water directly into the plant root zone and reduces the amount of fertilizer needed to produce the crop. We've found that this method saves more than eleven million gallons of water per year and also uses 60 percent less nitrogen.

Additionally, our Biotechnology Trait Conversion Center on Maui utilizes R1 water from the municipal waste system to produce corn seed. R1 water is defined as "tertiary treated recycled water that can be used without restriction." We use over 185,000 gallons of R1 water per day as opposed to fresh water.

**India—Moving from Rice to Corn Saves Water**

Farmers in Punjab, India, traditionally grow rice, and recently their yields were declining dramatically. The difficulty was caused by water depletion, up to 74 cm per year. Monsanto saw an opportunity to step in and help farmers in this region. Working with the State Government, the Punjab State Farmer's Commission (PSFC) and the Department of Agriculture, we offered our assistance by helping farmers implement irrigation systems and changing crops. By replacing rice with a DEKALB® corn hybrid and a crop rotation system, farmers used only 98.3 cm of irrigation water as opposed to their traditional 224.3 cm of water per year. Thanks to these improvements, farmers in India are now saving 800 million gallons of water per year.

185,000 GALLONS  
OF R1 WATER PER DAY



## ENVIRONMENT, CONT.

## OUR WATER-FOCUSED RESEARCH AND DEVELOPMENT

**GRI EN26** We have invested considerably in water-related products and processes. Our commitment to farmers who are faced with this issue never wavers. Besides being founding members and partners to numerous philanthropic organizations, we've invested heavily in technologies that give farmers access to sustainable water.

### Conservation Tillage

Conservation tillage is the agronomic practice of limited or no tillage of the soil. This method leaves residue from a previously harvested crop on top of the soil, which reduces soil erosion and run-off. This process, originally introduced 30 years ago, needed a champion to promote its practice and advocate its benefits. We joined with farmers and others in the agriculture industry to form the Conservation Technology Information Center (CTIC). Originally named the Conservation Tillage Information Center, the CTIC's mission has expanded to include other conservation practices. This center helps farmers, governments and members of the environmental community understand the importance of these conservation practices.

Today, nearly 50 percent of all cropland benefits from some version of conservation tillage. There is still more work to be done as the agriculture industry strives to increase conservation tillage acres. Recently, CTIC paused to celebrate 30 years as an organization, which culminated with an event at Monsanto's St. Louis, Missouri, campus in October, but the group has not slowed in its advocating for conservation tillage.

**NEARLY  
50%  
OF ALL  
CROPLAND  
BENEFITS  
FROM SOME  
VERSION OF  
CONSERVATION  
TILLAGE**

**GRI EN26** **Gothenburg**

Our Gothenburg Water Utilization Learning Center in Gothenburg, Nebraska, is focused entirely on water and its role in growing food. This state-of-the-art facility serves two functions: as a learning center for farmers, students, media and the general public, and secondly, as a research facility with an emphasis on building a systems-based approach in helping farmers increase their yields while using fewer resource inputs, particularly water.

Gothenburg is a desirable location to conduct research because it is near the center of the state of Nebraska. In Nebraska, precipitation varies from 34 inches in the east to 14 inches annually in the west. Gothenburg receives an average of 23 inches of rain

## ENVIRONMENT, CONT.



Gothenburg Water Utilization Learning Center in Gothenburg, Nebraska is focused entirely on water and its role in growing food.

annually. This places our facility in the transition zone of dry land farming to irrigated farming. As a result, we have research on both systems to help farmers understand how to manage water better.

Our team is also using our Gothenburg facility to determine the relationship between water use and yields when different management approaches are applied. In a demonstration called “The Journey of Drought”, we applied six different combinations of agronomic practices, hybrid selection and biotech trait protection to measure the impact of drought on the various parts of a corn-growing system. The combinations ranged from poor to best practices, and we found that when the best of agronomic practices, hybrid selection, and biotech traits were used, this combination produced more bushels for every inch of water.

To learn more about the facility and our research visit [www.monsanto.com/improvingagriculture/Pages/gothenburg-water-utilization.aspx#.UWgbB0LZep0](http://www.monsanto.com/improvingagriculture/Pages/gothenburg-water-utilization.aspx#.UWgbB0LZep0)



### GRI EN26 Genuity® DroughtGard™ Hybrids

There is no magic solution to solving the impact of drought on a plant. However, research into understanding drought and its complex mechanisms has come a long way in recent years. Hybrid selection and agronomic practices for drought-prone areas have shown solid results.

Research into how crops tolerate drought conditions isn't new. DEKALB®, our national brand for corn seed, has been rating its hybrids for drought-tolerance since the 1970s. Using biotechnology as a tool to address drought hasn't been available, until now. In collaboration with BASF, we've discovered a biotech trait that can give corn seed the enhanced ability to better utilize water. Combined with hybrid selection and the use of agronomic practices, Genuity DroughtGard hybrids have the potential to enhance yield

DUE FOR  
RELEASE  
IN 2013

BIOTECH  
TRAIT TO HELP  
MANAGE  
THE RISK  
OF DROUGHT  
STRESS

## ENVIRONMENT, CONT.

stability for U.S. farmers during times of drought stress.

Due for release in 2013, these seeds have native drought-tolerant characteristics and a biotech trait to help them manage the risk of drought stress. These seeds will be grown under stewardship requirements while pending import approvals in key export markets.

Learn more at

[www.monsanto.com/improvingagriculture/Pages/genuity-droughtgard-hybrids.aspx](http://www.monsanto.com/improvingagriculture/Pages/genuity-droughtgard-hybrids.aspx)

## WATER ADVOCACY AND PARTNERSHIPS

As we work to tackle the drought issue, we know our people can't do it alone. In our efforts to help farmers adapt and flourish, regardless of conditions, we've found many concurring people, organizations and initiatives that have blossomed into partnerships. In some cases, we were founding members. In others, we joined a group of already established philanthropists addressing important issues.



**WATER SECURITY IS ONE OF THE WORLD'S BIGGEST CHALLENGES**

### Water for Food

Water security is one of the world's biggest challenges. At the center of that challenge is the water supply needed to grow the food required for an increasing population. We can't



*Photo: Firoj Alam*  
A woman fetches water in Gaibandha, a rural district in Bangladesh.

## ENVIRONMENT, CONT.

make more water; the only way forward is through innovations in water productivity.

Established in April 2010 with a \$50 million founding gift commitment from the Robert B. Daugherty Charitable Foundation to the University of Nebraska, the Water for Food Institute conducts research and provides policy analysis and educational programs on the efficiency and sustainability of water use in agriculture. Specifically, the institute focuses on ensuring the food supply for current and future generations.

Monsanto partners with the University of Nebraska–Lincoln to help farmers manage water stress. We fund Plant Science and Cropping Systems graduate students and also co-fund the salary of a University Extension Specialist. The Extension Specialist spends half of his time at the Gothenburg Learning Center, interacting with and teaching visitors, helping us plan water-related field demonstrations, linking us to University of Nebraska expertise, and testing the network of water and cropping systems. The individual who fills this role for the University of Nebraska is an irrigation expert and spent three previous years working with the third largest center pivot irrigation manufacturers in Nebraska, building and implementing an irrigation efficiency educational program.

We're proud of our partnership with the Water for Food Institute. We have been a lead sponsor of their conference since 2010 and spoke at their 2012 conference. To learn more




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about their valuable cause and work, visit [www.waterforfoodinstitute.org](http://www.waterforfoodinstitute.org).

**"The Robert B. Daugherty Water for Food Institute is grateful for Monsanto's partnership and support, which has enabled discussions of critical issues at our global conferences and a deeper hands-on understanding of the importance of production agriculture in meeting this challenge."**

**Prem S. Paul**

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*Vice Chancellor for Research and Economic Development*

## ENVIRONMENT, CONT.

at the University of Nebraska-Lincoln



## Mississippi River Watershed Partnership

In addition to our efforts to help farmers increase yields with less water, we also understand how important it is to support the communities where they live and work. That means taking an interest in the environment that surrounds farms and the environment that surrounds our facilities and sites.

