

MONSANTO COMPANY (MON)

SPECIALTY CHEMICALS | US

ESG RATING **B**

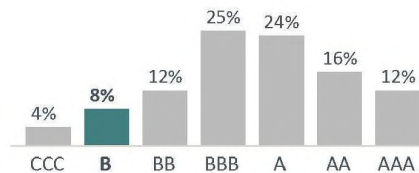
LAST UPDATE: December 14, 2016

Bayer takeover awaits shareholder and uncertain regulatory approval

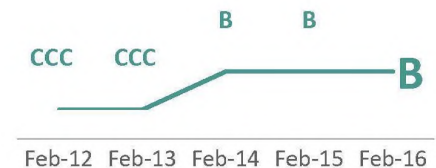
GOVERNANCE SNAPSHOT

Board Independence %	91.7%
Significant Votes Against Management	NO
Entrenched Board	NO
Pay Performance Gap	NO
Executive Pay Non-Disclosure	NO
Multiple Share Classes with Different Voting Rights	NO

INDUSTRY RATING DISTRIBUTION



ESG RATING HISTORY



ESG SCORE CARD

	WEIGHT	SCORE	QUARTILE
Environment	50.0%	4.0	
Toxic Emissions & Waste	21.0%	1.2	●
Opportunities in Clean Tech	11.0%	4.4	●●●
Water Stress	11.0%	4.9	●●
Carbon Emissions	7.0%	10.0	●●●●
Social	21.0%	0.2	
Chemical Safety	21.0%	0.2	●
Health & Safety	0.0%	9.3	●●●
Labor Management	0.0%	7.2	●●●●
Governance	29.0%	4.1	
Corporate Governance	15.0%	5.6	●●
Business Ethics & Fraud	14.0%	2.5	N/A
Anticompetitive Practices	0.0%	4.2	N/A

[View Corporate Governance Details Section →](#)

Key Issues

● Bottom Quartile
●●● Top Quartile

Issues that we determine do not present material risks or opportunities to companies in a given industry receive 0% weight and do not impact the overall ESG rating.

ISSUER COMMUNICATION

Company response last 12 months? **YES**
Last Communication Date **Jun 13, 2016**

[View Issuer Communication Summary Details →](#)

RATING COMMENT

RATING DATE: February 25, 2016

Monsanto's rating is unchanged at 'B'.

Monsanto faces barriers to market growth due to concerns from consumers and regulators over genetically modified (GM) seeds. While the company's traits may offer crop yield benefits, consumer perception continues to work against the company. Monsanto also has not endorsed GMO labeling transparency, which has gained traction in the wake of labeling initiatives among certain U.S. states, and commitments by retailers and food products companies. However, Monsanto has taken steps to expand its market opportunities into crop analytics and microbe-based solutions through the BioAg Alliance, both of which have aggressive growth targets.

In September 2016, Bayer AG agreed to an all-cash USD 66 billion takeover of Monsanto, adding to the consolidation in the ag chem industry. The takeover coincides with a tenuous operating environment for Monsanto, which is balancing R&D funding needs with a downturn in the ag sector. Monsanto previously embarked on a strategy to become an integrated supplier to farmers, and the acquisition by Bayer significantly expands the offering of crop protection chemicals. Although Monsanto and Bayer have limited overlap in crop protection chemicals and Bayer's current seed business is only one-seventh the size of Monsanto's, the deal entails significant execution risk due to anticipated regulatory and political scrutiny.

Analyst: Cyrus Lotfipour

KEY RISKS



Chemical Safety - Score 0.2

February 25, 2016

The company's product portfolio and the geographic distribution of its revenues suggest high exposure to regulatory risks and potential reformulation costs. Our analysis finds little evidence of mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Monsanto ranks below average.



Toxic Emissions & Waste - Score 1.2

February 25, 2016

The company's business activities suggest high exposure to potential costs associated with its discharges and waste. Our analysis finds little evidence of mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Monsanto ranks below average.



Business Ethics & Fraud - Score 2.5

February 25, 2016

Monsanto is involved in lawsuits alleging the violation of competition laws, excessive royalty payments in Brazil, and has attracted significant opposition for its aggressive patent enforcement methods.

STRENGTHS

No areas of substantial strengths in managing material risks or capitalizing on growth opportunities are identified for this company.

MOST RECENT CONTROVERSIES [\(View Controversies Detail Section →\)](#)

HEADLINE	ASSESSMENT	TYPE	DATE
Spokane City Lawsuit: Alleged Contamination of Local River with PCB	Minor	Toxic Emissions & Waste	November 2016
WHO Agency Declares Glyphosate as “Probably Carcinogenic” to Humans	Moderate	Product Safety & Quality	September 2016
Personal Injury Claims Related to PCBs	Moderate	Impact on Local Communities	September 2016
CCI Investigation into Allegedly Unreasonable Royalties for GM Cotton Seeds in India	Moderate	Customer Relations	September 2016
San Diego City Lawsuit: Alleged Liability for San Diego Bay PCB Contamination	Moderate	Toxic Emissions & Waste	September 2016

CEO

Name
Hugh Grant

Tenure
13 Years

Total Realized Pay
USD 4,835,987.0

Total Summary Pay
USD 11,928,836.0

BOARD OF DIRECTORS

9
Men on Board



3
Women on Board



1
Inside Directors

0
Outside related Directors

11
Outside Directors

SHAREHOLDERS

Majority Shareholder Control (%)
N/A

Insider Holdings (%)
0.0%

5% Holdings
11.6%

% Held by Largest Shareholder
N/A

LARGEST 10 INDUSTRY PEERS (SPECIALTY CHEMICALS)

	TOXIC EMISSIONS & WASTE	OPPORTUNITIES IN CLEAN TECH	WATER STRESS	CARBON EMISSIONS	CHEMICAL SAFETY	CORPORATE GOVERNANCE	RATING AND TREND
ECOLAB INC.	●●●●	●●●●	●●●●	●●●●	●●●	●	AAA ↔
L'AIR LIQUIDE SOCIETE ANONYME POUR L'ETUDE ET L'EXPLOITATION DES PROCEDES GEORGES CLAUDE	●●●●	●●●●	●●	●●	N/A	●●●	AA ↔
Givaudan SA	●●●●	●●	●●●●	●●●●	●	●●●●	AA ↔
AIR PRODUCTS AND CHEMICALS, INC.	●●●	●●	●●	●	N/A	●●	A ↑
Linde Aktiengesellschaft	●●●	●●	●●	●	N/A	●●●●	A ↔
PRAXAIR, INC.	●●●	●●●	●●●	●	N/A	●	BBB ↔
Shin-Etsu Chemical Co., Ltd.	●●●	●●●●	●	●●●	●●●	●	BBB ↓
THE SHERWIN-WILLIAMS COMPANY	●●●	●	●●	●●●●	●	●●	BBB ↓
Syngenta AG	●	●●●	●●●	●●●	●	●●●	BBB ↔
PPG INDUSTRIES, INC.	●●	●●●●	●●●	●●●●	●	●	BBB ↔
MONSANTO COMPANY	●	●●●	●●	●●●●	●	●●	B ↔

QUARTILE KEY: ● Bottom Quartile ●●●● Top Quartile

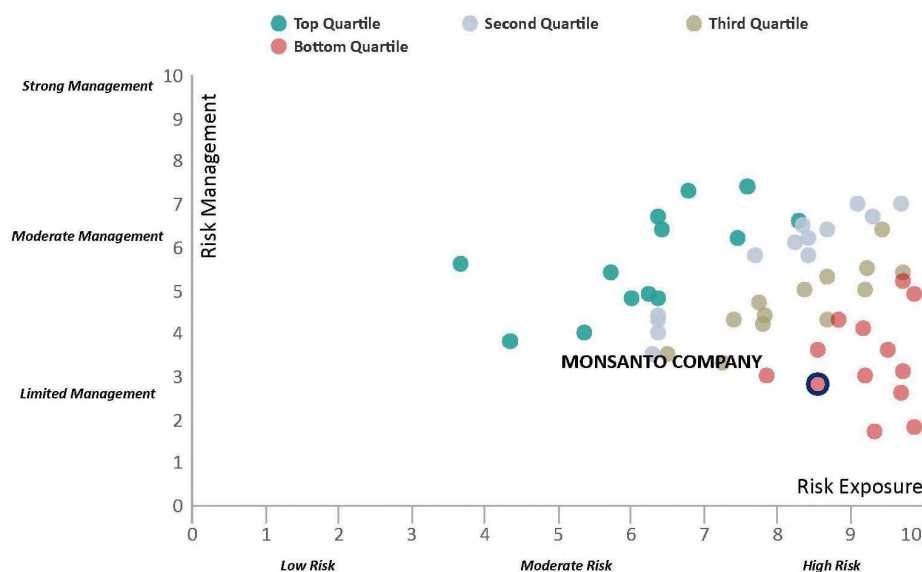
RATING TREND KEY: ↔ maintain ↑ upgrade ↑↑ two or more notch upgrade ↓ downgrade ↓↓ two or more notch downgrade



Toxic Emissions & Waste

Score	Change (since rating)	Quartile	Weight	As of
1.2	n/a	•	21.0%	Feb 25, 2016

TOXIC EMISSIONS & WASTE PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

ECOLAB INC.	8.9
Hitachi Chemical Company, Ltd.	7.5
KANSAI PAINT CO.,LTD.	7.3
NOVOZYMES A/S	7
Akzo Nobel N.V.	6.8

BOTTOM 5 INDUSTRY LAGGARDS

FMC CORPORATION	0.8
OCI N.V.	0.4
ASHLAND LLC	0
CF INDUSTRIES HOLDINGS, INC.	0
W. R. GRACE & CO.	0

ANALYSIS

Producers of agricultural chemicals have a high risk of incurring environmental liabilities due to the hazardous nature of their products and potential for unintentional releases. Monsanto has environmental management systems to mitigate these risks and greatly improved its transparency in 2014, but increasing hazardous waste intensities reflect negatively on the effectiveness of its process changes.

We measure exposure to the risk of incurring environmental liabilities based on the hazardous waste intensity, air pollutant intensity, and toxicity of releases from the company's lines of business. All of Monsanto's revenue is attributed to the production of crop protection chemicals and seeds, which have high hazardous waste intensities according to data from the U.S. Environmental Protection Agency. Producers of crop protection chemicals operate in a highly regulated industry, in which product labeling, storage, and transportation guidelines are strictly enforced.

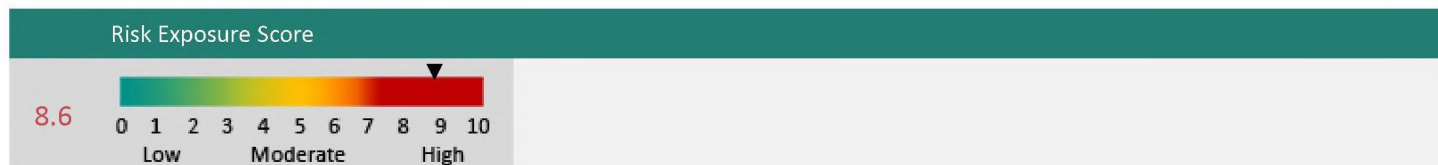
Although Monsanto does not have group-wide initiatives to reduce its hazardous emissions or waste, the company has made improvements to its environmental management system which could have a positive influence on its oversight of global operations. The company's environmental, health, and safety policy applies to all global operations and its Crop Protection operations are certified to the ISO 14001 standard for environmental management systems, which represents approximately 18% of the company's total employees, but is well below the industry average certification rate for the Specialty Chemicals industry (69%). Additionally, all manufacturing facilities, farms, and research facilities are covered under Monsanto's auditing program. However, the company does not commit to quantifiable targets and does not highlight process adjustments to reduce its environmental impact.

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face liabilities associated with pollution, contamination, and the emission of toxic or carcinogenic substances. Scores are based on operations generating toxic byproducts, air pollutants, or hazardous waste; strategy, targets, and programs to reduce emissions; quantified performance; and controversies.

Relative to companies in the Fertilizers & Ag Chem industry, Monsanto's air pollutant intensity is lower than that of fertilizer producers. Additionally, between 2012 and 2014, the company reduced its SOx and VOC emissions intensities by 16% CAGR, while its NOx emissions intensity decreased by 2% CAGR. While this performance improvements reflects positively on the company's efforts to reduce air pollution, Monsanto's hazardous waste generation increased noticeable in the same time period. Between 2012 and 2014, Monsanto's hazardous waste intensity increased by 56% CAGR, which may indicate that the company's process changes have been ineffective.

RISK EXPOSURE

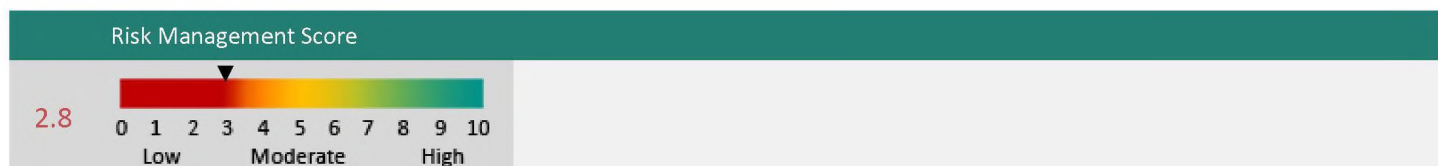


Exposure Summary

Risk	% of Operations by Segment ¹
Low	0.0%
Medium	0.0%
High	100.0%

¹ This represents the portion of the company's revenues derived from lines of business that are High Risk (typically generate large amounts of toxic emissions), Medium Risk (typically generate moderate amounts of toxic emissions), and Low Risk (typically generate low amounts of toxic emissions).

RISK MANAGEMENT



Governance and Strategy

Existence of Environmental Management System (EMS):	ISO 14001 or equivalent
Percentage of sites with hazardous waste guidance that achieved HAZWOPER certification or follow ISO 14001 for waste management:	18.0%
Percentage of sites estimated or disclosed:	Disclosed
Regular environmental impact audits:	Yes
Audits cover the full geographic scope of operations:	Yes
Audits occur on an annual basis:	No

Targets

Aggressiveness of Toxic Emissions Reduction Target (0-10 Score, 0=worst, 10=best):	0
Demonstrated track record of achieving its toxic emissions targets:	No previous targets

Performance

Toxic Releases Performance Relative to Peers (0-10 Score, 0=worst, 10=best):	7.0
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Air Emissions: NOx Performance

3 Year Average Intensity:	0.24
Average Annual % Change in Intensity:	-1.83%

Air Emissions: NOx Performance

Year	Quantities	Intensity
2009	2,431.0	0.21
2010	3,577.0	0.34
2011	3,026.0	0.26
2012	3,035.0	0.22
2013	3,770.0	0.25
2014	3,770.0	0.24

Air Emissions: SOx Performance

3 Year Average Intensity:	0.09
Average Annual % Change in Intensity:	14.46%

Air Emissions: SOx Performance

Year	Quantities	Intensity
2009	2,192.0	0.19
2010	2,371.0	0.23
2011	2,010.0	0.17
2012	690.0	0.05
2013	1,710.0	0.11
2014	1,610.0	0.1

Air Emissions: VOC Performance

3 Year Average Intensity:	0.01
Average Annual % Change in Intensity:	-14.44%

Air Emissions: VOC Performance

Year	Quantities	Intensity
2009	106.0	0.01
2010	119.0	0.01
2011	120.0	0.01
2012	94.2	0.01
2013	78.0	0.01
2014	93.7	0.01

Releases to Land: Hazardous Waste Performance

3 Year Average Intensity:	0.44
Average Annual % Change in Intensity:	36.01%

Releases to Land: Hazardous Waste Performance

Year	Quantities	Intensity
2009	4,928.0	0.42
2010	5,064.0	0.48
2012	3,303.0	0.24
2014	9,420.0	0.59

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

Controversy Cases

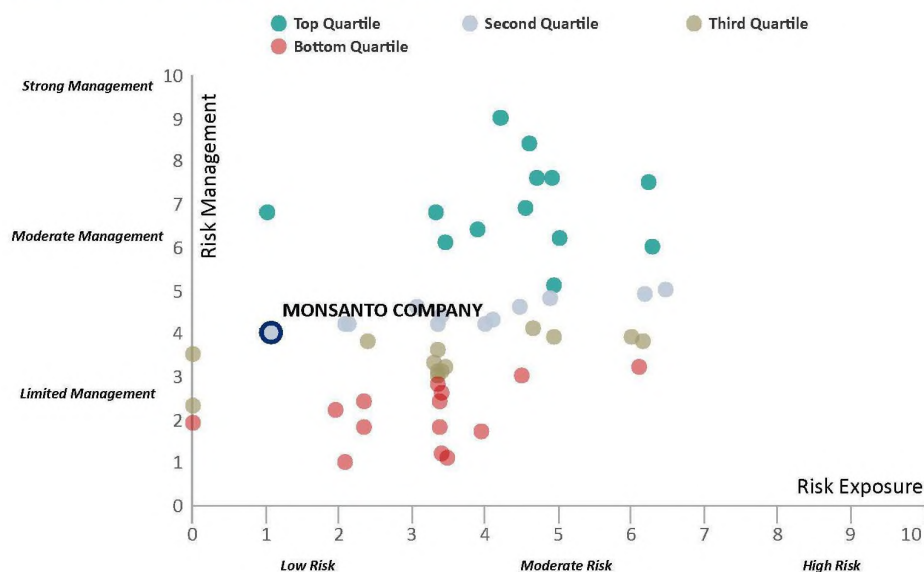
Assessment	Headline	Status	Last Updated
Moderate	Personal Injury Claims Related to PCBs	Ongoing	September 2016
Moderate	San Diego City Lawsuit: Alleged Liability for San Diego Bay PCB Contamination	Ongoing	September 2016
Moderate	Seattle City Lawsuit: Alleged Contamination of Local Water Sources with PCB	Ongoing	April 2016
Minor	Spokane City Lawsuit: Alleged Contamination of Local River with PCB	Ongoing	November 2016
Minor	Dismissal of Oakland City Lawsuit Over Alleged Liability for San Francisco Bay PCB Contamination	Concluded	August 2016
Minor	Dismissal of San Jose City Lawsuit Over Alleged Contamination of Guadalupe River and San Francisco Bay with PCBs	Concluded	August 2016
Minor	Dismissal of Berkley City Lawsuit Over Alleged Contamination of Local Water Sources with PCB	Concluded	August 2016
Minor	Portland City Lawsuit: Alleged Contamination of Willamette River with PCB	Ongoing	April 2016



Opportunities in Clean Tech

Score	Change (since rating)	Quartile	Weight	As of
4.4	n/a	...	11.0%	Feb 25, 2016

OPPORTUNITIES IN CLEAN TECH PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

JOHNSON MATTHEY PLC	7.8
UMICORE N.V.	7.5
Hitachi Chemical Company, Ltd.	7
Koninklijke DSM N.V.	6.9
NOVOZYMES A/S	6.9

BOTTOM 5 INDUSTRY LAGGARDS

PHOSAGRO OAO	2.9
GRUPA AZOTY SPOLKA AKCYJNA	2.7
Potash Corporation of Saskatchewan Inc.	2.6
OCI N.V.	2.4
UPL LIMITED	2.4

ANALYSIS

While the company is actively involved in the development of stress-tolerant corn, including Droughtgard Hybrids, the lack of global acceptance of genetically engineered crops limits its market potential to GM-friendly markets in North and South America. However, Monsanto is hedging its GM bets by also investing in the growth of microbe-based crop solutions through the BioAg Alliance and setting aggressive targets for its crop analytics business.