Mississippi River Watershed Partnership is a part of [our commitment to the environment](#). This initiative was established to reduce nutrient run-off and sediment movement into the largest river system in the U.S. Monsanto contributed financial support to the agricultural and conservation groups Delta Wildlife, The National Audubon Society and The Nature Conservancy and worked with farmers and urban areas to help reduce run-off into the Mississippi River and the Gulf of Mexico.

Both the Nature Conservancy and Delta Wildlife worked with us to prevent nutrient and sediment run-off, while the National Audubon Society focused on raising awareness of how people can be good stewards of nature in their own backyards. They promoted individual actions to enhance water quality and a healthy habitat for birds and other wildlife.

This effort by Monsanto illustrated how we can make farming and conservation in the Mississippi River Watershed more compatible so that nature and people benefit from improved water quality and enhanced wildlife habitat.

We believe this initiative serves as an important stepping-stone toward the goal of preserving natural resources and wildlife in the Mississippi River Watershed for future generations.

**53,000**

POUND REDUCTION  
OF NITRATES  
ENTERING THE ROOT  
RIVER WATERSHED  
ANNUALLY

NINE AUDUBON RAIN  
GARDEN DEMO SITES  
ALONG THE MISSISSIPPI  
HOST MORE THAN  
**1 MILLION**  
VISITORS ANNUALLY

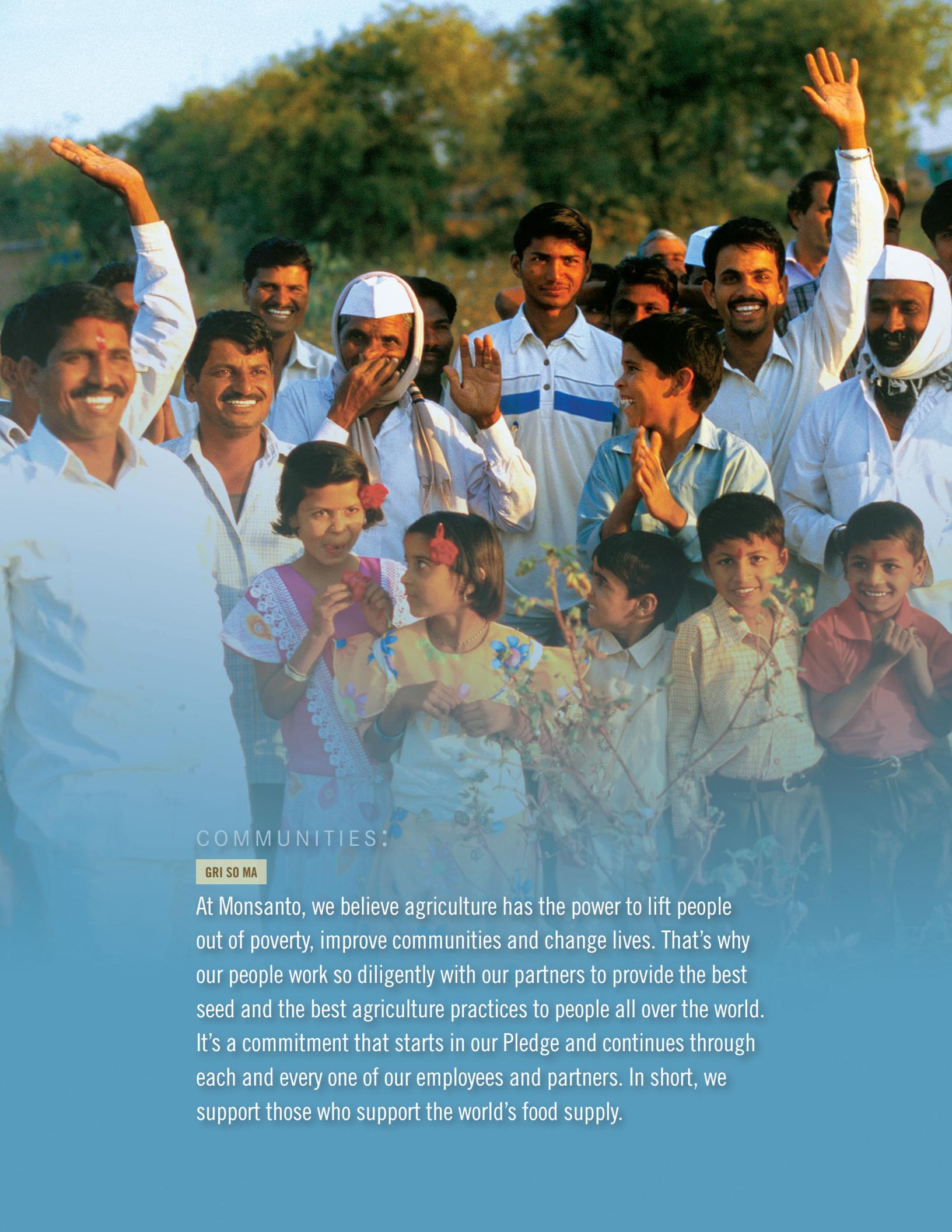
DELTA WILDLIFE  
AND MISSISSIPPI  
FARMERS INSTALLED

**1,000**  
WATER CONTROL  
STRUCTURES  
PREVENTING:

**20,000**  
POUNDS OF NITROGEN

**10,000**  
POUNDS OF  
PHOSPHOROUS

**9,000**  
TONS OF SEDIMENT  
FROM ENTERING THE  
GULF OF MEXICO



## COMMUNITIES:

GRI SO MA

At Monsanto, we believe agriculture has the power to lift people out of poverty, improve communities and change lives. That's why our people work so diligently with our partners to provide the best seed and the best agriculture practices to people all over the world. It's a commitment that starts in our Pledge and continues through each and every one of our employees and partners. In short, we support those who support the world's food supply.

## COMMUNITIES

# OUR COMMITMENT TO THE COMMUNITIES OF THE WORLD

A large portion of our community outreach programs work in parallel with the principles and objectives of the UN's Millennium Development Goals for rural area progress and human rights. Specifically we focus on five of the eight goals:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Ensure environmental sustainability
5. Develop a global partnership for development

We're proud of our partnerships with non-governmental organizations (NGOs), government agencies, multilaterals, and foundations all over the world. With their help, we're confident we'll reach our goals of enhancing communities, supporting education and championing the farmer.



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## KENYA'S GOLD FINGER WOMEN

Our outreach to communities worldwide is more than just a company value. It goes beyond our partnerships and industry efforts. In fact, sometimes it comes from just one person. Zallipah Githui is that person.

During the past two years, Githui has returned to her village in Ngorano, Kenya, from her job at Monsanto to help improve the lives of farmers and their families. She spent her own money, along with contributions from Monsanto employees, and provided hybrid corn seeds, fertilizers and the services of an agronomist to 16 female farmers in Ngorano.

On the Southern slopes of Mt. Kenya, these village women worked on small parcels of an acre or two with primitive tools. In this culture, the women are farmers because it's their responsibility to feed the family. But poor planting methods, such as intermingling crops and poor seed selection, have made farming challenging and has led to low yields, even in seasons with strong rainfall totals.

Coincidentally, this project, called Gold Finger (because Githui believes a woman's fingers can produce the equivalent of gold given the right tools and resources), was launched on the eve of one of the worst droughts to hit the region in 60 years.

But Githui pushed on. She provided new drip irrigation systems and introduced improved agronomic practices. The Gold Finger women fared better than most during the drought. Some found that for the first time they were able to produce enough to feed their families without having to purchase additional vegetables. Some also found that due to these improvements, they were able to grow enough beans for their families for six months.

While the corn crop suffered because of a lack of rainfall, the tomato crops proved that with the right input and investments, including drip irrigation, these women could move beyond subsistence.

In the second year, Githui has grown the scope of work to include goats and poultry. She has filed the paperwork to turn project Gold Finger into a not-for-profit organization called Rural Woman Development Initiative.

Githui's efforts have made a difference in the village of Ngorano. Now, she is poised to continue her mission to all of rural Kenya. It's a powerful illustration of how agriculture can improve communities.