Our evaluation of clean tech takes into account the company's exposure to potential opportunities in clean tech markets, in addition to whether the company has capitalized on these opportunities through its product offerings and R&D strategy. Most of Monsanto's business is attributed to seed development and production, which does not have conventional applications in clean technology. However, companies involved in this line of business have opportunities in sustainable agriculture and drought-tolerant seeds.

The size of Monsanto's research and development program is a key competitive advantage for the company. Relative to MSCI World constituents in the Fertilizers & Agricultural Chemicals sub-industry as of February 2016, Monsanto's three-year R&D/sales ratio is above average (10.6% vs. 2.2% industry average), but decreased by 2.1% CAGR between 2012 and 2015. Monsanto's opportunities in clean technologies are limited to markets that have embraced the use of genetically engineered crops, specifically those with drought-tolerant traits. However, within these markets, drought-tolerant seeds carry significant opportunity as farmers seek out ways to mitigate potential impacts associated with climate risk. In 2013, Monsanto launched the first drought tolerant corn seed to the US market in a partnership with BASF, which is expected to invest over USD 2.5 billion in the development of stress-

METHODOLOGY NOTE

This issue evaluates the extent to which companies take advantage of opportunities in the market for environmental technologies. Scores are based on exposure to potential opportunities based on business model and policy incentives; innovation capacity and strategic development initiatives; and revenue derived from clean technologies.

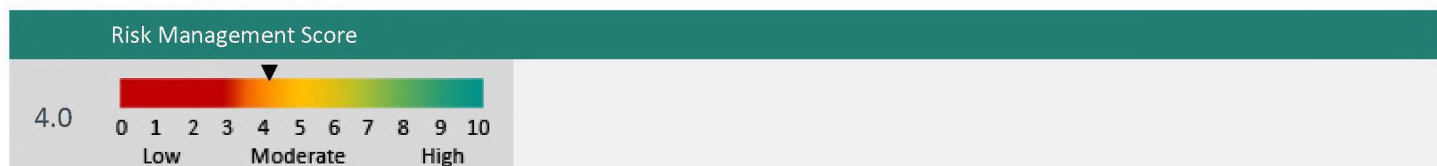
tolerant corn, soybeans, cotton, canola, and wheat. According to the International Service for the Acquisition of Agri-Biotech Applications, overall plantings of DroughtGard varieties increased by more than 500% since being introduced in 2014. While concerns over GMO crops from environmental groups and consumers will continue to impact the company, drought-tolerant traits have large market potential in the U.S., which is the world's largest producer of corn and is exposed to drought risks in the Plains.

In addition to seed traits, Monsanto has also invested heavily in crop analytics and biologicals. The BioAg Alliance, a partnership between Monsanto and Novozymes, aims to develop microbe-based solutions that improve crop yield and productivity. While the deal entailed a USD 300 million payment from Monsanto to Novozymes, the partnership will leverage Novozymes' existing technologies in microbe development and Monsanto's distribution network and field experience. The BioAg Alliance aims to achieve plantings of 250-500 million acres by 2025 (equivalent to 20-50% of US farmland) and is already seeing yield increases across its corn and soy field trials. Monsanto also has aggressive growth targets for its Climate Fieldview crop analytics platform, which it acquired through its USD 930 million acquisition of The Climate Corporation. The company plans to reach 300-400 million acres with its Fieldview platform by 2025.

RISK EXPOSURE



RISK MANAGEMENT



Strategy

Targets to increase investment in clean tech:

Not disclosed

Programs & Initiatives

R&D Expense

Year	Amount (USD million)	R&D / Sales ratio
2008	980.0	8.62%
2009	1,098.0	9.39%
2010	1,205.0	11.47%
2011	1,386.0	11.71%
2012	1,517.0	11.24%
2013	1,533.0	10.31%
2014	1,725.0	10.88%

Year	Amount (USD million)	R&D / Sales ratio
2015	1,580.0	10.56%

Performance

Score: nature of involvement in clean tech activities:	0.0
Score: percentage of revenue derived from clean tech activities:	3.0

Sustainable Water

Water Resource Management & Efficiency

Drought-resistant seeds:	Non-core involvement (revenues <20%)
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Controversies

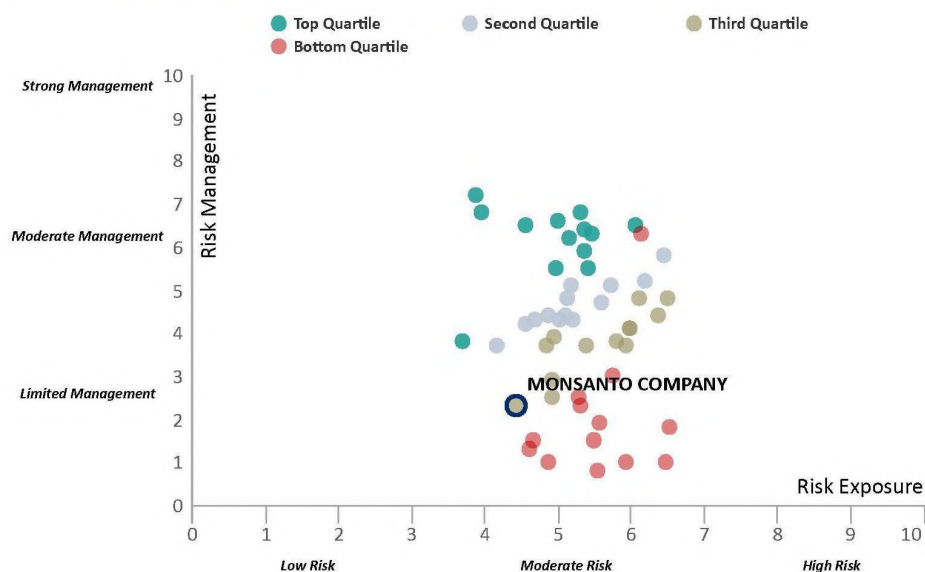
This key issue assesses how companies take advantage of their opportunities. Controversies are not covered under this heading.



Water Stress

Score	Change (since rating)	Quartile	Weight	As of
4.9	n/a	●●	11.0%	Feb 25, 2016

WATER STRESS PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

ECOLAB INC.	10
NOVOZYMES A/S	9.9
Givaudan SA	8.9
CRODA INTERNATIONAL PUBLIC LIMITED COMPANY	8.6
AXALTA COATING SYSTEMS LTD.	8.5

BOTTOM 5 INDUSTRY LAGGARDS

NIPPON PAINT HOLDINGS CO.,LTD.	3
GRUPA AZOTY SPOLKA AKCYJNA	2.3
TAIYO NIPPON SANJO CORPORATION	2.3
THE VALSPAR CORPORATION	2.1
CELANESE CORPORATION	1.5

ANALYSIS

Monsanto's direct operations in research and glyphosate production are not particularly water intensive, but the company's indirect water usage through its contract growers raises its overall water intensity by over 20 times. However, the company has implemented new reporting standards for its contract growers and has a target to improve their irrigation efficiency by 2020.

Monsanto has a moderately low risk of being impacted by water shortages or limitations on water use. We assess water-related risk exposure based on the typical water intensity of the company's business activities as well as the percentage of the company's operations located in countries or regions with higher levels of water stress, according to the World Resources Institute's Aqueduct water risk tool. The company's primary lines of business, crop protection chemicals and research activities, are moderately water intensive, but most of Monsanto's water footprint is derived from its supply chain and contract growers. Approximately 70% of the company's assets are located in the United States, most of which is derived from highly stressed states such as Idaho and Wyoming according to WRI Aqueduct.

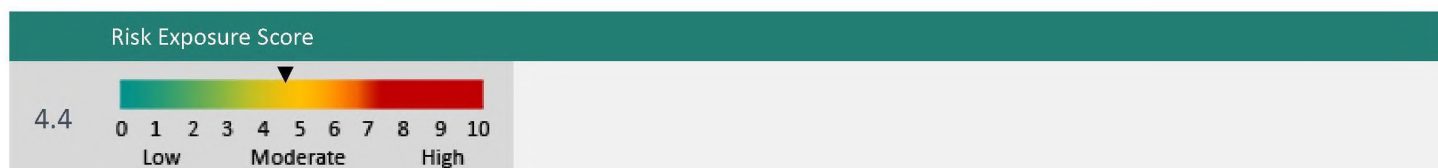
Monsanto is also indirectly exposed to water stress through the locations of its customers. In 2015, the company recognized lower seed sales in Australia due to constraints on water availability that decreased total planted area. Such results may materialize in other water-stressed markets, including the U.S and Mexico.

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face water shortages affecting their ability to operate, lost access to markets due to stakeholder water conflicts, or higher water costs. Scores are based on exposure to water stressed basins and water intensive segments; water management strategy and targets; water use over time and vs. peers; and controversies.

Although Monsanto's water management strategy lags behind that of peers, the company has made significant improvements to its oversight and monitoring of water risks. In 2014, the company began tracking water withdrawals at its contract growers, which is a significant step forward in the seed production industry. Supply chain information in the agricultural products industry is typically opaque, but Monsanto has followed through on a commitment to measure and monitor water usage among its business partners. The company also has a target to improve the irrigation application efficiency of its owned and contracted global seed production fields by 25% between 2010 and 2020. Approximately 27% of Fertilizers & Agricultural Chemicals companies publicly commit to a water reduction target. However, taking the company's contract growers into consideration leads Monsanto to have the largest water intensity in the industry. Relative to MSCI ACWI constituents in the Fertilizers & Agricultural Chemicals sub-industry as of February 2016, Monsanto's water withdrawal intensity taking into account contract growers is the highest in the industry (60,827 m3/million USD sales vs. 15,021 industry average). However, its water usage from its owned operations is considerably smaller (2,739 m3/million USD sales).

RISK EXPOSURE



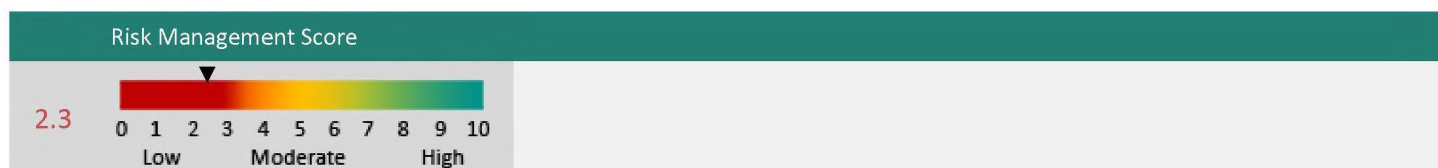
Exposure Summary

Risk	% of Operations by Segment ¹	% of Operations by Geography ²
Low	0.0%	37.19%
Medium	100.0%	22.94%
High	0.0%	39.87%

¹ This figure represents the portion of the company's assets devoted lines of business that are High Risk (typically highly water intensive), Medium Risk (typically have a moderate level of water intensity), and Low Risk (typically have a low level of water intensity).

² This figure represents the portion of the company's assets or key facilities located in water basins that are High Risk (where water stress levels are high), Medium Risk (where water stress levels are moderate), and Low Risk (where water stress levels are low).

RISK MANAGEMENT



Governance and Strategy

Implementation of Water Efficient Production Processes (0-10 Score, 0=worst, 10=best):	5.0
Percentage of water consumption from alternative water sources (i.e. grey water, rainwater, sewage):	1.5%
Evidence of Using Alternative Water Sources:	Yes

Executive body responsible for water management strategy and performance:

CSR or Sustainability Committees: **Yes**

Targets

Water consumption targets

Baseline Year	Target Year	Target Description	Target Reduction (%)
2010	2020	Reduce irrigation water intensity across global seed production	25.0%

Performance

Water Intensity Relative to Peers (0-10 Score, 0=worst, 10=best): **1.0**

Water Withdrawal

Year	Water Withdrawal (Cubic Meter)	Water Withdrawal Intensity (Cubic Meters/\$1 million Sales)
2009	18,625,760.0	1,593.44
2010	20,356,223.0	1,938.32
2011	19,928,073.0	1,684.25
2012	22,500,000.0	1,666.91
2013	35,300,000.0	2,373.91
2014	964,000,000.0	60,827.86

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

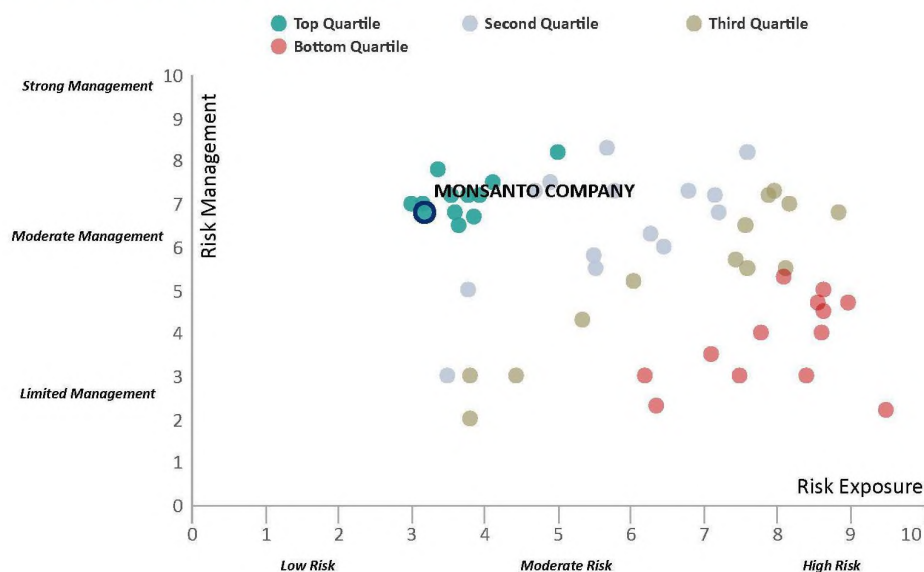
No major relevant controversies have been uncovered.



Carbon Emissions

Score	Change (since rating)	Quartile	Weight	As of
10.0	n/a	●●●●	7.0%	Feb 25, 2016

CARBON EMISSIONS PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

AXALTA COATING SYSTEMS LTD.	10
CHR. HANSEN HOLDING A/S	10
CRODA INTERNATIONAL PUBLIC LIMITED COMPANY	10
ECOLAB INC.	10
Givaudan SA	10

BOTTOM 5 INDUSTRY LAGGARDS

TAIYO NIPPON SANJO CORPORATION	2.7
PHOSAGRO OAO	2.5
EMS-CHEMIE HOLDING AG	2.4
CF INDUSTRIES HOLDINGS, INC.	1.6
GRUPA AZOTY SPOLKA AKCYJNA	0.5

ANALYSIS

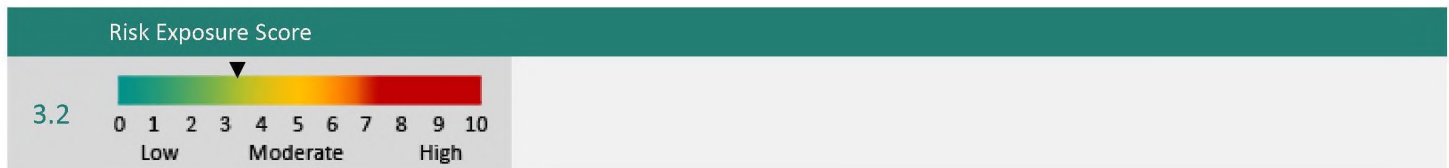
Due to the low carbon intensity of its operations, Monsanto's exposure to rising energy costs and carbon pricing is low. Furthermore, the company has committed to a demanding greenhouse gas emissions reduction target and improved its transparency in 2014.

Monsanto's risk of being impacted by carbon emissions regulations is low. The company is involved in business activities that are characterized by low emissions and low energy use, including seed production (80% of assets) and agricultural chemicals (20%). Additionally, most of the company's assets are located in regions that are not covered by emissions trading systems.