*"A woman's fingers can produce the equivalent of gold if she has the right tools and resources."*

**Zallipah Githui,**  
*Monsanto researcher*

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COMMUNITIES, CONT.

## MONSANTO FUND

The Monsanto Fund is the philanthropic arm of Monsanto Company. We are committed to strengthening communities where Monsanto employees and farmers live and work. We do this by:

- **Providing basic education support** designed to improve education in farming communities around the world, including supporting schools, libraries, science centers, farmer training programs and academic programs that enrich or supplement school programs.
- **Meeting critical needs in communities** by supporting not-for-profit organizations that help with matters such as food security, sanitation, access to clean water, public safety and various other local needs.



To download the report, please visit [monsantofund.org/programs/fund-report/](http://monsantofund.org/programs/fund-report/)

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Our people are committed to improving lives in farming communities around the world. The problems are common, but the solutions are as varied as the many regions where our employees live and work.

To learn more about the Monsanto Fund, visit [www.monsantofund.org](http://www.monsantofund.org).

COMMUNITIES, CONT.

GRI S01, 10

## INVEST AN ACRE

Rural hunger in America is a serious problem. In fact, one in six Americans will face hunger-related issues. Monsanto has joined with Archer Daniels Midland (ADM), the Howard G. Buffett Foundation and Feeding America to do something about it.

The Invest an Acre program encourages farmers to donate the proceeds of one or more acres of crops to help feed hungry families in their community. Proceeds from just one acre of crops can provide thousands of healthy meals to these families within their community.

Farmers bring their crops to a local ADM elevator and tell the operator they'd like to donate a portion of their crop to Invest an Acre. Monsanto then matches the dollar value of that donation to make double the impact.

We were the first seed company to join Invest an Acre, and we remain committed for the long-term, having made a \$3 million commitment to the program over the next four crop years. This partnership represents the full agricultural chain, from seed provider, to farmer, to grain handler—all working together with hunger-fighting organizations to benefit rural communities.

Total families fed or acres donated: Invest An Acre uses a meal equivalency of **\$1 = 3 meals**. By this calculation method, it has distributed more than 3 million meals to date.

**1 IN 6 AMERICANS WILL FACE HUNGER-RELATED ISSUES**

**OVER 3 MILLION MEALS TO DATE**

GRI EC8

### Monsanto Employees Fight Rural Hunger

As a part of the Invest an Acre effort, our people established an employee volunteer initiative that sent Monsanto employees to food banks in their area. Fifty U.S. Monsanto sites participated in events held during Fighting Rural Hunger Volunteer Week in November, contributing over 2,000 volunteer hours. At most sites, employees volunteered at local food banks, sorting donations, unpacking trucks, loading care packages and helping in whatever ways were needed.



### IN ACTION

*"Monsanto is one of many companies that has an interest in what is going on in America as far as rural hunger. Monsanto has been a huge help for this agency when the Farm Progress show has been in Decatur. They have matched the donations that have come in for that, and that's been a huge help for us in continuing to feed people in this area."*

**Jerry Pelz,**

*Director of Southeast Community Fund, Decatur, IL*



*Video from [monsanto.com/whoweare/Pages/fighting-rural-hunger-volunteer-weeks.aspx](http://monsanto.com/whoweare/Pages/fighting-rural-hunger-volunteer-weeks.aspx)*

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COMMUNITIES, CONT.

## BOLLGARD® COTTON HELPS BUILD COMMUNITIES

Nearly three-fourths of Indians live in rural areas and rely on agriculture for their livelihoods. Unfortunately, these rural farmers are also the poorest in the country.

Most of these farmers have just small parcels of land, two hectares or less, and their repeated spraying of pesticides is costly. These sprayings could climb to as many as 15 applications in a growing season, effectively wiping out the farmer financially before killing the bollworm infestation.

Cotton crops were severely damaged by these infestations, **diminishing potential yields and profits as much as 40 percent to 70 percent.**

But the cycle of poverty went beyond the individual farmer. Outside of agriculture, the textile sector was suffering due to a lack of high-quality domestic cotton. And this poverty even cascaded through the villages and communities, where there was a lack of permanent shops or marketplaces, clean drinking water or medical care.

The introduction of Monsanto's Bollgard® cotton seed in India has significantly reduced farmers' need for insecticides and has resulted in higher-yielding cotton crops. Additionally, reducing the need for multiple pesticide treatments has allowed farmers to save money and has improved the livelihoods of millions of farmers.

Our joint venture with Mahyco-Monsanto Biotech (MMB), a well-respected Indian seed company, has provided us with the infrastructure needed to reach these farmers and deliver seed.

The results have been enormous. Average cotton yields jumped from 3–4 quintals per acre to 600–1,000 kgs per acre. The volume of insecticides needed to control bollworm was reduced by 20,000 metric tons annually. By 2009, just seven years after we introduced Bollgard, farmers were planting the seed technology on 90 percent of India's cotton area.

The lives of the Indian farmer and his family were improved. They found themselves lifted out of poverty, able to save money for the first time. Textile factories were beginning to come to life again. Their communities reaped the results as well. An independent study found that in villages where farmers had adopted cotton, economic activity was more robust. Specifically, there were more shops, permanent marketplaces, better provision for electricity and drinking water, and better medical care for women and children, which researchers attributed to higher farmer incomes.

Our introduction of Bollgard cotton has been a commercial success by any standard. But perhaps more than just the numbers, this technology has done more: **it's improved the livelihoods of millions of farmers, their families and communities.**



**BY 2009  
BOLLGARD  
WAS BEING  
PLANTED ON  
90%  
OF INDIA'S  
COTTON AREA**

COMMUNITIES, CONT.

## IMPROVING FARMERS' LIVES

As part of our commitment to improving lives, our people continue to champion America's farmers. We are proud to provide several programs that support growers and the rural communities in which they live and work.



**TELLING  
THE STORY  
OF THE  
AMERICAN  
FARMER  
AND THEIR  
EFFORTS  
TO FEED  
THE WORLD**

When we looked at the ways we could most positively affect the American farmer, our people identified three themes that now form the pillars of a collaborative effort among farmers, their communities and us. The first pillar focused on educating consumers by telling the story of the American farmer and advocating for their tireless efforts to help feed the world. This became known as the America's Farmers campaign.

An extension of our America's Farmers campaign is the Farm Mom of the Year initiative. This program recognizes farm women who amaze and make contributions to the family, farm, community and agriculture. Farm moms are nominated for a regional \$5,000 prize and a chance to win an additional \$5,000, if they win the national portion of the program.

The second pillar, sponsored by the Monsanto Fund, helps support rural communities. Farmers told us over and over again that they don't need us to simply come in to their towns and places of business and sell seed, rather support their communities, too. We listened and created the America's Farmers Grow Communities program. The third pillar is centered on education. This program, again sponsored by the Monsanto Fund, is called America's Farmers Grow Rural Education. It's a grant award system that enhances nominated rural school districts.

## COMMUNITIES, CONT.

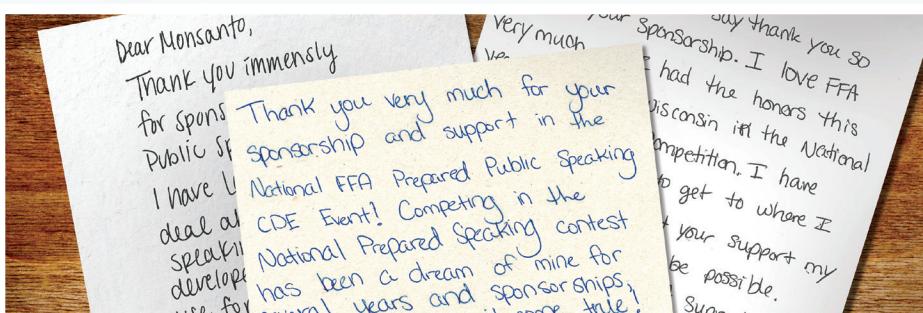
## America's Farmers Grow Communities

The program, which launched in 2010, allows farmers to enter to win a \$2,500 donation for their favorite community not-for-profit organization, such as 4-H, FFA, schools, fire departments and other civic groups. In 2012, one winner was selected in each of the 1,271 eligible counties in 39 states.