Monsanto made significant improvements to its reporting, transparency, and commitments in 2014, including a demanding greenhouse gas emissions reduction target. The company has a target to improve its GHG emissions per ton of crop protection product by 22% between 2010 and 2020. As of 2014, the company had achieved a 19% reduction, placing it far ahead of schedule. Relative to MSCI ACWI Fertilizers & Agricultural Chemicals companies that commit to a carbon emissions reduction target (approx. 47% of companies), Monsanto's average annual reduction is above average (2.2% per year vs. 1.9% industry average). The company's carbon emissions intensity is below average (167 tCO₂e/million USD sales vs. 1,005 industry average) and decreased by 0.7% CAGR between 2011 and 2014, which outpaces the industry average increase of 7.2% CAGR in the same time period. Monsanto faces a low risk of being impacted by greenhouse gas emissions regulations or rising energy costs, which accounts for the company's relatively strong ranking in comparison to peers.

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face increased costs linked to carbon pricing or regulatory caps. Scores are based on exposure to GHG intensive businesses and emerging regulations; carbon reduction targets and mitigation programs; and carbon intensity over time and vs. peers.

RISK EXPOSURE**Exposure Summary**

Risk	% of Operations by Segment ¹	% of Operations by Geography ²
Low	79.06%	0.0%
Medium	20.94%	27.57%
High	0.0%	72.43%

¹ This represents the portion of the company's revenues derived from lines of business that are High Risk (typically highly carbon intensive), Medium Risk (typically have a moderate level of carbon intensity), and Low Risk (typically have a low level of carbon intensity).

² This represents the portion of the company's revenues derived from countries or regions that are High Risk (carbon regulations are either stringent or likely to strengthen), Medium Risk (carbon regulations are of moderate strength), and Low Risk (carbon regulations are of weak or nonexistent and unlikely to strengthen in the foreseeable future).

RISK MANAGEMENT**Performance**

Carbon Emissions Performance Relative to Peers (0-10 Score, 0=worst, 10=best): **7.0**

GHG Emissions - metric tons CO₂e

Year	Scope 1 Disclosed	Scope 1 Estimate Key	Scope 2 Disclosed	Scope 2 Estimate Key	Scope 1+2 Disclosed	Scope 3 (upstream)	Scope 3 (downstream)	Scope 3 (undefined)	Scope 1 Estimated	Scope 2 Estimated	Scope 1+2 Estimated	Scope 1+2 Estimate Key	GHG Emissions Details
2008		E.CSI		E.CSI					1,179,660.0	598,859.0	1,778,519.0	E.CSI	Jan2016 Estimation Update
2009	1,160,105.0	Reported	661,934.0	Reported	1,822,039.0							Reported	
2010	1,153,800.0	Reported	661,900.0	Reported	1,815,700.0							Reported	
2011	1,195,928.0	Reported	827,066.0	Reported	2,022,994.0							Reported	
2012	1,610,000.0	Reported	539,000.0	Reported	2,149,000.0	5,786.0	6,747.0					Reported	
2013	1,450,000.0	Reported	1,040,000.0	Reported	2,490,000.0							Reported	
2014	1,570,000.0	Reported	1,080,000.0	Reported	2,650,000.0	442,700.0						Reported	

GHG Emissions Intensity - metric tons CO₂e / USD million sales

Year	GHG Intensity	GHG Intensity Details	GHG Intensity - Reported	GHG Intensity - Reported Details
2008	156.5			
2009	155.9			
2010	172.9			
2011	171.0			

Year	GHG Intensity	GHG Intensity Details	GHG Intensity - Reported	GHG Intensity - Reported Details
2012	159.2			
2013	167.5			
2014	167.2			

Energy Consumption

Year	Total energy consumption (reported)	Total energy consumption (MWh)	Energy intensity (reported)	Reported intensity details	Total energy consumption intensity	Energy consumption details
2013	22,300.0	6,194,444.44			416.57	
2014	25,100.0	6,972,222.22			439.94	

Targets

Aggressiveness of the company's reduction target in the context of its current performance:

Aggressive target with a low base

Demonstrated track record of achieving its carbon reduction targets:

On pace to achieve current reduction target

Carbon Improvement Targets

Baseline Year	Target Year	Target Description	Target Reduction (%)
2010	2020	GHG intensity of Crop Protection business (per unit production).	22.0%

Mitigation

Strength of Greenhouse Gas Mitigation Strategy (0-10 Score, 0=worst, 10=best):

6.0

Programs or actions to reduce the emissions intensity of core operations

Use of cleaner sources of energy:

Limited efforts / information

Capture GHG emissions:

No evidence

Energy consumption management and operational efficiency enhancements:

Some efforts

CDP disclosure:

Yes

Controversies

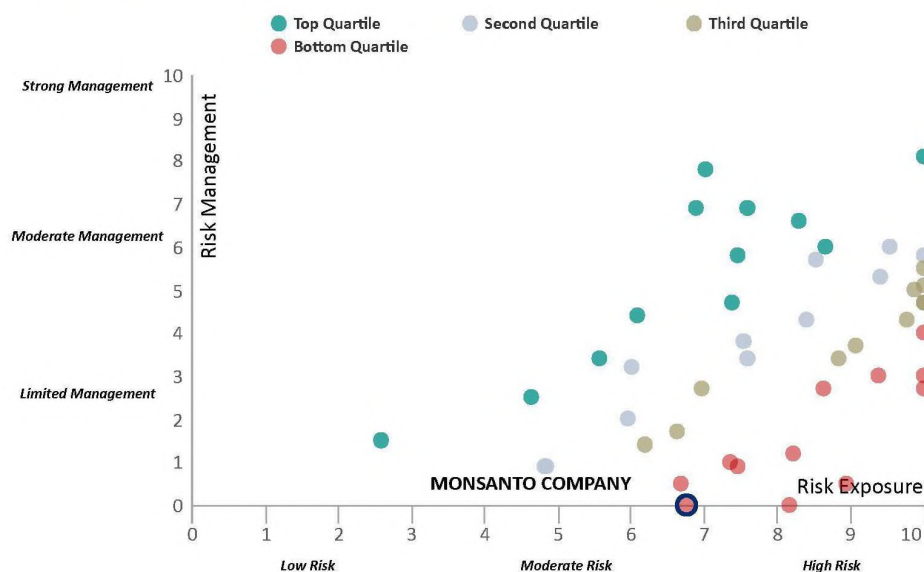
This key issue assesses carbon intensity data to determine companies' environmental impact. Controversies are not covered under this heading.



Chemical Safety

Score	Change (since rating)	Quartile	Weight	As of
0.2	n/a	●	21.0%	Feb 25, 2016

CHEMICAL SAFETY PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

NOVOZYMES A/S	7.8
NITTO DENKO CORPORATION	7
CRODA INTERNATIONAL PUBLIC LIMITED COMPANY	6.3
K+S Aktiengesellschaft	5.9
INTERNATIONAL FLAVORS & FRAGRANCES INC.	5.3

ANALYSIS

Persistent concerns over labeling transparency and the low-level presence of commercial biotechnology traits in conventionally grown products represent a long-term risk for Monsanto. Almost half of the company's total revenue is derived from GM seeds and traits, most of which are not approved for use in European markets and face consumer resistance in market strongholds. GM traits are highly embedded in the food supply chain of Monsanto's primary markets, but the company is likely to continue to face an uphill battle against stakeholders that have embraced GMO labeling initiatives.

Approximately 32% of Monsanto's revenue is derived from crop protection chemicals, which are coming under increasingly stringent registration requirements in Europe (10% of sales). The EU has been implementing a revised pesticide regulation that will likely result in several substance bans over the next ten years. Substances that are classified as carcinogenic, mutagenic, or reprotoxic (CMRs), persistent organic pollutants (PoPs), persistent, bioaccumulative, or toxic (PBT), or as endocrine disruptors will be taken off the market once their initial ten year approval expires. Crop protection chemicals commonly utilize substances that are classified as hazardous to human health. However, most of the company's sales are derived from markets with less stringent chemical safety regulations, including the U.S (57% of sales) and Latin America (17%), which lessens Monsanto's risk of being impacted by substance bans or regulatory action. However, Monsanto's largest business, Seeds and Genomics (68% of sales), produces and licenses conventionally-bred and genetically-modified seeds, which has attracted significant opposition due to the lack of transparency on potential long-term environmental and health risks.

BOTTOM 5 INDUSTRY LAGGARDS

FMC CORPORATION	0
PPG INDUSTRIES, INC.	0
Syngenta AG	0
THE SHERWIN-WILLIAMS COMPANY	0
UPL LIMITED	0

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face lost market access or product reformulation costs due to the presence of chemicals of concern. Scores are based on exposure to products known to contain substances of high concern, exposure to evolving regulations; chemical phase-out plans, transparency, and development of viable alternatives; and controversies.

With regards to Monsanto's Agricultural Productivity segment, which produces Roundup-branded glyphosate products, the company is faced with considerably lower chemical safety risks than more diversified peers in the agricultural chemicals industry. Monsanto's Agricultural Productivity segment is strategically positioned to leverage growth in its Seeds and Genomics segment, which cuts down on the complexity of its pesticide business. While competitors such as Syngenta offer more than 50 different chemical groups in their pesticide business, Monsanto is only focused on glyphosate products. While glyphosate is the most widely used crop protection chemical in the world, a March 2015 ruling by the World Health Organization to classify glyphosate as "probably carcinogenic" to humans brings additional scrutiny to Monsanto's primary line of business. However, WHO's classification is unlikely to have a noticeable impact on glyphosate applications, especially given the European Food Safety Authority (EFSA) and the US EPA have both disagreed with the conclusion and note the classification does not take a risk-based approach.

Our largest concerns stem from Monsanto's Seeds and Genomics business (67% of sales). Approximately 54% of its total revenue is derived from the US, where consumer sentiment around GM seeds is mixed but regulation is unlikely to tighten and play against the company in the near term. GM seeds are already entrenched in the US food chain, so we do not foresee any significant shift in the market. However, a movement to increase transparency in the supply chain and require GMO labeling on food products is gathering momentum, and has the potential to push consumer awareness over a tipping point that can impact the demand for GM seeds. In 2014, the US states, Maine and Vermont, passed the first GMO-labeling laws in the country. Although we estimate that 30% of Monsanto's seed revenue is derived from conventionally-bred varieties, the company is highly exposed to shifts in consumer demand and its reluctance to adopt a stance of transparency reflects negatively on its long-term business strategy.

-- GM Seed Producers Face Uphill Battle in Europe, Pressures in the US --

The company continues to face opposition from regulators in Europe and environmental groups that are concerned with potential negative environmental effects associated with GMOs. We estimate that sales and royalties from GM seeds and traits account for 70% of the company's Seeds and Genomics revenue (47% of Monsanto's total revenue). Most EU member states have banned the cultivation of GM seeds for human consumption, which has led GM seed producers to focus on more GM-friendly markets in the US, Argentina, Brazil, India, and Canada - the top 5 largest markets according to the International Service for the Acquisition of Agri-Biotech Applications (ISAAA). Despite the high level of growth in these markets, consumer sentiment and skepticism from environmental groups have contributed to the steady opposition to genetically modified foods, which have spawned initiatives to introduce GMO labels and have supported the growth in organic agriculture.

To date, only one GM product has been approved for cultivation in the EU - Monsanto's MON810 maize, which is approved for use in animal feed. Despite the approval from the European Commission, nine member states, including France and Germany, have banned MON810 entirely due to negative public sentiment on GM crops. Similar to other companies that are involved in the development of GM seeds, including BASF, Monsanto has stopped applying for approvals and is focusing its efforts on high growth markets in South America and Africa.

RISK EXPOSURE



RISK MANAGEMENT**Strategy**

Scope of chemicals: **Small number of high profile chemicals identified**
 Scope of chemical phase-out plan: **No evidence of plan for phasing out chemicals of concern**

Programs & Initiatives

Company discloses substance registrations and use: **Not disclosed**

Chemical Producers

Demonstrated track record of introducing viable alternatives to high concern substances: **No evidence**
 Company conducts hazard assessments of its substances or products: **Conducts hazard assessments for new substances**

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

Controversy Cases

Assessment	Headline	Status	Last Updated
Very Severe	Environmental Concerns over GMO Crops	Ongoing	June 2016
Moderate	WHO Agency Declares Glyphosate as "Probably Carcinogenic" to Humans	Ongoing	September 2016
Moderate	Roundup-related Injury Lawsuits	Ongoing	July 2016
Moderate	Monsanto Challenges Moratorium on Cultivation of GMO Crops in Maui Hawaii	Ongoing	June 2016
Moderate	EPA Investigation into Human Health Effects of Herbicides	Ongoing	March 2016
Moderate	Monsanto Guilty of Chemical Poisoning	Ongoing	March 2016



Corporate Governance

Score	Change (since rating)	Quartile	Weight	As of
5.6	▲ 0.3	●●●●	15.0%	Dec 14, 2016

ANALYSIS

Pay policies at Monsanto raise concerns over the degree of alignment between pay and performance. The CEO's pay in 2015 was more than three times the median of other executives and excessive perks that are not linked to performance may not be an effective use for shareholders. Additionally, the company restricts cumulative voting and prevents shareholders from convening meetings, which serve to promote representation by small shareholders.

Additional details and data available in the [Corporate Governance Details](#) section.

Home Market: United States

METHODOLOGY NOTE

This issue evaluates the extent to which companies' corporate governance practices may pose risks to investors. The score is an absolute assessment of a company's governance on a universally applied 0-10 scale. Each company starts with a "perfect 10" and points are deducted based on the triggering of Key Metrics across Board, Pay, Ownership, and Accounting.

ISSUES & RANKING

	Global Pctl Rank	Home Market Pctl Rank
Overall	54 th (Average)	66 th (Average)
Board	75 th	73 rd
Pay	47 th	55 th
Ownership & Control	55 th	95 th
Accounting	9 th	9 th

KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

GRUPA AZOTY SPOLKA AKCYJNA	8.6
UMICORE N.V.	8.6
CRODA INTERNATIONAL PUBLIC LIMITED COMPANY	8.2
Potash Corporation of Saskatchewan Inc.	8
Givaudan SA	7.7

BOTTOM 5 INDUSTRY LAGGARDS

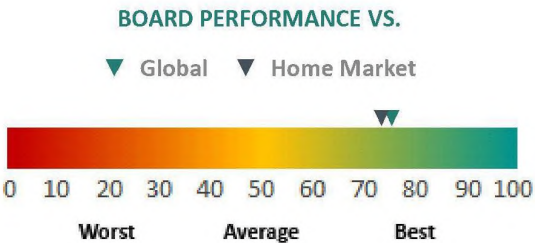
TAIYO NIPPON SANSEI CORPORATION	3.6
AIR WATER INC.	3.3
NIPPON PAINT HOLDINGS CO., LTD.	3
PRAXAIR, INC.	2.7
Shin-Etsu Chemical Co., Ltd.	2.7

Board

Global Percentile Rank	Home Market Percentile Rank
75 th (Average)	73 rd (Average)

ANALYSIS

The policies and practices of the MONSANTO board fall within the average scoring range relative to global peers. We have flagged this board for potential concerns regarding the presence of certain related party transactions.



RISK MANAGEMENT

Indicators

Board Independence	
Outside related directors:	0
Total directors:	12
Outside directors:	11
Board independence:	91.67%
Board Leadership	
CEO Name:	Hugh Grant
Chair / CEO roles combined:	Yes
Company lacks an independent lead director:	No
Board Skills & Diversity	
Female directors:	3
Female directors as percent of total:	25.0%

Pay

Global Percentile Rank	Home Market Percentile Rank
47 th (Average)	55 th (Average)

ANALYSIS

Executive pay practices at MONSANTO fall into the average scoring range relative to global peers. Areas of particular concern include early vesting provisions in share based awards which offer a poor alignment with shareholder interests.



RISK MANAGEMENT

Indicators

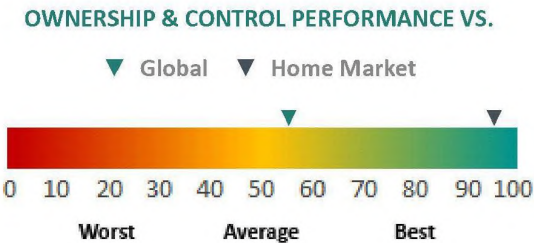
Pay Figures	
Total Annual Pay:	4,835,987.0
Total Realized Pay:	4,835,987.0
Company fails to disclose specific pay totals for executives:	No
CEO total summary compensation:	11,928,836.0
CEO total summary compensation (currency):	USD
Pay Performance Alignment	
Significant vote against pay practices:	No
Severance & Change of Control	
Company lacks a clawback policy:	No

Ownership & Control

Global Percentile Rank	Home Market Percentile Rank
55 th (Average)	95 th (Above Average)

ANALYSIS

The company's ownership structure and shareholder rights at MONSANTO fall within the average scoring relative to global peers.



RISK MANAGEMENT

Indicators	
Committee Structure	
Company lacks a fully independent audit committee:	No
Company lacks a fully independent compensation committee:	No
Ownership Structure	
Insiders (Officers & Directors) % Held:	0.87%
Five % Shareholders % Held:	11.61%
Top Shareholders:	There is no principal shareholder at this firm.
Controlling shareholder:	No
Shareholder Rights	
Company has failed to adopt majority voting standards:	No
Ownership structure deviates from one share one vote:	No
Takeover Provisions	
Poison pill:	No

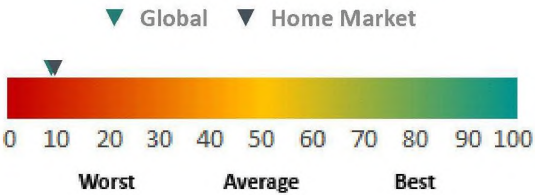
Accounting

Global Percentile Rank	Home Market Percentile Rank
9 th (Below Average)	9 th (Below Average)

ANALYSIS

Based on the company's disclosures and other public information, accounting and financial reporting practices at MONSANTO raise concerns regarding their overall effectiveness. We have flagged this company for potential concerns regarding extreme values on revenue recognition ratios and recent history of restatements or special charges.

ACCOUNTING PERFORMANCE VS.



RISK MANAGEMENT

Indicators

Accounting Figures	
Non-audit fees:	19.23%
Audit fees:	11,600,000.0
Audit fees (currency):	USD
Total auditor fees:	15,600,000.0
Total auditor fees (currency):	USD
Audit related fees:	1,000,000.0
Audit related fees (currency):	USD

Accounting Risks	
Restatements or special charges in last two years:	Yes
Accounting investigations in last two years:	No
Qualified auditor opinion, most recent period:	No
Late filings:	No
Material weakness in internal controls:	No

CORPORATE GOVERNANCE CONTROVERSIES

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

Controversy Cases

Assessment	Headline	Status	Last Updated
Moderate	USD 80 Million Settlement over Alleged Accounting Violations Related to Roundup Rebates	Concluded	February 2016
Moderate	USD 80 Million Penalty Over Accounting Violations	Concluded	February 2016



Business Ethics & Fraud

Score	Change (since rating)	Quartile	Weight	As of
2.5	n/a	N/A	14.0%	Feb 25, 2016

BUSINESS ETHICS & FRAUD PERFORMANCE



TOP 5 INDUSTRY LEADERS

AIR PRODUCTS AND CHEMICALS, INC.	5
AIR WATER INC.	5
ALBEMARLE CORPORATION	5
ASHLAND LLC	5
AXALTA COATING SYSTEMS LTD.	5

BOTTOM 5 INDUSTRY LAGGARDS

YARA INTERNATIONAL ASA	5
OCI N.V.	4.2
Syngenta AG	4.2
ICL-ISRAEL CHEMICALS LTD.	3.7
MONSANTO COMPANY	2.5

ANALYSIS

Monsanto is involved in lawsuits alleging the violation of competition laws, excessive royalty payments in Brazil, and has attracted significant opposition for its aggressive patent enforcement methods.

Monsanto monitors the use of its patented seeds and seeks legal prosecution of farmers that the company alleges have used the seeds illegally. Farmers who purchase seeds from Monsanto are required to sign a Technology Use Agreement and pay the company a fee based on acreage planted in addition to the cost of the seeds. The agreement gives the company a right to inspect the fields and take samples for three years after the seeds are purchased. Despite the negative public perception of these practices, the company has emerged victorious in numerous lawsuits emphasizing the company's ability to protect its intellectual property. While Monsanto states that it does not sue farmers whose fields inadvertently contain patented traits, the company refused to agree to a request from the Organic Seed Growers and Trade Association to never sue their farmers, a position that was upheld by U.S. courts in January 2014.

Additionally, in April 2012, a court in Rio Grande do Sul, Brazil, ordered Monsanto to pay at least USD 2 billion for allegedly collecting excessive crop royalties from seed harvests of its GM soybeans after ruling that the company's patents on Roundup Ready seeds expired in 2010. However, in August 2013, Monsanto and Brazil's largest soybean cooperative came to an agreement ending the legal dispute.

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face regulatory or legal risks or loss of investor confidence due to ethics issues such as fraud, executive misconduct, or insider trading. Companies successfully avoiding incident score "5", while companies that have faced controversies in the last three years score lower, based on the severity and type of controversy.

over royalty payments. In exchange for promising not to sue the company for royalties collected after the patent expiration, Brazilian soy farmers were given a 16 percent discount on Intacta soybean seeds. As a result of these developments, Monsanto has transitioned into a point-of-delivery payment model that enrolls traders and distributors as the collectors of royalties from farmers in Brazil (11% of sales). The company is beginning to roll out a similar sales model in Argentina (6%) and Paraguay.

RISK MANAGEMENT



Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

Controversy Cases

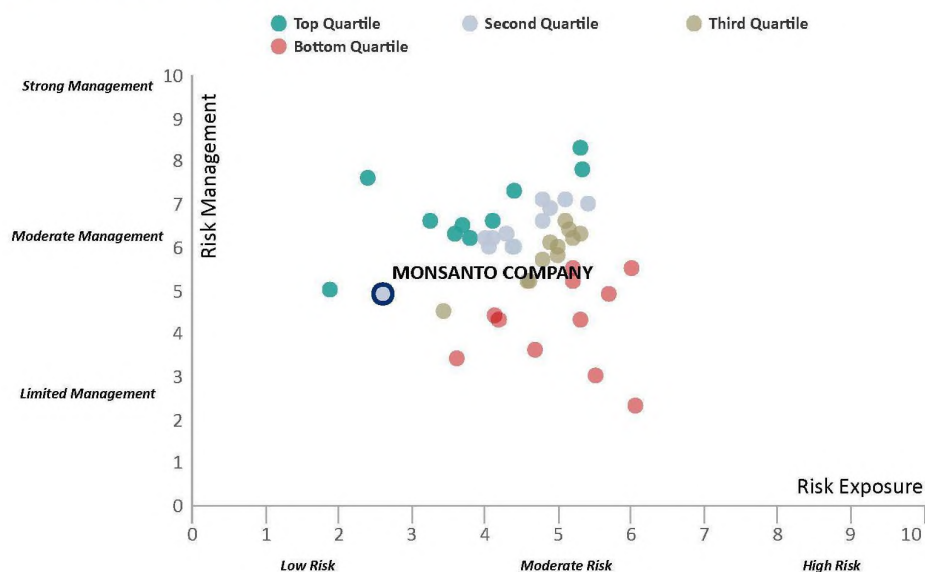
Assessment	Headline	Status	Last Updated
Severe	Brazilian Soy Farmers Royalty Lawsuit	Ongoing	May 2016
Severe	Patent Enforcement Practices	Ongoing	March 2016
Moderate	India: Withdrawal of Application for Introduction of Bollgard II Roundup Ready Flex Technology	Ongoing	August 2016
Moderate	USD 80 Million Settlement over Alleged Accounting Violations Related to Roundup Rebates	Concluded	February 2016
Moderate	USD 80 Million Penalty Over Accounting Violations	Concluded	February 2016



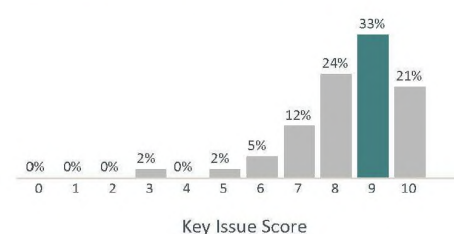
Health & Safety

Score	Change (since rating)	Quartile	Weight	As of
9.3	▼ -0.7	●●●	0.0%	Mar 30, 2016

HEALTH & SAFETY PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

CHR. HANSEN HOLDING A/S	10
CRODA INTERNATIONAL PUBLIC LIMITED COMPANY	10
FMC CORPORATION	10
NOVOZYMES A/S	10
Koninklijke DSM N.V.	9.9

BOTTOM 5 INDUSTRY LAGGARDS

OCI N.V.	6.2
AXALTA COATING SYSTEMS LTD.	6
EMS-CHEMIE HOLDING AG	5.9
ICL-ISRAEL CHEMICALS LTD.	4.5
K+S Aktiengesellschaft	3.2

ANALYSIS

This issue does not present significant risks or opportunities to the company and with the assigned weight of 0% does not contribute to the overall ESG rating for the company.

MSCI ESG Research provides additional scores on a select set of ESG Issues for all companies on the MSCI World Index. Every company on the index receives scores for the following ESG Issues, regardless of whether they contribute to the overall Company ESG Rating: Carbon Emissions, Water Stress, Toxic Emissions, Labor Management, Health & Safety, Business Ethics, and Anti-Competitive Practices. Each of these issues is researched and analyzed according to ESG Research methodology regardless of assigned weight. Hence, scores for these Issues are fully comparable across all companies or industries.

METHODOLOGY NOTE

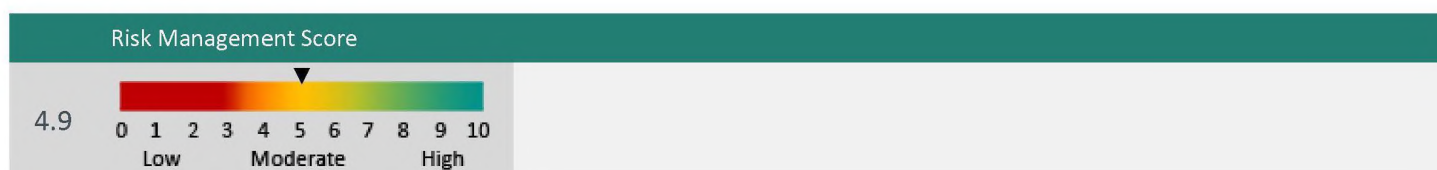
This issue evaluates the extent to which companies may face employee accidents that can lead to production disruptions, litigation, and liabilities. Scores are based on exposure to businesses and geographies facing high accident rates; H&S targets and oversight; and accident rates and fatalities over time and vs. peers.

RISK EXPOSURE**Exposure Summary**

Risk	% of Operations by Segment ¹	% of Operations by Geography ²
Low	79.06%	0.94%
Medium	20.94%	95.18%
High	0.0%	3.88%

¹ This represents the portion of the company's revenues derived from lines of business that are High Risk (typically have high worker injury rates), Medium Risk (typically have moderate worker injury rates), and Low Risk (typically have low worker injury rates).

² This represents the portion of the company's revenues derived from countries or regions that are High Risk (with high rates of worker injuries), Medium Risk (with moderate rates of worker injuries), and Low Risk (with low rates of worker injuries).

RISK MANAGEMENT**Governance and Strategy**

There is some Evidence of Recognized Certification: **Yes**

What executive body is responsible for H&S strategy and performance?

CSR/Sustainability Committee/H&S task force or risk officer is responsible for H&S strategy: **Yes**

Health & safety policy

H&S policy is group-wide: **Yes**

Targets

Has the company set a target to improve H&S performance? : **There is some evidence the company has targets**

Performance

Performance on Health & Safety Metrics Relative to Peers (0-10 Score, 0=worst, 10=best): **0.0**

Total Recordable Injury Rate

Year	Total Recordable Injury Rate	Total Recordable Injury Unit	Details	Total Recordable Injury Rate (per million hours)
2008	0.63	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	3.15
2009	0.71	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	3.55
2010	0.66	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	3.3
2011	0.7	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	3.5
2012	0.58	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	2.9
2013	0.58	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	2.9
2014	0.59	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	2.95
2015	0.6	per 200,000 hours	total recordable rate (TRR) - Employee and Supervised Contractors	3.0

Fatalities

Year	Fatalities	Contractor Fatalities	Employee Fatalities	Details
2011	2			
2012	2			

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

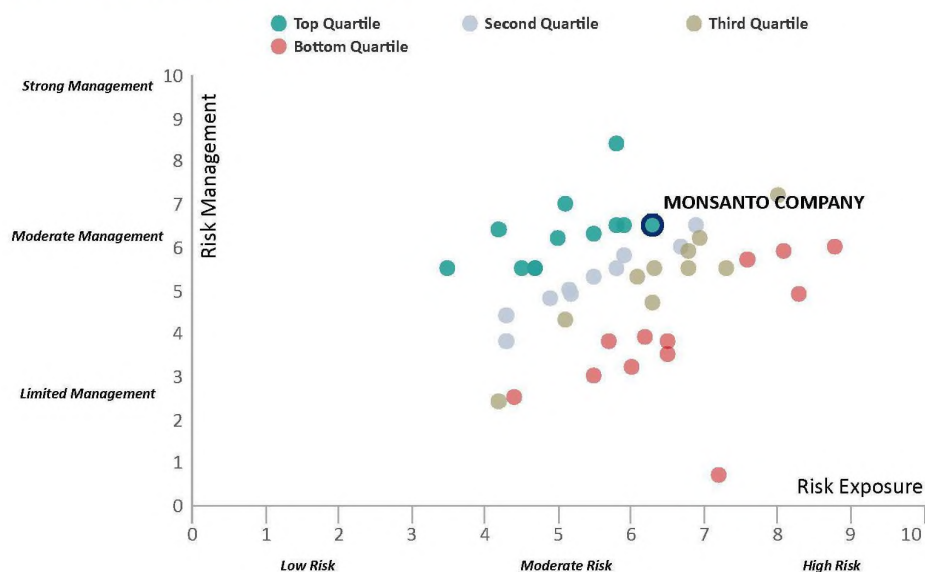
No major relevant controversies have been uncovered.



Labor Management

Score	Change (since rating)	Quartile	Weight	As of
7.2	n/a	••••	0.0%	Feb 25, 2016

LABOR MANAGEMENT PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

YARA INTERNATIONAL ASA	9.6
Givaudan SA	9.2
JSR Corporation	9
TAIYO NIPPON SAN SO CORPORATION	8.9
Hitachi Chemical Company, Ltd.	8.2

BOTTOM 5 INDUSTRY LAGGARDS

Akzo Nobel N.V.	4.2
Symrise AG	4.2
AXALTA COATING SYSTEMS LTD.	4
Linde Aktiengesellschaft	3.6
OCI N.V.	0.5

ANALYSIS

This issue does not present significant risks or opportunities to the company and with the assigned weight of 0% does not contribute to the overall ESG rating for the company.

MSCI ESG Research provides additional scores on a select set of ESG Issues for all companies on the MSCI World Index. Every company on the index receives scores for the following ESG Issues, regardless of whether they contribute to the overall Company ESG Rating: Carbon Emissions, Water Stress, Toxic Emissions, Labor Management, Health & Safety, Business Ethics, and Anti-Competitive Practices. Each of these issues is researched and analyzed according to ESG Research methodology regardless of assigned weight. Hence, scores for these Issues are fully comparable across all companies or industries.

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face workflow disruptions due to labor unrest or reduced productivity due to poor job satisfaction. Scores are based on exposure to regions facing labor unrest, size of workforce, and corporate restructuring / layoffs; workforce policies, benefits, training, and employee engagement; and labor-related controversies.

RISK EXPOSURE**Exposure Summary**

Risk	% of Operations by Segment ¹	% of Operations by Geography ²
Low	0.0%	0.0%
Medium	20.94%	77.73%
High	79.06%	22.27%

¹ This represents the portion of the company's revenues derived from lines of business that are High Risk (typically experience high levels of labor unrest, work stoppages, or related disputes), Medium Risk (typically experience moderate levels of labor unrest, work stoppages, or related disputes), and Low Risk (typically experience low levels of labor unrest, work stoppages, or related disputes).

² This represents the portion of the company's revenues derived from lines of countries or regions that are High Risk (where there is a high incidence of labor unrest such as work stoppages), Medium Risk (where there is a moderate incidence of labor unrest such as work stoppages), Low Risk (where there is a low incidence of labor unrest such as work stoppages).

Additional Exposure Indicators**Layoffs Events**

Major Layoffs: **No**

Size and Composition of Workforce

Number of employees: **22,500**

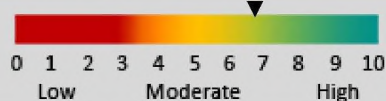
Number of Employees

Year	Number of employees	Part time workers (%)	Contract or temporary workers (%)	Estimated Part time/contract %
2008	21,700			
2009	22,900			
2010	21,400			
2011	20,600			
2012	21,500			
2013	21,900			
2014	22,400			
2015	22,500			

RISK MANAGEMENT

Risk Management Score

6.5



Strategy

Percentage of total workforce covered by collective agreements:	15.0%
Percentage of workforce estimated or disclosed:	Disclosed
Evidence of collective agreements:	Yes
Non-compensation benefits including pension and retirement:	Benefits cover all permanent employees (excluding part-time and contractors)

Labor-related policy/code of conduct covers the following for its own workforce

Anti-Discrimination/ Diversity and inclusion:	Yes
Child Labor:	Yes
Forced Labor:	Yes
Freedom of Association:	Yes

Performance

External recognition as employer of choice (last three years):	Yes, more than one award in the last year
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External recognition - details

Year	Awarding authority name	Title of the Award
2014	Great Place To Work	#8 World's Best Multinational Workplaces
2014	Monsanto	#6 Top Employers
2014	Corporate Responsibility Magazine	100 Best Corporate Citizens for 2014
2014	Fortune Magazine	2014 list of "World's Most Admired Companies."
2015	Newsweek	Green Rankings
2015	Corporate Responsibility Magazine	100 Best Corporate Citizens for 2015
2015	Golden Peacock Award	Sustainability
2015	Malaysian International Chamber of Commerce	Malaysian International Corporate Ethics Award
2015	DOLE, Philippines	DOLE Awards

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

No major relevant controversies have been uncovered.



Anticompetitive Practices

Score	Change (since rating)	Quartile	Weight	As of
4.2	▼ -0.8	N/A	0.0%	Dec 14, 2016

ANTICOMPETITIVE PRACTICES PERFORMANCE

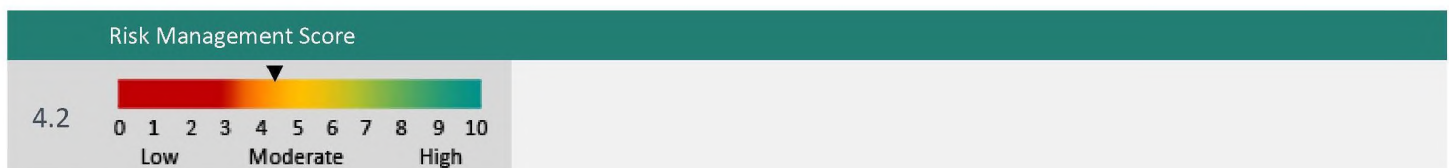


ANALYSIS

This issue does not present significant risks or opportunities to the company and with the assigned weight of 0% does not contribute to the overall ESG rating for the company.

MSCI ESG Research provides additional scores on a select set of ESG Issues for all companies on the MSCI World Index. Every company on the index receives scores for the following ESG Issues, regardless of whether they contribute to the overall Company ESG Rating: Carbon Emissions, Water Stress, Toxic Emissions, Labor Management, Health & Safety, Business Ethics, and Anti-Competitive Practices. Each of these issues is researched and analyzed according to ESG Research methodology regardless of assigned weight. Hence, scores for these Issues are fully comparable across all companies or industries.