To further support counties that were declared disaster areas by the United States Department of Agriculture (USDA) due to the 2012 drought, winning farmers in these counties could choose where to direct an additional \$2,500 donation based on community needs that surfaced because of the drought. The Monsanto Fund will invest more than **\$5 million to local not-for-profit organizations across the country** through Grow Communities during the program year.

## America's Farmers Grow Rural Education

Our people know education of the next generation of farmers is vital to the future of agriculture. We also know that once a school closes down or relocates, the sustainability of the community is at risk. That's why we introduced America's Farmers Grow Rural Education to help farmers positively impact their communities and support local school districts. In total, the Monsanto Fund invested nearly \$2.3 million to rural school districts in 39 states in 2012.



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**\$5.84 MILLION**  
TOTAL FUNDS AWARDED IN 2012:



**\$2.3 MILLION**  
TOTAL FUNDS AWARDED IN 2012:

America's Farmers Grow Rural Education offers farmers the opportunity to nominate rural public school districts to compete for a grant of up to \$25,000 to benefit their math and science programs. There are 6,900 rural public school districts that were eligible for the grants in 2012, and **more than 70,000 farmers nominated their community school districts**. The America's Farmers Grow Rural Education Farmer Advisory Council is made up of 29 farmers from across the country. They are responsible for reviewing the top grant applications in each of the targeted crop reporting districts (CRDs) and selecting the winning school districts.

These programs are just a part of our broad commitment to the American farmer. We see investing in rural communities and education as fundamental to building both the present and the future of agriculture in America. And we couldn't be more proud to be a part of the success of both.

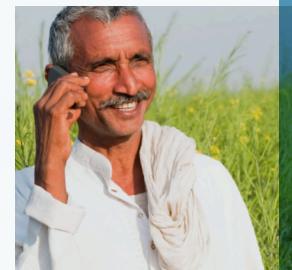
COMMUNITIES, CONT.

# BRINGING FARMERS WHAT THEY NEED MOST: TIMELY AND CUSTOMIZED INFORMATION

In May 2010, our people launched a free service for farmers in India. This service was designed to break through the challenges of illiteracy and rural isolation and provide Indian farmers with possible solutions to their crop challenges.

The Monsanto Farm AgVisory<sup>SM</sup> Services (MFAS) program, known as “Dr. DEKALB Farm Care” for corn growers, is an innovative and interactive mobile advisory platform for farmers. Mobile phone adoption in rural areas is actually quite high, which makes cell phones an ideal platform for delivering information. The Dr. DEKALB service offers a toll-free number that farmers can call to speak directly with an advisor. Available 365 days a year, Dr. DEKALB Farm Care is a customized approach to providing information and advising farmers in remote locations on a variety of topics that help them produce heartier crops and higher yields.

The inbound advisory function provides assistance in crop management, such as pest and disease control, fertilizer usage, weed management and irrigation. Additionally, farmers can access information on pre-planting and harvest issues, including suitable seed selection, land preparation, harvesting issues, weather forecasts, and yield and local commodity prices. This information is designed to provide useful insights on six crops via different service brand platforms: Dr. Paras Farm Care for Cotton; Dr. DEKALB Farm Care for Corn, and Seminis Gurukulam Farm Care for Hot Pepper, Tomato, Cabbage and Cauliflower. All of the information is available in seven languages to farmers in 16 Indian states.



*The Dr. DEKALB service offers a toll-free number that farmers can call to speak directly with an Advisor. Available 365 days a year from 7 am–9 pm.*

MFAS <b>5</b> TOUCH POINT SYSTEM		PRE-SOWING	SOWING	CROP MANAGEMENT	HARVEST & POST-HARVEST
<b>1</b>	Receives relevant <b>broadcast</b> information	Info on New Products	Agri-education on Weed Control, Reminders on Basic Crop Management Practices		- Mandi Prices - Weather
<b>2</b>	Subscribes to <b>customized alerts</b> for issues & opportunities	Seed Selection	- Best Sowing Practices - Spacing - Weather info	- Pest/Disease Alerts - Dosages of Nutrients	Demo Farms
<b>3</b>	Seeks personalized <b>handholding/expert advice</b>	Suitable Seed Recommendation		Pest & Disease Control Advisory	Harvesting & Storage Advisory
<b>4</b>	Accesses fellow <b>farmer communities</b>		Testimonials/Experience/Advice from Fellow Farmers		
<b>5</b>	Establish <b>direct contact</b> for timely resolution		- Complaints on Product Performance - Issue Reporting		

## COMMUNITIES, CONT.

Dr. DEKALB Farm Care also offers outbound advisory functions as well. After registering for the service free of cost, farmers receive customized messages sent to their mobile phone throughout the season. Alerts consist of information regarding crop management, hybrid recommendations, weather forecasts and local commodity prices.

## The Voices on the Other End of the Phone

Sixty percent of our advisors are formally educated in agriculture. Each of them undergoes an intensive three-month training program that prepares them to answer tough questions and assist farmers in need. The training program includes crop training, examinations, mock call tests, voice and language training and skills enhancement.

Our people know how important it is for a farmer to be able to communicate with an advisor. When a farmer calls, he or she is directed to an advisor who speaks his or her own local dialect.

Dr. DEKALB Farm Care also offers a three-tier advisory support platform. When a farmer calls into the center, an advisor attempts to resolve the query. If the advisor is unable to provide an answer, the query is sent to our expert panel. The solution is then passed back to the advisor, who relays the advice to the farmer. If no solutions can be provided, a representative will visit the farmer's field and provide advice and insight.

## The Results are Amazing

In 2010, the inaugural year of the Dr. DEKALB Farm Care program, 10,000 farmers enrolled in the service. In 2013, the enrolled base has exceeded the 800,000 mark. When we collected feedback through surveys and farmer interactions, we found that the Dr. DEKALB Farm Care program had delivered in an impressive way. A sample of 6,000 farmers in the States of Bihar, Maharashtra, Karnataka, and Uttar Pradesh revealed that 86 percent had implemented the Advisory and 78 percent had benefited from its use through yield enhancement and cost reduction. Over 90 percent of farmers said they were extremely satisfied with the program, as they had a great customer experience. Just as important, **99 percent said they are likely to be associated with DEKALB due to the service.**

**Monsanto Farm AgVisory® Service** — The farmer-specific advisory platform has been, by all indicators, a powerful resource for Indian farmers. By helping to diagnose a farmer's problem and provide them with a customized advisory, regardless of dialect, our people have built on our promise to improve lives and increase yields.

*"My corn fields were experiencing extremely slow growth. I immediately called the Dr. DEKALB Farm Care advisor and he recommended that I apply a dosage of 19:19:19 NPK (nitrogen:phosphorous:potassium). Within one week the condition of my fields improved significantly! I hope more and more farmers utilize this service. I am very happy with my healthy and higher yielding crop — all thanks to Dr. DEKALB Farm Care."*

**Sonar Rehman,**  
*Farmer, Purnea, Bihar*

**THE ENROLLED BASE HAS EXCEEDED  
800,000 MARK**

COMMUNITIES, CONT.

## PROJECT SHARE

Many farmers in India use traditional planting methods, which can reduce the maximum yield possible from their seeds. Farmers are accustomed to planting corn seed mixed with fertilizer, using a bullock-drawn indigenous plow. This tends to kill the germinating seed and result in fewer plants actually growing in the field. However, the biggest issue with this method is the planting of too many seeds; excessive plant populations drain the soil of moisture and nutrients.

Monsanto India and the Indian Society of Agribusiness Professionals partnered with Project SHARE (Sustainable Harvest: Agriculture, Resources and Environment) to help farmers improve planting methods by developing the seed and fertilizer drill. This device controls seed and fertilizer quantities to conform to ideal spacing recommendations. The drill contains a double-box seed drill with sub-sections divided for seed and fertilizer, making it possible to adjust seed and fertilizer rates individually.