RISK MANAGEMENT



TOP 5 INDUSTRY LEADERS

AIR WATER INC.	5
ALBEMARLE CORPORATION	5
ASHLAND LLC	5
AXALTA COATING SYSTEMS LTD.	5
Agrium Inc.	5

BOTTOM 5 INDUSTRY LAGGARDS

YARA INTERNATIONAL ASA	5
AIR PRODUCTS AND CHEMICALS, INC.	3.7
L'AIR LIQUIDE SOCIETE ANONYME POUR L'ETUDE ET L'EXPLOITATION DES PROCEDES GEORGES CLAUDE	3.7
Linde Aktiengesellschaft	3.7
PRAXAIR, INC.	3.7

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face regulatory risks relating to anti-competitive practices. Companies successfully avoiding incident score "5", while companies that have faced controversies in the last three years score lower, based on the severity and type of controversy.

Controversies

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis.

Controversy Cases

Assessment	Headline	Status	Last Updated
Moderate	India: Investigation Into Alleged Unfair Sublicensing Agreement Conditions for Bt Cotton Technology	Ongoing	September 2016

OTHER RISKS & OPPORTUNITIES

Growth of Glyphosate-Resistant Weeds Threatens Sales of Flagship Roundup Product, Adds to Subsidy Costs:

Roundup Ready crops account for 90% of the soybeans and 70% of the corn and cotton grown in the US. However, concerns over Roundup-resistant weeds have escalated in recent years and could potentially reduce sales of Roundup Ready crops and glyphosate-based herbicides. In an annual survey conducted by Stratus Agri-Marketing, approximately half of all U.S. farmers reported the presence of glyphosate-resistant weeds on their farm in 2013, which is up from 25% in 2010.

The company's Roundup Ready Plus Weed Management Solutions program provides incentives to offset extra herbicide costs for farmers, but the growth of such weeds has the potential to increase costs down the line and reduce the economic benefits of using Roundup Ready seeds. Although the cost and duration of the program is unclear, we do not view this as a sustainable solution to weed-resistance. However, in January 2015 the USDA approved Monsanto's dicamba-resistant soy and cotton, which may reduce the company's vulnerability to the emergence of glyphosate-resistant weeds. As a long term solution, Monsanto is researching alternatives in the form of an RNA interference spray that would deactivate the plant gene responsible for glyphosate resistance. Nevertheless, the presence of tolerant weeds could have a long-term impact on the company's competitive position in these markets.

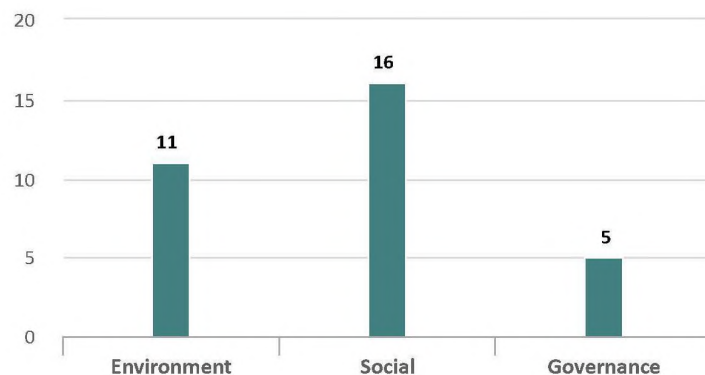
CONTROVERSIES DETAIL

Here you will find the narratives for all controversies relevant to the ESG Ratings issues covered for the company in addition to those controversies that do not map to the ESG Ratings issues.

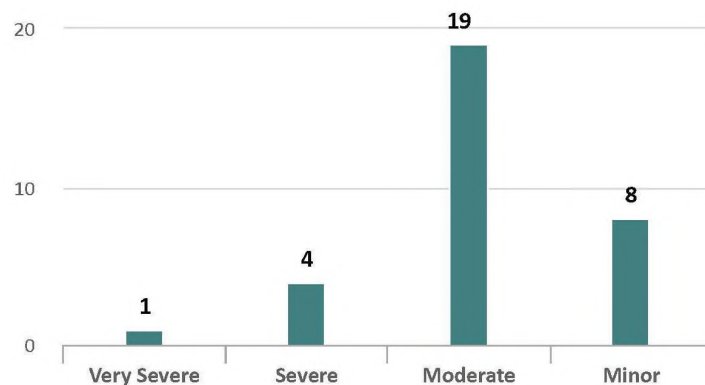
CONTROVERSY CARD

	MOST SEVERE CONTROVERSY	CONTROVERSY COUNT
Environment		
Carbon Emissions	None	0
Water Stress	None	0
Toxic Emissions & Waste	Moderate	8
Opportunities in Clean Tech	None	0
Social		
Labor Management	None	0
Health & Safety	None	0
Chemical Safety	Very Severe	6
Governance		
Business Ethics & Fraud	Severe	5
Anticompetitive Practices	Moderate	1
Corporate Governance	Moderate	2

NUMBER OF CONTROVERSIES BY PILLAR



NUMBER OF CONTROVERSIES BY ASSESSMENT



CONTROVERSIES

- **Very Severe:** Indicates an action by a company that results in a very large impact on society and/or the environment.
- **Severe:** Indicates an action by a company that results in a large impact on society and/or the environment.
- **Moderate:** Indicates an action by a company that results in a moderate impact on society and/or the environment.
- **Minor:** Indicates an action by a company that results in a low impact on society and/or the environment.
- **None:** There is no evidence that a company is involved in any controversy.

ENVIRONMENTAL CONTROVERSIES

Very Severe Controversies

Date: June 2016

Assessment: Very Severe

Status: Ongoing

Environmental Concerns over GMO Crops

Monsanto has been heavily criticized over its continued development of genetically modified (GM) crops. Claims regarding the damage to biodiversity brought about by the company's GM products have been prevalent. Environmentalists have alleged that the sustained cultivation of Monsanto's herbicide-resistant crops contributed to the significant decline of the population of natural pollinators, including certain species of bees and butterflies. In addition, local farmers have expressed concerns regarding GM crop contamination, alleging that the exposure of non-GM crop fields to strains of genetically engineered crops has resulted in the decline and eradication of indigenous and local crops.

Monsanto's GM products continue to face opposition from communities worldwide, as well as local and international NGOs in more than 50 countries. Regulatory bodies in Europe and the US have also challenged the company's promotion of the controversial crops.

NGO and Community Opposition As of August 2016, numerous international and local non-governmental organizations had active campaigns against Monsanto. These included: the Organic Seed Growers and Trade Association, People's Health Network, Save Our Crops Coalition, Biodiversidadla, Friends of the Earth, Combat Monsanto, Organic Consumers Association, March Against Monsanto, GM Watch and the Non-GMO Project, among others

Since May 2013, international group March Against Monsanto (MAM) launched global protest actions against Monsanto's GM crops. The demonstrations ensued in approximately 400 cities in 57 countries with participants numbering in hundreds of thousands. Protesters highlighted concerns, including the mandatory labeling of GM products; the alleged negative health effects resulting from the consumption of GM crops; as well as the purported damage to biodiversity and ecological disruption the controversial products cause with their entry into local agriculture in various countries.

In August 2013, the Save Our Crops Coalition, a group of farmers based in Indiana, filed a comment with the U.S. Department of Agriculture urging a more in-depth review of Monsanto's genetically modified soybeans and cotton.

In 2011, NGO opposition to the planting of GM crops in Mexico continued. Monsanto was given authorization from the Mexican government to plant GM yellow corn resistant to the herbicide glyphosate as a part of a pilot program in Tamaulipas, a region home to 16 of the 59 remaining strains of native corn. According to environmental groups, Monsanto had engaged in intense lobbying in favor of the introduction of GM corn in Mexico. In addition, a former president of Monsanto allegedly held meetings with the governor of Chaco, Argentina, to promote the use of GM food in the province. According to a representative of the NGO People's Health Network, this led to less criticism from authorities regarding the allegedly harmful effects of pesticides. According to the Commission of Investigation of Contaminants of the Chaco Water, child cancer rates had tripled and malformation in newborn babies had increased by 400 percent in the Leonesa area due to the pesticides used in conjunction with the GM crops.

In March 2011, a group of U.S. organic agricultural organizations, headed by the Organic Seed Growers and Trade Association, filed a lawsuit in a federal district court in Manhattan, New York against Monsanto to challenge its patents on genetically modified seeds. The plaintiffs launched the legal action preemptively to protect themselves from being accused of patent infringement should they become contaminated by Monsanto's GM seeds. The district court dismissed the case in January 2012 ruling that the farmers lacked legal standing regarding the concerns over the potential contamination and consequential economic impact. The court also declared that the decision was made on grounds that the complainants' crops were not yet contaminated despite recognizing that some contamination was "inevitable." The plaintiffs subsequently brought the lawsuit to the Court of Appeals for the Federal Circuit in Washington, which also dismissed the case in June 2013 on the same grounds. In the proceeding, the appeals court highlighted that the company, "made binding assurances that it will not 'take legal action against growers whose crops might inadvertently contain traces of Monsanto biotech genes (because, for example, some transgenic seed or pollen blew onto the grower's land).'" In September 2013, the plaintiffs appealed to the US Supreme Court to get full protection from potential infringement. In January 2014, the court refused to hear the case.

Regulatory Opposition According to the NGO Non-GMO Project, more than 60 countries including Australia, Japan, and all the members of the European Union have partial if not absolute restrictions on GM crops.

As of March 2016, approximately 19 European countries have opted out from cultivating GMO crops. These include Austria, Belgium for the Wallonia region, Britain for Scotland, Wales and Northern Ireland, Bulgaria, Croatia, Cyprus, Denmark, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland and Slovenia.

As of April 2016, six European countries have imposed a complete ban on Monsanto's genetically modified strain of maize called MON810: Britain, Germany, Bulgaria, Austria, Luxembourg, Poland, Italy and Romania. France had previously banned MON810, but a court subsequently overturned the supporting legislation. Nevertheless, the French Agriculture Ministry stated that the court's decision did not permit GM maize to be cultivated in the country. In September 2015, France declared that it will exercise its opt-out rights under the EU's revised legislation for GM cultivation. The country has declared opposition to the cultivation of approximately nine GM maize strains manufactured by Monsanto, Du Pont, and Syngenta. In the same month, Russia also declared a ban on the use of genetically modified organisms in food production.

In January 2015, the European Parliament passed a legislation allowing EU member states to individually decide on restricting or prohibiting the cultivation of GMO crops in their territory. The law also allows national governments to opt out from growing GMO crops that have already been authorized by the EU.

In May 2013, the United States Department of Agriculture (USDA) announced that it would not allow the production of Monsanto's dicamba-resistant cotton and soybeans, as well as Dow Chemical's corn and soybeans until at least 2015. The department stated that the products could damage the environment and that it would need to produce complete environmental assessments prior to issuing approval.

In September 2009, a federal judge ruled that the USDA had unlawfully approved Monsanto's Roundup Ready sugarbeets for use by farmers. The judge ruled that a full environmental assessment of the sugar beets had not been completed at the time that the sugar beets were approved. The case was brought to trial by the Center for Food Safety, a consumer and environmental advocacy group that sought to ban GM sugarbeets. The group's primary concern was the cross-pollination of the GMO beets with native species.

Monarch Population Decline In February 2015, environmental group Center for Food Safety (CFS) released a report on the purported negative impact of the cultivation of herbicide-resistant genetically modified crops on the monarch butterfly. According to the report, the monarch population has decreased by as much as 10 percent in the last 20 years due to the eradication of milkweed, the primary food source and larval host plant for the butterfly species' caterpillar. Glyphosate which is used in conjunction with GM corn and soybeans is particularly lethal to milkweed. The CFS report stipulated that the sustained use of the herbicide resulted in the loss of approximately 99 percent of milkweed in the Midwestern croplands in the U.S. which is the main breeding habitat of monarchs.

In light of the findings, CFS, the Center for Biological Diversity, the Xerces Society for Invertebrate Conservation along with biologists specializing in the study of monarchs, filed a legal petition with the U.S. Fish and Wildlife Service to protect monarchs as threatened under the Endangered Species Act (ESA). In December 2014, the institution announced that the ESA listing may be warranted.

In May 2015, Monsanto pledged to donate USD 4 million to initiatives aimed at preserving the monarch butterfly. According to the company, USD 3.6 would be donated to the National Fish and Wildlife Foundation's Monarch Butterfly Conservation Fund and USD 400,000 will be contributed to experts and groups working to protect the butterfly.

As of March 2016, Monsanto has been collaborating with various environmental NGOs and academic institutions in launching initiatives aimed at protecting the monarch and restoring its habitat. The company has pledged to participate in several environmental programs including the expansion and improvement of more than 10 million acres of land by 2025 as part of a habitat distribution for the butterfly species; as well as the provision of funding to conservation groups to further restore sustainable quality milkweed and pollinator habitat across the critical range for monarch breeding and migration.

Bee Population Decline Monsanto continued to face allegations of its contribution to the worldwide decline in bee population. NGOs and environmental experts have identified the company's herbicide-resistant genetically modified crops and the pesticides used to treat them as among the causes of colony collapse disorder (CCD) – a phenomenon which causes the death of a colony due to the disappearance of majority of the worker bees in a hive, leaving behind a queen and food reserves but a few nurse bees to care for the remaining immature bees and the queen.

CCD has been attributed to neonicotinoids which are commonly used to treat GM corn and soybeans. Environmental scientists who have conducted studies on bee population in the U.S. and Europe have claimed that the substances attack the central nervous system of insects, resulting in memory impairment, damaged navigational capabilities, and paralysis.

Also associated with bee fatalities are GMO crops engineered to produce natural insecticides. Such GM varieties manifest the harmful substances in proteins within plant pollen and nectar during cultivation and cause poisoning to adult bees and their larvae. Studies conducted on Monsanto's Mon810 corn revealed that the insecticide *Bacillus thuringiensis* (Bt), which it produces, allegedly damages the digestive and immune system of bees. Bt purportedly reduces bees' capacity to eat then destroys their intestinal wall, eventually exposing the insect to spores and bacteria that would have been contained within the digestive tract.

As of March 2016, Monsanto has launched various initiatives aimed at improving honey bee health. These include: allocation of resources for land development to establish and expand healthy pollinator habitats; establishment of Honey Bee Advisory Council to facilitate honey bee health research; formulation of a seed treatment insecticide stewardship plan to manage risks to beneficial insects such as bees; collaboration with academics, environmental NGOs, and farmers to identify issues and development pathways for honey bee health.

Source: 15 Jun 2016_Friends of the Earth; 15 Apr 2016_Reuters; 18 Mar 2016_GMO-Free Europe; 09 Feb 2016_Company Communication; 05 Oct 2015_EcoWatch; 20 Sep 2015_The Moscow Times; 17 Sep 2015:_Reuters; 13 Jan 2015_BBC News; 31 Mar 2015_ASSOCIATED PRESS STATE & LOCAL; 24 Feb 2015_GMO-free Europe (website); 04 Feb 2015_Monarchs in Peril (Consumer Food Safety); 13 May 2014_Business Insider; 04 Mar 2014_GuardianLV; 2014/3/15_RFI; 2014/3/15_Reuters; 2013/10/14_The Asheville Citizen-Times (North Carolina); 2013/10/12_Naples Daily News; 2013/10/12_FOX-2 KTVI (St. Louis); 2013/10/11_Orange County Register (California); 2013/10/04_Progressive Media-Company News; 2013/07/28_The Hawk Eye (Burlington, Iowa); 2013/05/11_The New York Times; 01 Apr 2013_Greenpeace; 2011/08/31_Reuters, 2011/09/06_Greenpeace Luxembourg, 2011/08/17_biodiversidadla.org, 2011/03/31_radiomundoreal.fm, 2011/03/29_cipamericas.org, 2011/03/10_www.pagina12.com.ar

Moderate Controversies

Date: September 2016
Assessment: Moderate
Status: Ongoing

San Diego City Lawsuit: Alleged Liability for San Diego Bay PCB Contamination

Monsanto along with two chemical manufacturers have been named defendants in a lawsuit filed by the City of San Diego and the San Diego Unified Port District for alleged contamination of the San Diego Bay. The plaintiffs claimed that the companies were liable for the release of polychlorinated biphenyls (PCB) into the bay. The complainants also accused Monsanto of continuing to manufacture and market PCBs despite having the knowledge that it was hazardous to the environment. The lawsuit included the request for a jury trial, punitive damages, compensation for cleanup as well as damages for San Diego's purported natural resource utility decrease.

UPDATES: 12 Sep 2016: SAN DIEGO FIGHTS BROAD INTERPRETATION OF COURT'S RULING IN PCB RUNOFF CASE. (SUPERFUND REPORT)

25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

17 Mar 2015: San Diego sues Monsanto over PCB pollution. (ST. LOUIS BUSINESS JOURNAL)

Source: 12 Sep 2016_SUPERFUND REPORT

Date: August 2016
Assessment: Moderate
Status: Ongoing

Lawsuits over Alleged Contamination of Pacific Northwest Fields with Genetically Modified Wheat

Monsanto has agreed to pay approximately USD 2.4 million to settle litigation related to the alleged contamination of wheat fields in certain U.S. Pacific Northwest states by its genetically modified (GM) wheat. The GM wheat variant was not approved by the United States Department of Agriculture (USDA) for cultivation. After the crop was discovered in Oregon and Washington in 2013, affected wheat farmers launched legal action. Subsequently, all related lawsuits were consolidated under one case in the Federal District Court of Kansas.

The settlement does not resolve contamination claims in Arkansas. As of March 2016, these remained ongoing.

UPDATES: 05 Aug 2016: Quarantined Washington state wheat tests negative for GMO: USDA. (Reuters)

29 Jul 2016: USDA confirms unapproved GMO wheat found in Washington state. (Reuters)

[accessed on Mar 7 2016]: Newsroom. (Monsanto website) As of March 2016, litigation on the grain contamination claims in Arkansas was ongoing.

18 Mar 2015: Monsanto to pay \$350K to settle more wheat-related lawsuits. (ASSOCIATED PRESS FINANCIAL WIRE) In addition to the settlement amount the company pledged to make donations of USD 50,000 to agricultural schools at land grant colleges in Kansas, Missouri, Illinois, Oklahoma, Texas, Louisiana and Mississippi. Monsanto also declared that as of March 2015, there is one active wheat contamination lawsuit in Arkansas that remains pending.

18 Mar 2015: Monsanto to pay \$350K to settle more wheat-related lawsuits. (ASSOCIATED PRESS FINANCIAL WIRE) In addition to the settlement amount the company pledged to make donations of USD 50,000 to agricultural schools at land grant colleges in Kansas, Missouri, Illinois, Oklahoma, Texas, Louisiana and Mississippi. Monsanto also declared that as of March 2015, there is one active wheat contamination lawsuit in Arkansas that remains active.

21 Jan 2015: Monsanto reaches \$2.4M settlement with wheat farmers in Pacific Northwest in. (CANADIAN GOVERNMENT NEWS)

BACKGROUND In May 2013, a farmer from northeastern Oregon filed a report to the USDA stating that he discovered a strain of genetically engineered, herbicide-resistant wheat after using Monsanto's Roundup Ready pesticide on his field. After conducting an investigation, the USDA announced that the wheat discovered by the farmer was identical to the wheat variant which underwent testing as part of Monsanto's research from 1998 to 2004. However, the genetically modified wheat was not approved by the USDA.

The Japanese and Korean Government restricted the shipment of Western White wheat following the May 2013 announcement.

In response to the Oregon discovery, Monsanto claimed that it had discontinued its research on the genetically modified wheat in question and that the re-emergence of the variant was unusual, as all the seeds involved in its research could not have survived in the soil for more than two years. Further, the company stated that its research was not conducted in northeastern Oregon, and that wheat pollen only moves approximately 30 feet from its source.

In June 2013, as part of a larger investigation into the genetically modified wheat previously found in northeastern Oregon, Monsanto tested 30,000 seed samples of 50 different wheat varieties in Washington and Oregon. The company concluded that none of the wheat varieties it tested proved to be genetically modified, and that the discovery of genetically modified wheat in northeastern Oregon was an isolated incident.

The discovery of GM wheat in Oregon sparked numerous lawsuits from farmers.

In June 2013, two class action lawsuits were filed against Monsanto at the United States District Court in Spokane alleging that the discovery of genetically engineered wheat in Oregon negatively affected their businesses. The first lawsuit was filed by farmers representing two wheat farms in Eastern Washington, Wahl Ranch in Adams County and Dreger Enterprises in Lincoln County. The damages of this lawsuit would be determined by the court. A separate lawsuit was filed by the Center for Food Safety on behalf of Northwest wheat farmers. Clarmar Farms and another wheat farmer were also named as plaintiffs of the lawsuit.

Later in the month, a wheat farmer from Kansas filed a lawsuit seeking class action status against the company. The lawsuit alleged that the company's genetically modified wheat infiltrated non-genetically engineered wheat. Since genetically engineered wheat was not approved by the USDA, the cost of producing wheat increased and prices plummeted.

Monsanto reported that as of November 2013, the USDA's investigation on the claims with regard to the specific GM crop remains ongoing and the agency indicated that civil and criminal penalties could be imposed if circumstances warranted. According to the company, lawsuits filed against it concerning the wheat variety in question have been consolidated in the Federal District Court of Kansas.

Source: 05 Aug 2016_Reuters; 2013/11/30_Monsanto 2013 10-Q Report; 2013/06/06_The Seattle Times; 2013/06/05_The Wall Street Journal; 2013/06/04_RT; 2013/06/03_The Wall Street Journal

Date: April 2016
Assessment: Moderate
Status: Ongoing

Seattle City Lawsuit: Alleged Contamination of Local Water Sources with PCB

Monsanto and three of its subsidiaries have been named defendants in a lawsuit filed by the City of Seattle for allegedly contaminating the city's drainage system and the Duwamish River with polychlorinated biphenyls (PCB). According to the plaintiff, PCB contamination was detected in 20,000 acres that drain to the Lower Duwamish, a federal Superfund site, and in areas that drain to the East Waterway adjacent to Harbor Island, a separate federal Superfund site.

UPDATES: 25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

26 Jan 2016: City Sues to Hold Monsanto Accountable for Toxic PCBs. (TARGETED NEWS SERVICE)

Source: 25 Apr 2016_SUPERFUND REPORT

Date: March 2016
Assessment: Moderate
Status: Ongoing

Opposition over Use of GMO Seeds in Nepal

Since 2011, protests against the controversial entry of Monsanto into Nepal's seed industry have been ongoing. Local civil society organizations, NGOs, and farmer groups have demanded that the government ban imports of the company's genetically modified (GM) seeds into the country. Activists claimed that the inflow of the GM seeds would drive local varieties into extinction, which would in turn lead to the company's monopoly in Nepal's seed market.

In December 2013, an environmental advocate filed a writ petition at Nepal's Supreme Court to prohibit the imports. The petition argued several points including: the produce from GM seeds have potential negative health effects on people and animals; introduction of GM variety of crops may wipe out local crops; the use of GM seeds would only increase local farmers' dependence on foreign companies for seeds due to the one-time-use patents of such seeds. The petition named the Office of the Prime Minister and the Council of Ministers, Ministry of Agriculture and Cooperatives, Department of Agriculture, Nepal Agriculture Research Council, Food Technology and Quality Control Department, Seeds Quality Control Center as defendants.

As of January 2014, the Supreme Court had issued an interim order on the importation to the country's government to temporarily prohibit the importation of Monsanto's GM seeds. The company appealed the ruling in February 2014.

Source: 2014/2/15_EKantipur.com; 2014/1/26_The Himalayan Times; 2014/1/8_Ekantipur; 2014_Aljazeera; 2013/12/29_Republica; 2013/12/20_Republica; 2011/12/13_My Republica; 2011/11/12_My Republica

Minor Controversies

Date: November 2016
Assessment: Minor
Status: Ongoing

Spokane City Lawsuit: Alleged Contamination of Local River with PCB

UPDATES: 01 Nov 2016: United States Courts Opinions: United States District Court Eastern District of Washington: CITY OF SPOKANE, a municipal corporation, located in the County of Spokane, State of Washington, , Plaintiff, v. MONSANTO COMPANY, SOLUTIA INC., and PHARMACIA CORPORATION, and DOES 1 through 100, Defendants.. (US OFFICIAL NEWS)

25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

04 Aug 2015: Spokane, Washington, sues Monsanto over PCBs in polluted state river. (Reuters)

Source: 01 Nov 2016_US OFFICIAL NEWS; 25 Apr 2016_SUPERFUND REPORT; 28 Mar 2016_SUPERFUND REPORT; 03 Feb 2016_ENVIRONMENTAL POLICY ALERT; 04 Aug 2015_Reuters

Date: August 2016
Assessment: Minor
Status: Concluded

Dismissal of Oakland City Lawsuit Over Alleged Liability for San Francisco Bay PCB Contamination

Monsanto has been named a defendant in a lawsuit filed by the City of Oakland for alleged contamination of the San Francisco Bay. The plaintiff claimed that the company was liable for polluting Oakland's stormwater and the bay with polychlorinated biphenyls (PCB). Oakland City representatives stressed that the company should bear the burden of the cleanup.

UPDATES: 23 Aug 2016: Monsanto beats cities' lawsuits over San Francisco Bay pollution. (Reuters)

25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

10 Nov 2015: Oakland sues Monsanto for allegedly polluting the San Francisco Bay. (SAN JOSE MERCURY NEWS (CALIFORNIA))

Source: 23 Aug 2016_Reuters; 25 Apr 2016_SUPERFUND REPORT

Date: August 2016
Assessment: Minor
Status: Concluded

Dismissal of San Jose City Lawsuit Over Alleged Contamination of Guadalupe River and San Francisco Bay with PCBs

Monsanto has been named a defendant in a lawsuit filed by the City of San Jose for alleged contamination of the Guadalupe River and San Francisco Bay. The plaintiff claimed that the company was liable for polluting San Jose's local river and the bay with polychlorinated biphenyls (PCBs).

UPDATES: 23 Aug 2016: Monsanto beats cities' lawsuits over San Francisco Bay pollution. (Reuters)

25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

06 Aug 2015: San Jose Sues Monsanto over Pollution in San Francisco Bay. (San Jose Inside)

Source: 23 Aug 2016_Reuters; 25 Apr 2016_SUPERFUND REPORT

Date: August 2016
Assessment: Minor
Status: Concluded

Dismissal of Berkley City Lawsuit Over Alleged Contamination of Local Water Sources with PCB

UPDATES: 23 Aug 2016: Monsanto beats cities' lawsuits over San Francisco Bay pollution. (Reuters)

25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)

28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)

03 Feb 2016: CITIES SEEK MULTIDISTRICT LITIGATION FOR NOVEL PCB SUITS AGAINST MONSANTO. (ENVIRONMENTAL POLICY ALERT)

07 Jan 2016: Berkeley City Council voted unanimously to sue Monsanto over PCB cleanup costs. (SAN JOSE MERCURY NEWS (CALIFORNIA))

Source: 23 Aug 2016_Reuters; 25 Apr 2016_SUPERFUND REPORT; 28 Mar 2016_SUPERFUND REPORT; 03 Feb 2016_ENVIRONMENTAL POLICY ALERT; 07 Jan 2016_SAN JOSE MERCURY NEWS (CALIFORNIA)

Date: August 2016
Assessment: Minor
Status: Ongoing

Nigeria: Opposition to Permit Approvals for Commercial Release of GM Cotton and Field Trial of GM Maize

UPDATES: 04 Aug 2016: Nigeria ; The Current State of Affairs With Nigeria and GMO - Part 2. (AFRICA NEWS)

29 Jun 2016: Nigeria ; Activists Want Monsanto's GMO Field Trial Permits Overturned. (AFRICA NEWS)

13 Jun 2016: Nigeria ; Outrage As Biosafety Agency Okays Monsanto's GMOs. (AFRICA NEWS)

Source: 04 Aug 2016_AFRICA NEWS; 29 Jun 2016_AFRICA NEWS; 13 Jun 2016_AFRICA NEWS

Date: April 2016
Assessment: Minor
Status: Ongoing

Portland City Lawsuit: Alleged Contamination of Willamette River with PCB

UPDATES: 25 Apr 2016: JUDGES REJECT CONSOLIDATION OF WEST COAST CITIES' PCB TORT CASES. (SUPERFUND REPORT)
 28 Mar 2016: MONSANTO ARGUES WEST COAST PCB CASES TOO DIFFERENT FOR CONSOLIDATION. (SUPERFUND REPORT)
 16 Mar 2016: Portland To Join Suit Against Monsanto. (EARTHFIX (OREGON))

Source: 25 Apr 2016_SUPERFUND REPORT; 28 Mar 2016_SUPERFUND REPORT; 16 Mar 2016_EARTHFIX (OREGON)

SOCIAL CONTROVERSIES

Severe Controversies

Date: May 2016
Assessment: Severe
Status: Ongoing

Brazilian Soy Farmers Royalty Lawsuit

In 2008, approximately five million large and small Brazilian soybean producers launched legal action against Monsanto for the alleged illegal collection of royalties on seed harvests of its genetically engineered Roundup Ready soybeans. The complainants claimed that the company demanded royalties not only for the initial harvested crop using the patented seed but also for subsequent crop harvests. The soy farmers argued that using seeds from previous harvests has always been a traditional practice and should not warrant crop royalties. Since 2003, Monsanto has allegedly demanded from Brazilian soy producers an annual crop royalty equivalent to two-percent of revenue derived from annual harvests.

UPDATES: 31 May 2016: 10-Q 2016. (Monsanto) Litigation on the alleged illegal royalty collection on Roundup Ready seed harvests was ongoing.

31 Aug 2014: 10-K 2014. (Monsanto) Monsanto declared that it continued to face royalty-related legal actions in Brazil. The company stated that duration of patents for its Roundup Ready soybeans were under review in the country.

Nov 2013: Monsanto continued to face the seed royalty lawsuit. The company might be liable for BRL 15 billion (USD 7.5 billion) if it were to lose the lawsuit. The Superior Tribunal of Justice, Brazil's second highest court, ruled that once a final decision was reached in the case filed in the state of Rio Grande do Sul, the decision could be applied across the country.

Feb 2013: Monsanto offered a new contract to settle the lawsuit, but the offer was rejected by Brazilian soy farmers. The company told investors that it would defer royalty collection for first-generation Roundup Ready soybeans in Brazil until the matter was settled by the Brazilian court.

Apr 2012: A court in Rio Grande do Sul ordered Monsanto to pay back at least USD 2 billion of the royalty payments it had collected. Monsanto subsequently appealed the ruling.

Source: 31 May 2016_Monsanto 2016 10-Q; 2013/11/30_Monsanto 10-Q report; 2012/6/13_Reuters; 2012/6/3_AFP

Date: April 2016
Assessment: Severe
Status: Ongoing

Lawsuits Concerning Agent Orange

Monsanto has faced lawsuits in the U.S., Europe, Canada, South Korea, and Vietnam following widespread public health issues raised by war veterans and civilians who came in contact with the herbicide known as Agent Orange. U.S., South Korean, and Vietnamese veterans and their families have attributed various illnesses to the defoliant, including miscarriages, birth defects, cancers, and nervous disorders. Vietnam claims that about a million of its people suffer from Agent Orange-related illnesses.

UPDATES: 25 Apr 2016: REPORT SHOWS STRONGER LINK BETWEEN AGENT ORANGE EXPOSURE AND SOME DISEASES. (STATES NEWS SERVICE) A report by the Institute of Medicine noted that there could be "limited or suggestive evidence" linking Agent Orange exposure to hypothyroidism and bladder cancer.

Nitro, West Virginia Lawsuit 07 Jul 2015: MONSANTO CO: Parties in "Allen" Case Perform on Settlement. (CLASS ACTION REPORTER)

Jan 2013: The Putnam County Circuit Court approved Monsanto's proposed settlement. Subsequently, certain plaintiffs objected to the settlement and brought the case to the West Virginia Supreme Court. The Court dismissed the appeal in November 2013 in favor of Monsanto.

Feb 2012: Monsanto proposed a settlement wherein it agreed to pay approximately USD 93 million in resolution of the allegations. The agreement stipulated a 30-year medical monitoring program consisting of approximately USD 21 million and an additional fund of approximately USD 63 million over the life of the program, and a three-year property remediation plan amounting to approximately USD 9 million.

Dec 2004: 15 plaintiffs filed a purported class action lawsuit against Monsanto, (its former parent) Pharmacia, and seven other defendants alleging that the companies' production of Agent Orange in Nitro, West Virginia resulted in the release of dioxins at unsafe levels that contaminated the area. The complainants comprised of current and former residents, workers, and students who, between 1949 and the present, were allegedly exposed to dioxins/furans contamination in counties surrounding the site. The plaintiffs also claimed that members of their community contracted illnesses and conditions including cancer, birth defects, learning disabilities, endometriosis, infertility, and suppressed immune functions, due to exposure to dioxin pollution. The plaintiffs sought damages for property cleanup costs, loss of real estate value, funds for property contamination testing, funds for human exposure testing, and medical monitoring costs.

Monsanto previously reached an agreement with the EPA to clean up the Nitro site in 1983 and again in 1985. However, in a 2000 report, the EPA stated that the nearby Kanawha River contained unsafe and illegal levels of dioxin. In 2002, state regulators discovered seepage of dioxin into the Kanawha River allegedly from a plant where Monsanto used to manufacture Agent Orange. The dioxin reportedly settled in the river and nearby surroundings.

Claims by U.S. Veterans 10 Mar 2016: Researchers call for more study of Agent Orange's effects on Vietnam veterans and their kids. (The Virginia-Pilot) The committee of researchers established in 1991 to investigate the negative health effects of Agent Orange has declared that more than two decades of study has not produced a concrete understanding as to how the toxic herbicide has harmed Vietnam veterans and possibly their families. The committee declared that there are still significant gaps in their findings and that additional research is necessary.

08 Feb 2016: Veterans Affairs again denies Agent Orange benefits to Navy vets. (The Virginia-Pilot) The U.S. Department of Veterans Affairs (VA) has again rejected the efforts of Vietnam Navy veterans to claim compensation for possible exposure to Agent Orange. For over a decade, advocates for approximately 90,000 Blue Water Navy veterans who served off the coast of Vietnam have been requesting the VA to expand its benefits policy to include them. The veterans group claimed that they were exposed to Agent Orange because their ships harnessed potentially contaminated water and distilled it for drinking, cooking, bathing and laundry. Experts have reported that the distillation process could have actually concentrated the harmful substance.

18 Jun 2015: VA Expands Disability Benefits for Air Force Personnel Exposed to Contaminated C-123 Aircraft. (Department of Veteran Affairs) In light of the Institute of Medicine's January 2015 findings, the Department of Veterans Affairs implemented a new regulation in June 2015 that expanded the benefits eligibility for certain Air Force Veterans and Air Force Reserve personnel who were exposed to the herbicide Agent Orange during their service inside the contaminated C-123 aircraft.