*Jamuna Lal, Indian farmer, using a new sowing and fertilizing drill that revolutionized his farming practice.*

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The development and adoption of the seed drill has enabled farmers to plant at appropriate seeding rates and separate the seed and fertilizer for efficient planting. Farmers have seen yield increases anywhere from two to six tons per hectare in one growing season. They've also seen more accurate seed rates, meaning fewer seeds per hectare, which saves on inputs like fertilizer.

The machine, shared across villages, is instilling immense pride and a real sense of ownership. Those who are witnessing the results are now believers in innovation and the use of improved seeds and technology. Project SHARE's goal is to improve the lives of Indian farmers by giving them access to tools like these, technology and knowledge, so they can increase cotton and corn crop yields, improve their income, and by extension, their quality of life.

COMMUNITIES, CONT.

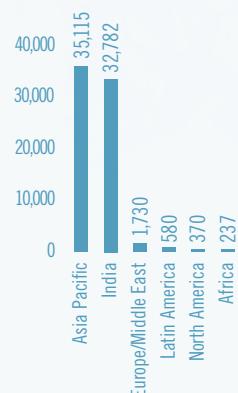
## MONSANTO'S HUMAN RIGHTS PROGRESS

Across the globe, stories abound about the rights of workers being abused in various industries including agriculture. Because we produce seeds in more than 40 countries, our people are in a position to improve the lives of workers in our seed production supply chain. In 2006, we adopted our Human Rights Policy that set high standards for our sites and our business partners, who provide manual labor in the production of our seeds.

**GRI HR10** Our priorities are guided by a global risk assessment, which covers each part of the Policy in every country where we grow our seeds. We encourage our business partners to follow our lead and champion those who need support. We work on a country-by-country basis to evaluate our business partners and look closely at how they treat our most valuable resource — people.



**Monsanto Human Rights Business Partners**  
by Geographic Area, 2012



*Monsanto Data*

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## Our Practices and Policy

Our Human Rights Policy has identified nine areas of commitment. They are:

- **Child Labor**
- **Forced Labor**
- **Compensation**
- **Working Hours**
- **Harassment and Violence**
- **Discrimination**
- **Freedom of Association**
- **Occupational Safety**
- **Legal Compliance**

## COMMUNITIES, CONT.

**GRI HR1** Our continuous improvement approach frames our process and helps us identify high-risk countries and focus our resources to make the greatest impact possible. All of our seed supply contracts are structured to include a human rights provision. By signing the contract, our business partners indicate that they have read and understood the Policy and agree to act in compliance with applicable labor laws. We're proud to announce that in 2012, we had a major increase in the number of business partners in two critical geographic areas, Asia Pacific and India, and we maintained our high standards with our human rights clause in 100 percent of the contracts.

**GRI HR2, 7** A second practice our people use with our business partners is to test their compliance with our Red Flag Assessment, a 22-question screening tool. In 2012, we conducted 37,494 assessments, the majority of which were in India. If a red flag was found, indicating a potential problem, we launched an immediate investigation.

In some of our highest risk areas, we provided in-person training to communicate our expectations. **GRI HR10** We've found a face-to-face approach is very effective in reaching more than 26,000 of our business partners in these areas. Unfortunately, if we uncover issues that cannot, or will not, be addressed by our business partners, we have to terminate their contracts. In 2012, we discontinued working with three business partners in Malawi because of issues that couldn't be resolved. In India, we found 240 children on 171 farms this past season, and all of those 171 business partners were disqualified from our program for the future.

As we continue to improve our process, we've hired 3<sup>rd</sup> party risk assessment specialists to help us with our screening procedures. These consultants conducted in-depth analysis in parts of Africa, Latin America and India. When potential violations were uncovered, the concerns were immediately raised with our business partners and corrective actions were put in place.

For example, at our plant in Lusaka, Zambia, we identified a problem with accurately tracking working hours. A simple fix for our business partner was to install an electronic time clock system, which eliminated concerns about accurate payment based on hours worked.

In Malawi, we found that some business partners couldn't pay their workers until the harvest was completed and they received payment for the seeds. To address the issue, we began paying our business partners a mid-season payment so their workers could be paid in a more timely way.

MAINTAINED  
OUR HIGH  
STANDARDS  
WITH OUR  
HUMAN RIGHTS  
CLAUSE IN  
**100%**  
OF THE 2012  
CONTRACTS

## COMMUNITIES, CONT.

## Our Commitment to Working in India

Child labor is a significant challenge in rural areas of India. To help address it, we have developed an education and monitoring program for our seed coordinators and contract farmers. Our contracts with our business partners all contain language reinforcing our position that no child labor be used. We've spent seven years mitigating risks and remediating incidents when they are uncovered in our hybrid cottonseed production and more recently, vegetable seed fields as well.

In 2011, we had a **major increase in the number of business partners** in India due to a high demand for cotton seeds. In 2012, our grower base still remained at an historical high, but through our continued efforts, policies and screening process, our business partners' child labor statistics stayed at historical lows, under half of one percent.

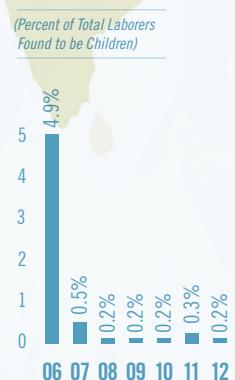
In the vegetable seed fields, our production staff has the additional task of monitoring the fields for the presence of child labor. We've created a reward system for the growers and safety checklists to be completed at the field to protect workers from open wells, and electrical and trip hazards.

Our work to increase awareness of child labor doesn't end with our business partners. We reached out to local villages and hired social workers to speak to the families of child workers. They spoke at schools and to the village elders about the importance of keeping children in school. They also followed up to make sure children who were found on the fields and sent back to school stayed there. This program has been extremely effective.

Additionally, our people created a project in two Indian states through the Monsanto Fund. This project supports 60 schools, engages local stakeholders and works with parents to send their children to school instead of the fields. The response has been fantastic.

We also felt it was important to go beyond educating the villagers on the dangers of child labor, and take our involvement out of the field and into the classroom. To this end, we've made several donations that provide important support for local schools. Examples of the supplies we have donated include dinnerware, computer desks and chairs, PA systems, physics lab equipment, and biology charts and specimens for classroom learning. These efforts created an environment at school that is designed to attract children and keep them out of the fields during the school day.

### Reduction in Child Labor in Business Partner Cottonseed Production Since 2006



### Reduction in Child Labor in Business Partner Vegetable seed Production Since 2006



Monsanto Data

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## COMMUNITIES, CONT.

## Free to Leave and Return—Forced Labor

Unfortunately, tenancy agreements are commonplace in some countries in Africa. These “agreements” keep workers from returning to their homes at the end of a season. In some cases, business partners were holding workers’ documents, preventing them from travel to and from their homes. This can result in a forced labor situation for migrant workers.

In Indonesia, our people worked to improve relations between our business partners and their workers. We developed a sample employment contract and strongly encouraged its implementation. This contract ensures that workers are free to leave when they wish and are to be compensated for all of their work. Additionally, we urged our partners to change payroll timing for workers, from a lump sum at the end of a season to a more frequent pay schedule.



## Protecting Collective Bargaining—Freedom of Association

We support the rights of workers to associate and bargain collectively. We’ve also instituted training programs to educate business partners on the rights of employees to associate and bargain collectively.

In 2012, we successfully negotiated with a seasonal worker union in Chile. We worked with the union to implement a new collective bargaining agreement, which benefited all of our seasonal workers in Chile equally, even though just a small portion of the workforce actually belongs to the union.

## COMMUNITIES, CONT.

## Indigenous people—The Right to Display Their Heritage

In 2012, our surveys found no incidents of violations involving the rights of indigenous people. And while Monsanto doesn't have a history of direct employment of members of indigenous tribes, occasionally our partners do employ indigenous people. In those situations, we do all we can to be sensitive to cultural traditions. For example, in rural Kenya, members of the Maasai Tribe wear traditional regalia. But at our business partner's facility, we strongly encourage their employees to wear personal protective equipment (PPE) as a precaution. We worked with our business partner and allowed the workers to wear the required PPE over their traditional dress.