09 Jan 2015: Post-Vietnam Dioxin Exposure in Agent Orange-Contaminated C-123 Aircraft. (Institute of Medicine) In January 2015, the Institute of Medicine (IOM) released a report entitled "Post-Vietnam Dioxin Exposure in Agent Orange-Contaminated C-123 Aircraft." The report was based on an evaluation conducted by the IOM on the 1,500 to 2,100 Airforce Reserve personnel who trained and worked between 1972 and 1982 on the C-123 aircraft that had been used to spray herbicides, including Agent Orange (AO), during Operation Ranch Hand in the Vietnam War. The Department of Veteran Affairs requested the IOM to conduct the assessment to determine if the AF Reservists were exposed to herbicides at levels harmful to their health. The IOM's findings indicated the following: the presence of herbicide residues on the interior surfaces of the C-123 aircraft; herbicide residue levels based on internal surface samples fall in or above the cautionary range for adverse health outcomes as defined by international guidelines; AF reservists would have been exposed to the herbicides during their service inside the C-123; plausibility that reservists' chemicals exposure exceeded health guidelines which increases the likelihood of increased risks of adverse health outcomes.

Vietnamese Veterans Lawsuit 08 Jan 2016: First argument session in Agent Orange lawsuit in France slated for March. (Vietnam Plus) The Crown Court of Evry scheduled in March 2016, the first argument session for the 2014 Agent Orange lawsuit launched by Tran To Nga.

15 Jun 2015: EXCLUSIVE: Agent Orange Victims to Sue U.S. Firms Again for Damages. (JIJI PRESS TICKER SERVICE) Advocacy group, Vietnam Association of Victims of Agent Orange (VAVAO), declared that it will launch another lawsuit against 26 companies, including Monsanto to seek damages for negative health effects caused by defoliants used during the Vietnam War. The group stated that it had learned many lessons from their failed legal action which was launched in 2004. VAVAO declared that timing of the new lawsuit's filing has not been decided but a shortlist has been established for which courts they will initiate the litigation in.

15 Jun 2015: EXCLUSIVE: Agent Orange Victims to Sue U.S. Firms Again for Damages. (JIJI PRESS TICKER SERVICE) Advocacy group, Vietnam Association of Victims of Agent Orange (VAVAO), declared that it will launch another lawsuit against 26 companies, including Monsanto to seek damages for negative health effects caused by defoliants used during the Vietnam War. The group stated that it had learned many lessons from their failed legal action which was launched in 2004. VAVAO declared that timing of the new lawsuit's filing has not been decided but a shortlist has been established for which courts they will initiate the litigation in.

21 April 2015: Agent Orange trial launched by French-Vietnamese woman opens. (VAVA.org) In May 2014, French-Vietnamese, Tran To Nga filed a class action lawsuit in the Crown Court of Evry in France against 26 U.S. companies for producing the toxic substances sprayed by the U.S. armed forces during the war in Vietnam. Nga and her legal representatives claimed that the chemicals, and therefore their manufacturers, were responsible for the serious health issues inflicted on her, her family and Vietnamese communities. Mrs. Nga was purportedly exposed to Agent Orange during her service for the Liberation News Agency in the late 1960s. Working as a correspondent, she travelled to the most heavily dioxin-contaminated areas in southern Vietnam including Cu Chi, Ben Cat and along the Ho Chi Minh Trail. According to Mrs. Nga her first born died of heart defects and her second child suffered from a blood disease, which were purportedly caused by her earlier exposure to the harmful chemicals used during the war. In April 2015, the trial for her 2014 lawsuit was launched.

Oct 2008: The plaintiffs brought the lawsuit to the US Supreme Court to request that it be reviewed again. The request was denied in February 2009.

Nov 2004: The defendants filed a motion to dismiss the case on grounds of jurisdiction and the plaintiffs' failure to prove that the defendants violated international laws. In March 2005, the District Court dismissed VAVAO's lawsuit. The judge presiding over the case ruled that the use of the dioxins during the war, although they were toxic, did not fit the definition of "chemical warfare" and therefore did not violate international law. The court also declared that the chemical manufacturers as US government contractors had the same immunity as the US government from litigation. Subsequently, the plaintiffs filed appeals to reinstate the case in the Second Circuit Court of Appeals and the Federal Court of Appeals in Manhattan. Both were denied.

Jan 2004: VAVAO filed a lawsuit in the District Court of the Eastern District of New York against Monsanto, Dow Chemical, Pharmacia and other chemical producers involved in the manufacturing of Agent Orange. By virtue of the Alien Tort Claims Act, the plaintiffs alleged that the companies that produced the toxic herbicides used in the Vietnam war were in "violation of international law and war crimes, and under the common law for products liability negligent and intentional torts, civil conspiracy, public nuisance and unjust enrichment, seeking many damages for personal injuries, wrongful death and birth defects and seeking injunctive relief for environmental contamination and disgorgement of profits."

South Korea Court Rulings Jul 2013: The South Korea Supreme Court ordered Monsanto and Dow Chemical to compensate 39 Vietnam War veterans a total of approximately USD 415,000. The Court recognized the complainants contracted certain skin diseases such as chemical acne due to exposure to the toxic defoliants manufactured by the two companies. Dow Chemical contested the ruling and argued that the verdict was not supported by clear evidence.

Jan 2006: A South Korean court ordered Monsanto and Dow Chemical to pay compensation to approximately 6,800 people, including South Korean Vietnam War veterans and their families, who allegedly suffered health problems due to Agent Orange exposure. Total compensation was estimated at USD 61 million. Three separate damages suits were filed against the two companies on behalf of approximately 20,000 South Koreans. Two were upheld by the court while one case was dismissed.

Federal courts have ruled that Vietnam veterans who missed a 1994 deadline for seeking compensation for Agent Orange-related illnesses could sue Agent Orange manufacturers, including Monsanto, for damages. As part of a 1984 settlement the manufacturers agreed to pay into a USD 180 million compensation fund for Vietnam veteran victims in exchange for release from any future liability. However, plaintiffs have alleged that those who discover illnesses after 1994 should be eligible for payments.

Pending Lawsuit in Canada Sep 2007: A lawsuit filed by the Canadian government against Monsanto and Dow Chemical in April 2007 was pending. The lawsuit sought compensation for any injuries plaintiffs may have suffered as the result of the spraying of Agent Orange chemicals in 1967 and 1968 at Canadian Forces Bases. At an earlier time, individuals who lived near a base in New Brunswick filed a class action lawsuit against the Canadian government alleging that they suffered injuries from being exposed to various chemicals used for 30 years to control weeds at the base.

Source: 25 Apr 2016_STATES NEWS SERVICE; 2013/11/30_Monsanto 10-Q Report; 2013/8/31_Monsanto 2013 10-K; 2013/1/25_Bloomberg Businessweek; 2013/2/1_Indiana Public Media; 2012/2/2_Indiana Public Media; 2012/2/1_NPR; 2013/1/29_Insurance Journal; 2013/7/12_Fox News; US Department of Justice Department Court Documents 2004-2009; Agent Orange Record; 2012/1/2_Chemical Week; 2011/08/10_Thai News Service

Date: March 2016
Assessment: Severe
Status: Ongoing

Patent Enforcement Practices

Monsanto is known for monitoring the use of its patented seeds and for taking a tough stand against farmers the company alleges have used the seeds illegally. The company has been criticized for its practice of hiring private investigators to monitor farmers. It has filed lawsuits against several farmers in the U.S. and Canada alleging patent infringement. As March 2016, the company continued to be involved in such litigation.

In February 2013, the United States Supreme Court heard arguments for a case against Monsanto filed by a 75-year old farmer who purchased Monsanto's soybeans and subsequently used the resulting seeds from his crop to plant more crops. Previously, lower courts had already ruled in favor of Monsanto. Separately, non-governmental organizations, Center for Food Safety and the Save Our Seeds campaign, released a study tracking Monsanto's 142 patent infringement suits filed against 410 farmers and 56 small businesses across approximately 27 states. The company clarified in a statement that it has filed lawsuits against farmers 145 times since 1997.

Monsanto has stated that it aggressively enforces its seed patents in order to protect its intellectual property and to ensure that it is compensated for its research and development activities. Further, the company reports that it donates any profits from seed enforcement lawsuit penalties to charity.

Monsanto's patent protection measures conflict with farmers' traditions of reusing seeds from a previous season's crops. Farmers who purchase seeds from Monsanto are required to sign a "Technology Use Agreement" and pay the company a fee based on acreage planted in addition to the cost of the seeds. The agreement gives the company a right to inspect the fields and take samples for three years after the seeds are purchased. The company has set up a controversial toll-free tip line for farmers to report on those who violate the agreement.

In March 2011, a group of US organic agricultural organizations headed by the Organic Seed Growers and Trade Association filed a lawsuit in a federal district court in Manhattan, New York Court against the Monsanto to challenge its patents on genetically modified seeds. The plaintiffs launched the legal action preemptively to protect themselves from being accused of patent infringement should they become contaminated by Monsanto's GM seeds. The district court dismissed the case in January 2012, ruling that the farmers lacked legal standing regarding the concerns over the potential contamination and consequential economic impact. The court also declared that the decision was made on grounds that the complainants were not yet contaminated despite recognizing that some contamination is "inevitable." The plaintiffs subsequently brought the lawsuit to the Court of Appeals for the Federal Circuit in Washington which also dismissed the case in June 2013 on the same grounds. The June 2013 appeals court decision highlighted the fact that "Monsanto has made binding assurances that it will not 'take legal action against growers whose crops might inadvertently contain traces of Monsanto biotech genes (because, for example, some transgenic seed or pollen blew onto the grower's land).'" In September 2013, the plaintiffs appealed to the US Supreme Court to get full protection from potential infringement. In January 2014, the Supreme Court refused to hear case. That ruling supports the appeals court's verdict and bars the reinstatement of the case.

Source: 23 Mar 2016_Monsanto Website; 31 Aug 2015_2015 10-K; 2013/02/22_Huffington Post; 2014/1/23_GMO Journal; 2014/1/14_OSGATA Press Release; 2011/3/29_OSGATA Press Release; 2014/1/13_RT.com; 2013/02/13_Huffington Post

Date: January 2016
Assessment: Severe
Status: Ongoing

Protests Against Cordoba Plant

Monsanto has faced opposition from residents of Malvinas Argentinas in Cordoba, Argentina over its proposed construction of a treatment plant for genetically modified (GM) corn in the area. The project involves the construction of over 200 silos and the use of agrochemical substances for the containment and treatment of GM maize seeds. Locals and activist groups lead by the Malvinas Lucha por la Vida (Malvinas Lucha por la Vida (Malvinas Assembly Fighting for Life), since June 2013, have conducted protests and raised concerns regarding the negative health impacts that may result from the potential release of chemicals from the facility.

UPDATES: 20 Jan 2016: Argentine Social Movements Strike Back Against Monsanto. (teleSUR) In December 2015, a local court in Malvinas Argentinas released an order requiring activists, for 24 hours, to give free passage to company personnel and machinery at the construction site of Monsanto's GMO treatment plant. The order was immediately opposed by advocacy groups. Numerous NGOs called for their members to assemble at the encampment to reinforce the blockade. The groups further made a public announcement, declaring a state of "permanent alert" at the site. NGOs also launched protests in cities around Argentina in January 2016 to stress their opposition to the GMO treatment plant.

06 Mar 2015: Argentina takes a stand against Monsanto. (La Opinion) Despite the termination of construction at Monsanto's Argentina facility, the protesters' encampment was still in place. The Malvinas Assembly and other organizations declared that they will sustain their efforts and oppose Monsanto should it attempt to pursue the development of the plant.

Apr 2014: The blockade at Monsanto's Argentina facility was still in place and demonstrations were ongoing. The Malvinas Assembly and other organizations declared that they will sustain their efforts until the project was completely shut down.

Feb 2014: The government of Cordoba rejected Monsanto's EIA for failing to identify the relevant impacts and resulting mitigation measures of its treatment plant. The company subsequently appealed to the Environment Secretariat as well as the Ministry of Water, Environment and Energy but was denied approval by both.

Jan 2014: A Malvinas Argentinas court ruled in favor of the locals. The legal body ordered Monsanto to halt construction at Cordoba plant and prohibited the municipality from authorizing activities connected to the project until the company accomplishes the environmental impact assessment and undergoes public hearing or local referendum.

Jun 2013: Malvinas Argentinas residents launched a protest against Monsanto's proposed Cordoba-based treatment plant for genetically modified maize seeds. The demonstration followed the company's announcement that the first stage of construction would be complete by the end of 2013 and the plant would start operating by April 2014. The protesters stressed the potential negative health effects that may result from the plant's operation byproducts. Locals declared that the facility poses another health risk on top of the already prevalent respiratory illnesses and birth defects in the area, which they alleged were associated with exposure to Monsanto's product, Roundup, used for the cultivation of soy in Cordoba.

Dec 2013: Monsanto sought the assistance of local authorities to disperse the demonstrators. The company reported that masked protesters armed with sticks and stones attacked workers who tried to enter the facility. A violent confrontation ensued as riot police deployed at the site used rubber bullets and tear gas on the protesters. Approximately eight were injured from the clash.

Nov 2013: Members of the Argentine Construction Union attacked the protest camp in Cordoba. The workers complained that the demonstration cut them off from their livelihood. Approximately 20 injuries resulted from the incident.

Oct 2013: Operations at the site were halted when demonstrators disrupted the entry of supplies.

Sep 2013: protesters set up a blockade in front of Monsanto's Cordoba plant. Subsequently, locals with the support of advocacy groups filed an injunction in a provincial court in Malvinas Argentinas against the company demanding the suspension of construction until the environmental impact study for the project was completed.

Source: 20 Jan 2016_teleSUR; 06 Mar 2015_La Opinion; 2014/4/24_La Manana de Cordoba; 2014/4/5_Revolution News; 2014/3/26_The Argentina Independent; 2014/2/11_The Wall Street Journal; 2014/1/25_IPS-Inter Press Service; 2014/1/9_RT; 2013/11/28_The Associated Press; 2013/12/2_IPS-Inter Press Service; 2013/09/30_Cadena 3; 2013/09/30_Infocampo; 2013/07/19_La Mana de Cordoba; 2013/06/27_La Manana de Cordoba; 20120831_organicbuenosaires.com

Moderate Controversies

Date: September 2016
Assessment: Moderate
Status: Ongoing

WHO Agency Declares Glyphosate as "Probably Carcinogenic" to Humans

In March 2015, the World Health Organization's specialized cancer agency, the International Agency for Research on Cancer (IARC), released an assessment of five organophosphate pesticides. Among the agricultural chemicals evaluated was glyphosate, which Monsanto markets under the Roundup brand. The IARC classified glyphosate as "probably carcinogenic" to humans. According to the agency's study, for the herbicide, there was limited evidence of carcinogenicity in humans for non-Hodgkin lymphoma, and sufficient evidence of carcinogenicity in experimental animals. Glyphosate also purportedly caused DNA and chromosomal damage in human cells. The IARC cited studies of exposure to glyphosate in the U.S., Canada and Sweden since 2001.

The IARC's findings have triggered the temporary ban of the chemical in certain parts of France and Colombia. Meanwhile, other food and substance safety agencies in certain nations like the German Federal Institute for Risk Assessment (BfR) have begun to conduct their own examination of glyphosate. The BfR found results opposite to the IARC's assessment but clarified that it has not conducted a complete review the WHO agency's report.

In May 2016, the cancer assessment review committee of the U.S. Environmental Protection Agency (EPA) published online a preliminary report stating that glyphosate was not likely to be carcinogenic to humans. However, the EPA subsequently withdrew the report from the government website. The agency affirmed its assessment that glyphosate was not likely to be carcinogenic in September 2016. Separately, the United Nations Food and Agriculture Organization published a study that found that glyphosate was "unlikely" to be carcinogenic when ingested orally through food.

UPDATES: 30 Sep 2016: No Swiss ban for weed-killer glyphosate. (Swissinfo)

16 Sep 2016: UPDATE 1-EPA says glyphosate, used in Monsanto herbicide, likely not carcinogenic. (Reuters)

28 Jun 2016: European Commission to extend glyphosate license for 18 months. (Reuters)

14 Jun 2016: Court Allows Center for Food Safety to Defend California from Monsanto Attack. (TARGETED NEWS SERVICE)

07 Jun 2016: US lawmakers question whether EPA staff influenced WHO glyphosate review. (Channel NewsAsia)

06 Jun 2016: Recall of Monsanto's Roundup likely as EU refuses limited use of glyphosate. (The Guardian)

01 Jun 2016: EU set to consider temporary extension of glyphosate licence over cancer row. (Reuters)

16 May 2016: Dietary exposure to glyphosate unlikely to cause cancer, U.N. report says. (UPI)

13 May 2016: EPA faces second U.S. lawmakers investigation into glyphosate review. (Reuters)

12 May 2016: U.S. lawmakers put pressure on EPA over handling of glyphosate review. (Reuters)

03 May 2016: EPA takes offline report that says glyphosate not likely carcinogenic. (REUTERS HEALTH MEDICAL NEWS)

08 Apr 2016: French Government Moves to Ban Some Monsanto Glyphosate Weed Killers. (Environmental Working Group)

07 Mar 2016: EU to defer decision on safety of weed-killer ingredient - sources. (Reuters)

02 Mar 2016: Center for Food Safety Moves to Defend California from Monsanto Attack. (TARGETED NEWS SERVICE)

02 Mar 2016: NGOs sue Monsanto over pesticide safety. (The Local (Austria))

17 Feb 2016: Key evidence withheld as 'trade secret' in EU's controversial risk assessment of glyphosate. (The Corporate Europe Observatory)

21 Jan 2016: UPDATE 1-Monsanto sues to keep herbicide off California list of carcinogens. (Reuters)

13 Jan 2016: EU food safety watchdog hits back at scientists in glyphosate row. (Reuters)

07 Dec 2015: Scientists assembled for Monsanto say herbicide not carcinogenic, disputing WHO report. (Reuters)

12 Nov 2015: EU watchdog approves new licence for controversial weedkiller ; Herbicide approved for relicensing in EU, despite World Health Organisation assessment linking it to cancer in humans. (THE GUARDIAN)

12 Nov 2015: European scientists say weedkiller glyphosate unlikely to cause cancer. (Reuters) According to an independent study conducted by the European Food Safety Authority (EFSA) on glyphosate, it is unlikely that the substance is carcinogenic. The EFSA declared that it had conducted a thorough analysis of the substance and took into account the IRAC's findings.