## Champions of Human Rights

A vital part of our work around the globe is led by our Human Rights Champions Network. These Champions increase visibility and awareness of human rights and implement our processes. This includes getting into the field, conducting audits, coordinating initiatives and implementing corrective actions to ensure the treatment of workers is consistent with our Policy.

Luigi Terzini serves as our Environment, Safety and Health (ESH) Regional Lead and Human Rights Champion for South America. Since 2007, he has worked in different regions of the world, including Europe, the Middle East, Africa, Latin America South and Brazil. Every day, he works within our organization and supply chain to create better working environments, and he is a tireless advocate for human rights.

“Being a Human Rights Champion provides me with a real, great and effective opportunity to make a difference in the lives of people. Recently, I've worked hand-in-hand with the Argentine Seed Industry Association and the field workers' unions to improve the working conditions of thousands of field migrant workers of the many seed business farms in the country.

I'm honored to support the educational and health needs of our people and local communities. Often, I become overwhelmed by challenges that look too big to be accomplished, but thanks to our people's passion for improving the well being of people, we can achieve great things. This makes me extraordinarily proud to be a Human Rights Champion.

I'm committed to making a difference by ensuring safe and healthy workplaces and human rights at our locations, and with our partners, customers and communities.”



*“I'm committed to making a difference by ensuring safe and healthy workplaces and human rights at our locations, and whenever possible, with our partners, customers and communities.”*

**Luigi Terzini,**  
*Human Rights Champion*

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## COMMUNITIES, CONT.

## From the Fields to Our Offices

As we continue to work for human rights across the globe, we know it's vital that we create a workplace that protects the rights of the individual here at home. A big part of that mission rests upon the shoulders of our employees. It is essential that every Monsanto employee uphold our values and commitments. **GRI HR3** **GRI LA10** That's why we provide human rights computer-based employee training modules. In 2012, we didn't introduce new training for all employees, but focused on training newly hired employees. 3,000 employees were trained—that's a 99 percent completion rate—which resulted in 1,546 hours of human rights training

**GRI HR4** **UNG** Our Monsanto Business Conduct Office gives our employees a channel to raise human rights matters confidentially and anonymously. A toll free, dedicated telephone number has been provided, along with a company email address to log complaints or concerns.

**GRI HR11** Our Business Conduct Office complaint system has 45 different categories of allegations, and ten of them overlap with our Human Rights Policy. In these ten categories, there were sixteen cases brought forward for consideration and addressed in 2012. Of these sixteen cases, eleven were investigated and found to be unsubstantiated. Three were determined to be an infraction of company policy or have legal or regulatory consequences. The remaining two resulted in an intervention to correct the situation, although they were not classified as a specific policy or regulatory violation.

**3,000**  
**EMPLOYEES**  
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**COMPLETION**  
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**RESULTED IN**  
**1,546**  
**HOURS OF**  
**HUMAN RIGHTS**  
**TRAINING**

## ADDITIONAL EFFORTS AT OUR HEADQUARTERS

Monsanto offers a resource group for our GLBT (gay, lesbian, bisexual, transgender) employees. Encompass is a group dedicated to supporting the GLBT community and also championing equal rights and gender equality. In 2012, Encompass held their second Annual Meeting and focused on the importance of having allies in the workplace. An ally is someone who supports the GLBT community and also gender and racial equality, regardless of sexual orientation. Our people continue to support Encompass in their mission and their efforts to educate and empower the GLBT community and their allies.

We are also sensitive to the challenges of our disabled guests and employees. In 2012, **we undertook more than 20 projects at an investment of \$750,000 to improve the conditions of our walkways and ramps.** The end result of these improvements is a more inclusive campus for disabled individuals. We are grateful for our relationships with disability advocates and St. Louis-based organizations such as Paraquad, Life Skills, Special School District, AgrAbility and many others. Our conversations with these advocates have developed into invaluable partnerships.

We continue to do all we can to ensure that the rights of the worker are respected and championed. Not just because it's good for business, but also because we believe it's our responsibility to improve lives wherever we do business.

COMMUNITIES, CONT.

**CHALLENGE:****BLACKFOOT RIVER WATERSHED**

Rivers in the southeastern Idaho region are the lifeblood of the region. In fact, the wildlife resources are a key reason why people live or vacation by the rivers. In Idaho, mining is also a way of life. Historically, Idaho mining companies mine and refine phosphorus, a primary ingredient in Roundup®. This kind of mining can be hazardous to streams, rivers and the wildlife that surrounds them.



**FINALIST  
FOR A  
2013  
SUSTAINABLE  
YIELD PLEDGE  
AWARD**

The relationship between conservation groups and mining companies had always been tense in the area. Often differences would have to be settled in court.

Our people knew that obtaining a permit for our proposed Blackfoot Bridge phosphate mine would be challenging, to say the least. We had to change the way we thought about the permit process.

From 2005–2011, our project team members proactively worked with local mining companies, the Idaho Conservation League (ICL) and Trout Unlimited (TU) to engage in dialogue and develop beneficial environmental projects within the community.

The result of these collaboration efforts, known as the Upper Blackfoot River Initiative for Conservation (UBRIC) earned the team recognition as a finalist for a 2013 Sustainable Yield Pledge Award in the Community Engagement category.

In 2012, we marked the beginning of the on-the-ground efforts to enhance the quality of the fish habitat in the Upper Blackfoot River Watershed. It's the start of a multi-year agreement to improve the environment in the area. The first projects involve installing fish-friendly weirs at irrigation diversion points to remove fish migration barriers. This project is just one of many that we're proud to undertake in order to keep the waterways clean and healthy.

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## UN GLOBAL COMPACT INDEX

The UN Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment and anti-corruption:

## THE TEN PRINCIPLES

PRINCIPLE	LINK/PAGE REFERENCE/NOTES
<b>HUMAN RIGHTS</b>	
<b>LABOUR</b>	
1 Businesses should support and respect the protection of internationally proclaimed human rights.	Commitments, pages 16, 20, 42, 49 Environment, pages 87-89 Communities, pages 122, 132-134, 137
2 Make sure that they are not complicit in human rights abuses.	Commitments, pages 41-43 Communities, pages 132-134
<b>ENVIRONMENT</b>	
3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	Communities, pages 132-133, 135
4 The elimination of all forms of forced and compulsory labour.	Communities, pages 132-133, 135
5 The effective abolition of child labour.	Communities, pages 132-134
6 The elimination of discrimination in respect of employment and occupation.	Commitments, pages 49, 51, 52, 53-55 Communities, pages 122, 132-133, 136, 137
<b>ANTI-CORRUPTION</b>	
10 Businesses should work against corruption in all its forms, including extortion and bribery.	Commitments, pages 41-43

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## GRI INDEX

The following content index is provided in accordance with the Global Reporting Initiative (GRI) guidelines. It shows where this report has provided information regarding the GRI indicators.

## STANDARD DISCLOSURES: PROFILE

PROFILE DISCLOSURE	LINK/PAGE REFERENCE/NOTES
<b>1. STRATEGY AND ANALYSIS</b>	
1.1 Statement from the most senior decision maker of the organization about the relevance of sustainability to the organization and its strategy.	Statement from CEO, pages 3-4
1.2 Description of key impacts, risks and opportunities.	Commitments, pages 8-10, 11, 13-14, 14-16, 16-17, 24-31
<b>2. ORGANIZATIONAL PROFILE</b>	
2.1 Name of the organization.	Monsanto Company
2.2 Primary brands, products and/or services.	Company website at <a href="http://www.monsanto.com/products">www.monsanto.com/products</a> 2012 Form 10-K (pages 5-7) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.3 Operational structure of the organization, including main divisions, operating companies, subsidiaries and joint ventures.	2012 Form 10-K (pages 5-7 and Exhibit 21) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.4 Location of organization's headquarters.	St. Louis, Missouri, United States
2.5 Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	Company website at <a href="http://www.monsanto.com/whowere/Pages/our-locations.aspx">www.monsanto.com/whowere/Pages/our-locations.aspx</a> 2012 Form 10-K (page 12) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.6 Nature of ownership and legal form.	Company website at <a href="http://www.monsanto.com/whowere/Pages/certificate-of-incorporation.aspx">www.monsanto.com/whowere/Pages/certificate-of-incorporation.aspx</a>
2.7 Markets served (including geographic breakdown, sectors served and types of customers/beneficiaries).	Company website at <a href="http://www.monsanto.com/whowere/Pages/our-locations.aspx">www.monsanto.com/whowere/Pages/our-locations.aspx</a> 2012 Form 10-K (page 12) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a> 2012 Form 10-K (Note 27, page 89-90) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.8 Scale of the reporting organization.	2012 Form 10-K (page 8) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a> 2012 Form 10-K (page 40-42) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.9 Significant changes during the reporting period regarding size, structure or ownership.	2012 Form 10-K (page 19-29) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
2.10 Awards received in the reporting period.	Commitments, pages 49-52

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## STANDARD DISCLOSURES: PROFILE

PROFILE DISCLOSURE	LINK/PAGE REFERENCE/NOTES
<b>3. REPORT PARAMETERS</b>	
<b>REPORT PROFILE</b>	
3.1 Reporting period (e.g., fiscal/calendar year) for information provided.	Fiscal year 2011 (year ended August 31, 2012), except where noted
3.2 Date of most recent previous report (if any).	June, 2011
3.3 Reporting cycle (annual, biennial, etc.)	Annual
3.4 Contact point for questions regarding the report or its contents.	<a href="mailto:CSRSReport.team@monsanto.com">CSRSReport.team@monsanto.com</a>
<b>REPORT SCOPE AND BOUNDARY</b>	
3.5 Process for defining report content.	Iterative, involving senior management Commitments, page 11, 14-16
3.6 Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	Global owned and leased facilities
3.7 State any specific limitations on the scope or boundary of the report.	Environmental Performance, pages 89-93
3.8 Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	We do not anticipate the basis for this report to affect comparability for subsequent years.
3.9 Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	Commitments, pages 24-31 Environment, pages 89-93
3.10 Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers acquisitions, change of base years/periods, nature of business, measurement methods).	There have been no restatements of information provided in earlier reports.
3.11 Significant changes from previous reporting periods in the scope, boundary or measurement methods applied in the report.	The scope of environmental reporting expanded to include Seeds & Traits operations. See Environmental Performance, pages 89-93.
<b>GRI CONTENT INDEX</b>	
3.12 Table identifying the location of the Standard Disclosures in the report.	Index, pages 139-151
<b>ASSURANCE</b>	
3.13 Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	Approach to assurance, page 18

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## STANDARD DISCLOSURES: PROFILE

PROFILE DISCLOSURE	LINK/PAGE REFERENCE/NOTES
<b>4. GOVERNANCE, COMMITMENTS AND ENGAGEMENT</b>	
<b>GOVERNANCE</b>	
4.1 Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	Company website at <a href="http://www.monsanto.com/whoweare/Pages/corporate-governance.aspx">www.monsanto.com/whoweare/Pages/corporate-governance.aspx</a> 2012 Proxy Statement (pages 6-20) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.2 Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	Company website at <a href="http://www.monsanto.com/whoweare/Pages/board-of-directors-leadership-roles.aspx">www.monsanto.com/whoweare/Pages/board-of-directors-leadership-roles.aspx</a> 2012 Proxy Statement (page 9) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.3 For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members.	2012 Proxy Statement (pages 7-8) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.4 Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	Company website at <a href="http://www.monsanto.com/whoweare/Pages/ContactOurDirectors.aspx">www.monsanto.com/whoweare/Pages/ContactOurDirectors.aspx</a> 2012 Proxy Statement (pages 12, 77) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.5 Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	A significant portion of our executives' compensation is tied to company annual and longer-term performance. Financial performance measures key to growing our business and delivering value to our shareowners are included in our compensation plans. In addition, focus on leading efforts in sustainable agriculture and maintaining a talented and diverse workforce are two examples of key drivers of our long-term growth that are considered when determining individual annual incentive awards. 2012 Proxy Statement (pages 30-37) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.6 Processes in place for the highest governance body to ensure conflicts of interest are avoided.	Monsanto Code of Ethics: <a href="http://www.monsanto.com/whoweare/Pages/business-conduct.aspx">www.monsanto.com/whoweare/Pages/business-conduct.aspx</a> 2012 Proxy Statement (pages 6, 10-12) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.7 Process for determining the composition, qualifications and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.	2012 Proxy Statement (page 8 and Appendix B) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.8 Internally developed statements of mission or values, codes of conduct and principles relevant to economic, environmental and social performance and the status of their implementation.	Commitments, pages 19-20, 41-43
4.9 Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct and principles.	2012 Proxy Statement (Description of board level Sustainability and Corporate Responsibility Committee, page 21) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
4.10 Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental and social performance.	2012 Proxy Statement (Description of Board Self-Assessment, page 7) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>

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## STANDARD DISCLOSURES: PROFILE

PROFILE DISCLOSURE	LINK/PAGE REFERENCE/NOTES
<b>4. GOVERNANCE, COMMITMENTS AND ENGAGEMENT CONT.</b>	
<b>COMMITMENTS TO EXTERNAL INITIATIVES</b>	
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.
4.12	Externally developed economic, environmental, and social charters, principles or other initiatives to which the organization subscribes or endorses.
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization has positions in governance bodies; participates in projects or committees; provides substantive funding beyond routine membership dues; or views membership as strategic.
<b>STAKEHOLDER ENGAGEMENT</b>	
4.14	List of stakeholder groups engaged by the organization.
4.15	Basis for identification and selection of stakeholders with whom to engage.
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>ECONOMIC</b>	
EC MA Disclosures on Economic Management Approach	Commitments, page 10
<b>ECONOMIC PERFORMANCE</b>	
EC1 Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings and payments to capital providers and governments.	2012 Form 10-K (pages 40-91) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a>
EC2 Financial implications and other risks and opportunities for the organization's activities due to climate change.	Environment, pages 107-109
EC3 Coverage of the organization's defined benefit plan obligations.	2012 Form 10-K (Note 18) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf</a> 2012 Proxy Statement (pages 59-62) at <a href="http://www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf">www.monsanto.com/investors/Documents/Annual%20Report/2012/monsanto-company-2012-proxy-statement.pdf</a>
EC4 Significant financial assistance received from government.	Non-disclosed
<b>MARKET PRESENCE</b>	
EC5 Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	Non-disclosed
EC6 Policy, practices, and proportion of spending on locally based suppliers at significant locations of operation.	Environment, page 97 (partial)
EC7 Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.	Non-disclosed
<b>INDIRECT ECONOMIC IMPACTS</b>	
EC8 Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Food & Nutrition, pages 72-74, 75-77 (partial), 78-80 Communities, pages 124-125 (partial)
EC9 Understanding and describing significant indirect economic impacts, including the extent of impacts.	Commitments, pages 30-31

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>ENVIRONMENTAL</b>	
EN MA Disclosures on Environmental Management Approach.	Commitments, pages 10, 24–31, 61 Food & Nutrition, pages 68, 76–77 Environment, pages 86–93, 101–102, 107–109, 112, 113–120
<b>MATERIALS</b>	
EN1 Materials used by weight or volume.	Environment, page 93 (partial)
EN2 Percentage of materials used that are recycled input materials.	Non-disclosed
<b>ENERGY</b>	
EN3 Direct energy consumption by primary energy source.	Environment, pages 90, 92
EN4 Indirect energy consumption by primary source.	Environment, page 90
EN5 Energy saved due to conservation and efficiency improvements.	Environment, pages 90–93
EN6 Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Commitments, pages 24–29 Environment, pages 88, 94–95, 97–98, 99–100, 103–106, 110
EN7 Initiatives to reduce indirect energy consumption and reductions achieved.	Commitments, pages 24–29 Environment, pages 100, 110
<b>WATER</b>	
EN8 Total water withdrawal by source.	Environment, pages 91, 93
EN9 Water sources significantly affected by withdrawal of water.	Environment, pages 114, 115, 120
EN10 Percentage and total volume of water recycled and reused.	Environment, page 91
<b>BIODIVERSITY</b>	
EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Commitments, page 31 (partial) Environment, pages 99–100, 115, 120 (partial) Communities, page 138 (partial)
EN12 Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Commitments, page 31 Environment, pages 99–100, 115, 120 Communities, page 138
EN13 Habitats protected or restored.	Commitments, page 31 Environment, pages 99–100, 115, 120 Communities, page 138
EN14 Strategies, current actions and future plans for managing impacts on biodiversity.	Commitments, page 31 Environment, pages 99–100, 115, 120 Communities, page 138
EN15 Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	Non-disclosed

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>ENVIRONMENTAL, CONT.</b>	
<b>EMISSIONS, EFFLUENTS AND WASTE</b>	
EN16 Total direct and indirect greenhouse gas emissions by weight.	Environment, pages 91, 92
EN17 Other relevant indirect greenhouse gas emissions by weight.	Environment, page 92
EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved.	Commitments, pages 10, 26, 29, 52
EN19 Emissions of ozone-depleting substances by weight.	Non-disclosed
EN20 NO, SO, and other significant air emissions by type and weight.	Environment, page 92
EN21 Total water discharge by quality and destination.	Environment, page 91
EN22 Total weight of waste by type and disposal method.	Environment, page 93
EN23 Total number and volume of significant spills.	Environment, page 96
EN24 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	Non-disclosed
EN25 Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	Non-disclosed
<b>PRODUCTS AND SERVICES</b>	
EN26 Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Commitments, pages 22, 24 – 31 Food & Nutrition, pages 68, 75-77 Environment, pages 94, 101-102, 103, 105–106, 115, 116, 117-118 Communities, page 138
EN27 Percentage of products sold and their packaging materials that are reclaimed by category.	Environment, pages 94 (partial), 95 (partial)
<b>COMPLIANCE</b>	
EN28 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Environment, page 96
<b>TRANSPORT</b>	
EN29 Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	Non-disclosed
<b>OVERALL</b>	
EN30 Total environmental protection expenditures and investments by type.	Non-disclosed

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>LABOR PRACTICES AND DECENT WORK</b>	
LA1MA Disclosures on Labor Practices and Decent Work Management Approach.	Commitments, pages 41-44, 46, 47, 53-55, 58-61, 62-63
<b>EMPLOYMENT</b>	
LA1 Total workforce by employment type, employment contract and region, broken down by gender.	Commitments, page 56 (partial)
LA2 Total number and rate of new employee hires and employee turnover by age group, gender and region	Commitments, pages 56, 57
LA3 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.	Non-disclosed
LA15 Return to work and retention rates after parental leave, by gender.	Non-disclosed
<b>LABOR/ MANAGEMENT RELATIONS</b>	
LA4 Percentage of employees covered by collective bargaining agreements.	Communities, pages 132-137
LA5 Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	Non-disclosed
<b>OCCUPATIONAL HEALTH AND SAFETY</b>	
LA6 Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	Commitments, page 58
LA7 Rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities, by region and by gender.	Commitments, pages 64-67
LA8 Education, training, counseling, prevention and risk-control programs in place to assist workforce members, their families or community members regarding serious diseases.	Commitments, page 41
LA9 Health and safety topics covered in formal agreements with trade unions.	Non-disclosed
<b>TRAINING AND EDUCATION</b>	
LA10 Average hours of training per year per employee by gender, and by employee category.	Commitments, pages 33, 41-42, 62-63 Communities, page 137
LA11 Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Commitments, pages 19-20, 53-54
LA12 Percentage of employees receiving regular performance and career development reviews, by gender.	Commitments, page 57

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>LABOR PRACTICES AND DECENT WORK, CONT.</b>	
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>	
LA13 Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity.	Commitments, page 57
<b>EQUAL REMUNERATION FOR WOMEN AND MEN</b>	
LA14 Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	Non-disclosed
<b>HUMAN RIGHTS</b>	
HR MA Disclosures on Human Rights Management Approach.	Commitments, page 46 Communities, pages 132-136
<b>INVESTMENT AND PROCUREMENT PRACTICES</b>	
HR1 Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.	Communities, pages 132-137
HR2 Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken.	Communities, pages 132-137
HR3 Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Commitments, page 42 (partial) Communities, pages 132-137
<b>NON-DESCRIMINATION</b>	
HR4 Total number of incidents of discrimination and corrective actions taken.	Communities, pages 132-137
<b>FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>	
HR5 Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	Communities, pages 132-137

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>HUMAN RIGHTS, CONT.</b>	
<b>CHILD LABOR</b>	
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.
<b>FORCED AND COMPULSORY LABOR</b>	
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.
<b>SECURITY PRACTICES</b>	
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.
Communities, pages 132-137 All employees, including security officers, are trained in Monsanto's human rights policies.	
<b>INDIGENOUS RIGHTS</b>	
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.
Communities, pages 132-137	
<b>ASSESSMENT</b>	
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.
Communities, pages 132-137	
<b>REMEDIATION</b>	
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.
Communities, pages 132-137	

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

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<b>SOCIETY</b>	
SO MA Disclosures on Society Management Approach.	Commitments, pages 45, 48 Food & Nutrition, pages 72-77, 78-79 Environment, page 97-98 Communities, pages 121-122
<b>LOCAL COMMUNITIES</b>	
SO1 Percentage of operations with implemented local community engagement, impact assessments and development programs.	Communities, pages 122-138
SO9 Operations with significant potential or actual negative impacts on local communities.	Non-disclosed
SO10 Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	Communities, pages 123 (partial), 125, 126 (partial), 127, 132-137
<b>CORRUPTION</b>	
SO2 Percentage and total number of business units analyzed for risks related to corruption.	Commitments, pages 41-42
SO3 Percentage of employees trained in organization's anti-corruption policies and procedures.	Commitments, page 42 (partial), 45
SO4 Actions taken in response to incidents of corruption.	Commitments, pages 41-42
<b>PUBLIC POLICY</b>	
SO5 Public policy positions and participation in public policy development and lobbying.	Commitments, page 45
SO6 Total value of financial and in-kind contributions to political parties, politicians and related institutions by country.	Commitments, page 45 Company website at <a href="http://www.monsanto.com/whoweare/Pages/political-disclosures.aspx">www.monsanto.com/whoweare/Pages/political-disclosures.aspx</a>
<b>ANTI-COMPETITIVE BEHAVIOR</b>	
SO7 Total number of legal actions for anti-competitive behavior, anti-trust and monopoly practices and their outcomes.	Non-disclosed
<b>COMPLIANCE</b>	
SO8 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Non-disclosed

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## STANDARD DISCLOSURES: PERFORMANCE INDICATORS

INDICATOR	LINK/PAGE REFERENCE/NOTES
<b>PRODUCT RESPONSIBILITY</b>	
PR MA Disclosures on Product Responsibility Management Approach.	Commitments, pages 32- 33, 37, 38-39 Food & Nutrition, pages 68, 81-85 Environment, pages 97, 101-102
<b>CUSTOMER HEALTH AND SAFETY</b>	
PR1 Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	Commitments, pages 32 (partial), 36
PR2 Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Non-disclosed
<b>PRODUCT AND SERVICE LABELING</b>	
PR3 Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	Food & Nutrition, pages 83-85
PR4 Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Non-disclosed
PR5 Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Non-disclosed
<b>MARKETING COMMUNICATIONS</b>	
PR6 Programs for adherence to laws, standards and voluntary codes related to marketing communications, including advertising, promotion and sponsorship.	Commitments, pages 32, 33
PR7 Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship by type of outcomes.	Non-disclosed
<b>CUSTOMER PRIVACY</b>	
PR8 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Non-disclosed
<b>COMPLIANCE</b>	
PR9 Monetary value of significant fines for non compliance with laws and regulations concerning the provision and use of products and services.	Non-disclosed



MONSANTO

We welcome your feedback on our commitment to be a more sustainable and socially responsible company.

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A description of the factors that may cause such a variance is included in the Safe Harbor language in our most recent 10-K at this hyperlink: [www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf](http://www.monsanto.com/investors/Documents/Annual%20Report/2012/2012-10K.pdf)

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