21 Oct 2015: Monsanto pushes against California listing of herbicide as cancer cause. (YEREPOUNI DAILY NEWS)

22 Sep 2015: Herbicide scrutiny mounts as resistant weeds spread in U.S. (SAUDI PRESS AGENCY (SPA))

10 Sep 2015: California Moves To Protect Citizens From Monsanto's GMO Weed Killer. (Environmental Working Group) California has expressed intentions to add glyphosate to the state's official list of known carcinogens. The state declared its plans to implement the policy through Proposition 65, a legislation that requires the registration and labeling of hazardous chemicals known to cause cancer or birth defects as determined by California's Office of Environmental Health Hazard Assessment.

20 Aug 2015: Scientists call for new review of herbicide, cite 'flawed' U.S. regulations. (NEWS POINT)

19 Aug 2015: Bill banning Roundup yanked. (HAWAII TRIBUNE-HERALD)

07 Aug 2015: PESTICIDES: European retailers yank Roundup from shelves. (GREENWIRE)

15 Jul 2015: Weedkiller suspected of causing cancer deemed 'safe' ; A multi-billion dollar weedkiller used in British farms, parks and gardens has been linked to cancer by the WHO, but its European license could still be reapproved. (THE GUARDIAN) In an independent study, the BfR found "very limited evidence of carcinogenicity" in mice exposed to glyphosate. The agency stated that the acceptable daily intake of the substance was between 0.3 to 0.5 mg per kilogram of body weight per day. BfR has also recommended the re-approval of glyphosate.

14 Jul 2015: Monsanto says panel to review WHO finding on cancer link to herbicide. (REUTERS HEALTH MEDICAL NEWS)

15 Jun 2015: France Bans 'Probably Carcinogenic' Monsanto Herbicide for Home Gardeners. (RIA Novosti)

15 May 2015: Colombia gov't confirms suspension of aerial coca spraying. (Reuters)

29 Apr 2015: HERBICIDE: CAMPAIGNERS SEEK BAN ON GLYPHOSATE IN LATIN AMERICA. (IPS - INTER PRESS SERVICE)

24 Mar 2015: Monsanto seeks retraction for report linking herbicide to cancer. (REUTERS HEALTH MEDICAL NEWS)

20 Mar 2015: Monsanto Disagrees with IARC Classification for Glyphosate. (Monsanto website)

20 Mar 2015: Health Agency Says Widely Used Herbicide Likely Carcinogenic. (Wall Street Journal)

20 Mar 2015: IARC Monographs Volume 112: Evaluation of Five Organophosphate Insecticides and Herbicides. (World Health Organization - International Agency for Research on Cancer)

Source: 30 Sep 2016_Swissinfo

Date: September 2016
Assessment: Moderate
Status: Ongoing

Personal Injury Claims Related to PCBs

Monsanto, its former parent Pharmacia LLC, and the latter's former subsidiary, Solutia Inc. have been involved in numerous personal injury lawsuits filed on behalf of approximately 750 individuals in state courts in St. Louis, Missouri and Los Angeles, California. The plaintiffs claimed to have developed non-Hodgkin lymphoma due to exposure to polychlorinated biphenyls (PCB) manufactured by Monsanto from the 1930's to 1970's. The complainants claimed that the company's production of PCBs for decades resulted in high levels of air and water PCB contamination in areas surrounding the facilities that manufactured the chemical. Monsanto stopped manufacturing PCBs in 1977.

As declared under Monsanto's indemnity agreements with Pharmacia (now a Pfizer subsidiary) in 2000 and Solutia (now an Eastman Chemical subsidiary) in 2008, it has assumed the defense of the personal injury claims.

UPDATES: 29 Sep 2016: Dangerous Monsanto Chemical Remains in Thousands of Schools. (Environmental Working Group)

15 Aug 2016: United States Courts Opinions: United States District Court Eastern District of Massachusetts: TOWN OF PRINCETON, Plaintiff, v. MONSANTO COMPANY, SOLUTIA INC., and PHARMACIA CORPORATION, Defendants.. (US OFFICIAL NEWS)

20 Jul 2016: United States Courts Opinions: United States District Court Eastern District of Missouri: Case: 4:16-cv-00536-PLC. (US OFFICIAL NEWS)

26 May 2016: Jury reaches \$46 million verdict against Monsanto over PCBs. (ASSOCIATED PRESS FINANCIAL WIRE)

05 Apr 2016: Company cleared after accusations of causing disease from PCB exposure. (CITY NEWS SERVICE)

01 Apr 2016: United States Courts Opinions: United States District Court Eastern District of Missouri: Case: 4:15-cv-00844-AGF. (US OFFICIAL NEWS)

[accessed on Mar 7 2016]: Newsroom. (Monsanto website)

09 Dec 2015: MONSANTO: School Board File Suit Over PCB Cleanup. (CLASS ACTION REPORTER) A St. Louis school joined the mounting claims against Monsanto for alleged PCB contamination.

02 Jul 2015: Plaintiffs' attorneys ask for up to \$70M in PCBs case. (MISSOURI LAWYERS MEDIA)

05 Jun 2015: Residents from 7 states allege Monsanto chemical led to cancer. (ST. LOUIS BUSINESS JOURNAL)

02 Jul 2015: MONSANTO CO: Two Mass. Towns Lose in 1st Round of PCB Litigation. (CLASS ACTION REPORTER)

31 May 2015: 10-Q 2015. (Monsanto)

Source: 29 Sep 2016_Environmental Working Group; 2013/11/30_Monsanto 10-Q Report; 2013/07/01_St. Clair County Circuit Clerk

Date: September 2016
Assessment: Moderate
Status: Ongoing

CCI Investigation into Allegedly Unreasonable Royalties for GM Cotton Seeds in India

In February 2016, the Competition Commission of India (CCI) announced that it launched an investigation into the suspected abuse of dominant market position of Mahyco Monsanto, a joint venture between Monsanto and Mahyco. The probe was prompted by a complaint filed by India's Ministry of Agriculture, on behalf of local farmers and their organizations, of unreasonably high royalties charged by the company for its genetically modified (GM) cotton seeds. The company allegedly overpriced its products, utilizing its position as supplier of GM seeds used in more than 90 percent of cotton cultivation in India.

UPDATES: 26 Sep 2016: Monsanto hits back at National Seed Association of India in row over seed patents. (Economic Times of India)

23 Sep 2016: Seed companies say Monsanto spreading falsehoods on patent rights. (THE ECONOMIC TIMES)

09 Sep 2016: Monsanto petition hearing on September 20. (Economic Times of India)

02 Sep 2016: Monsanto gets more time to file amended petition against CCI order. (THE ECONOMIC TIMES)

25 May 2016: Biotechnology firms upset with Bt Cotton royalty rates order. (THE ECONOMIC TIMES)

21 Apr 2016: HC allows T to fix trait value of BT seeds. (TIMES OF INDIA (ELECTRONIC EDITION))

12 Apr 2016: Won't allow firms such as Monsanto to exploit farmers: Radha Mohan Singh, Agriculture Minister. (THE ECONOMIC TIMES)

10 Mar 2016: Royalties paid to Monsanto cut by 70 pc. (BUREAUCRACY TODAY)

04 Mar 2016: Monsanto threatens to exit India over GM royalty row. (The Times of India)

17 Feb 2016: Competition Commission of India suspects Monsanto abused dominant position. (The Times of India)

Source: 26 Sep 2016_Economic Times of India

Date: September 2016
Assessment: Moderate
Status: Ongoing

India: Investigation Into Alleged Unfair Sublicensing Agreement Conditions for Bt Cotton Technology

Monsanto faced an investigation by the Competition Commission of India (CCI) over allegations that it compelled Indian seed companies to accept unfair conditions of its sublicensing agreement for Bt cotton technology. Three seed companies filed complaints with the CCI, claiming that the company abused its dominant position in the Bt cotton market.

UPDATES: 09 Sep 2016: Monsanto petition hearing on September 20. (Economic Times of India)

17 Jun 2016: CCI to probe three more new complaints against Monsanto. (THE ECONOMIC TIMES)

24 May 2016: After industry outcry, India puts GM seed order on hold. (HINDUSTAN TIMES)

Source: 09 Sep 2016_Economic Times of India

Date: August 2016
Assessment: Moderate
Status: Ongoing

Roundup Ready 2 Xtend: Alleged Damage to Soybean Farms Due to Dicamba Use

Approximately 125 farmers in Missouri and Arkansas filed complaints with the respective state agriculture departments over damage to soybean crops allegedly due to the use of dicamba herbicides, including Monsanto's Roundup Ready 2 Xtend. Farmers claimed that dicamba sprayed in neighboring farms to control pigweed resulted in damage to their soybean fields. They further claimed that Monsanto marketed dicamba-resistant Roundup Xtend beans, even as the U.S. Environmental Protection Agency had not yet approved the use of the associated herbicide.

UPDATES: 31 Aug 2016: Suspected illegal herbicide use takes toll on southeast Missouri farmers. (FARM FORUM (ABERDEEN, SOUTH DAKOTA))

18 Aug 2016: Illegal Herbicide Use on Monsanto GMOs Spurs Bitter Complaints. (Environmental Working Group)

01 Aug 2016: Crime In The Fields: How Monsanto And Scofflaw Farmers Hurt Soybeans In Arkansas. (EARTHFIX (OREGON))

26 Jul 2016: Monsanto draws state heat over drift. (ARKANSAS DEMOCRAT-GAZETTE (LITTLE ROCK))

22 Jul 2016: Panel: Farmers can use soybean Still, weedkiller risks other crops. (ARKANSAS DEMOCRAT-GAZETTE (LITTLE ROCK))

Source: 31 Aug 2016_FARM FORUM (ABERDEEN, SOUTH DAKOTA)

Date: July 2016
Assessment: Moderate
Status: Ongoing

Mexico: Alleged Irregularities in Indigenous Community Consultation on Planting GM Soybeans in Campeche State

Local NGOs representing 31 indigenous Maya communities in Mexico's Campeche state filed a complaint about the consultation process conducted by local authorities related to the planting of Monsanto's genetically modified soybeans in the towns of Hopelchen and Tenabo. The NGOs noted that the process was hampered by the lack of access by community members to the consultation venue, as well as intimidation by supporters of the product. They also called for the enforcement of a ban on planting GM soybeans, which the communities claimed was being cultivated in the Vicente Guerrero Iturbide community.

UPDATES: 19 Jul 2016: México: Misión de Observación denuncia abusos en consulta previa sobre siembra de soya transgénica de Monsanto; señala injerencia de empresa. (Business & Human Rights Resource Centre (Main))

19 Jun 2016: Mexico: Authorities suspend Monsanto's permit to sow modified soybean in Yucatan. (EL FINANCIERO)

Source: 19 Jul 2016_Business & Human Rights Resource Centre (Main)

Date: July 2016
Assessment: Moderate
Status: Ongoing

Roundup-related Injury Lawsuits

Monsanto faced personal injury lawsuits related to its Roundup product. Complainants alleged that the company was liable for their contraction of various illnesses due to exposure to Roundup. The influx of claims was triggered by the classification of glyphosate, Roundup's active ingredient, as a probable carcinogen by the International Agency for Research on Cancer. In October 2016, the Judicial Panel on Multidistrict Litigation approved the consolidation of lawsuits alleging that exposure to glyphosate caused non-Hodgkin's lymphoma.

UPDATES: 06 Oct 2016: Monsanto Trims But Can't Escape NY Roundup Cancer Suit. (Law360)

05 Oct 2016: Monsanto's Roundup Now at the Center of a Multidistrict Centralized Federal Litigation. (LEGAL MONITOR WORLDWIDE)

28 Sep 2016: MONSANTO CO: Faces Suits Over Cancer-Causing Herbicide Products. (CLASS ACTION REPORTER)

18 Aug 2016: MONSANTO COMPANY: Must Face Cancer Claims in Hawaii Case. (CLASS ACTION REPORTER)

04 Aug 2016: Plaintiffs File Motion to Consolidate Roundup Cancer Lawsuits Against Monsanto. (NEWS RELEASE WIRE) As of August 2016, 26 lawsuits were filed against the company, while Monsanto stated that it was aware of approximately 200 similar claims.

13 Jul 2016: United States Courts Opinions: United States District Court Eastern District of California: YOLANDA MENDOZA, Plaintiff, v. MONSANTO COMPANY, Defendant.. (US OFFICIAL NEWS)

29 Jun 2016: MONSANTO: Faces Class Action Over Round Up Herbicide. (CLASS ACTION REPORTER)

17 May 2016: Monsanto slumps as its popular herbicide Round Up faces class action suit in the US. (THE ECONOMIC TIMES)

10 Mar 2016: Monsanto Lawsuit Claims Roundup Caused Cancer in Cambria Farmer. (NEWS RELEASE WIRE)

04 Feb 2016: Former coffee farm owners sue Monsanto. (HAWAII TRIBUNE-HERALD)

28 Jan 2016: Americans With Herbicide-Linked Cancer File Lawsuit Against Monsanto in California. (RIA NOVOSTI)

24 Dec 2015: MONSANTO CO: Faces "Giglio" Suit Over Roundup(R)-Related Damages. (CLASS ACTION REPORTER)

15 Oct 2015: U.S. lawsuits build against Monsanto over alleged Roundup cancer link. (REUTERS HEALTH MEDICAL NEWS)

29 Sep 2015: U.S. workers sue Monsanto claiming herbicide caused cancer. (REUTERS HEALTH MEDICAL NEWS)

Source: 06 Oct 2016_Law360

Date: June 2016
Assessment: Moderate
Status: Ongoing

Argentina: Complaint by Farmers over Royalties Allegedly Sought for Cultivation of Second Generation Seeds from Inacta

In February 2016, the Argentine Rural Society (SRA), a local organization representing medium to large scale farmers, filed a complaint against Monsanto before the Argentina's National Commission for the Defense of Competition. The SRA alleged that Monsanto abused its dominant position in the market by seeking compensation from farmers to plant second-generation seeds produced from its genetically modified (GM) soybean, Inacta. The SRA claimed that under local law farmers were only required to pay for the Monsanto technology at the initial purchase of the GM seeds. In response to the dispute, Monsanto announced that it would no longer launch future soybean technologies in Argentina.

UPDATES: 23 Jun 2016: UPDATE 1-Argentina reaches agreement over inspection of Monsanto soy. (Reuters)

18 May 2016: SAM:Monsanto suspends Argentina soybean tech. (AAP NEWSFEED)

12 Feb 2016: Argentine farmers take Monsanto seed complaint to regulators. (Reuters)

Source: 23 Jun 2016_Reuters

Date: April 2016
Assessment: Moderate
Status: Ongoing

GM Cotton Banned in Burkina Faso Due to Short Fiber Length

Burkina Faso announced that it would phase out Monsanto's genetically modified cotton by 2018 because the length of cotton fibers it produced were too short. The national cotton farmers' union, along with three cotton companies, filed a XOF 48 billion (USD 82 million) compensation claim against Monsanto for lost harvest. Monsanto stated that it was engaged in discussions with cotton producers in Burkina Faso.

UPDATES: 22 Apr 2016: Monsanto GM cotton banned by top African producer. (DAILY NEWS (BOWLING GREEN, KENTUCKY))

Source: 22 Apr 2016_DAILY NEWS (BOWLING GREEN, KENTUCKY)

Date: March 2016**Assessment:** Moderate**Status:** Ongoing**EPA Investigation into Human Health Effects of Herbicides**

In March 2016, the EPA's Office of Inspector General announced that it would launch an investigation into the spread of superweeds and the human health impacts of the herbicides used for weed control. Among the chemicals which will be examined is glyphosate, the active ingredient of Monsanto's Roundup, whose excessive use in farms allegedly triggered the emergence of superweeds.

UPDATES: 28 Mar 2016: EPA Watchdog to Investigate Monsanto GMOs and Superweeds. (Environmental Working Group)

Source: 28 Mar 2016_Evironmental Working Group

Date: March 2016**Assessment:** Moderate**Status:** Ongoing**Monsanto Guilty of Chemical Poisoning**

In February 2012, a court in Lyon, France issued a guilty verdict against Monsanto for allegedly poisoning a French farmer. The plaintiff claimed that he had developed neurological problems after his exposure to the company's herbicide product, Lasso. The complainant also alleged that consumers were not fully informed of the dangers due to inadequate warnings on product labeling. Lasso had been banned in France since 2007. The company has declared that it will appeal the ruling

UPDATES: 07 Mar 2016: no new information available.

10 Sep 2015: French court confirms Monsanto guilty of chemical poisoning. (Reuters) A French court upheld the 2012 ruling on the chemical poisoning lawsuit against Monsanto.

11 Feb 2014: Charente "out of the question to stop" its fight against Monsanto. (Sudouest) As of January 2014, the appeal proceedings were ongoing.

Source: 10 Sep 2015_Reuters; 2012/2/13_Reuters; 2012/2/14_BBC News

Minor Controversies**Date:** March 2016**Assessment:** Minor**Status:** Ongoing**Purported Class Action over Alleged False Advertisement of Glyphosate-Containing Product**

UPDATES: 23 Mar 2016:: No new information available.

27 Aug 2015: MONSANTO CO: Removes "Mirzaie" Suit to California District Court. (CLASS ACTION REPORTER)

06 Jul 2015: MONSANTO CO: Faces False Advertising Class Action in California. (CLASS ACTION REPORTER)

Source: 27 Aug 2015_CLASS ACTION REPORTER; 06 Jul 2015_CLASS ACTION REPORTER

GOVERNANCE CONTROVERSIES**Moderate Controversies****Date:** August 2016**Assessment:** Moderate**Status:** Ongoing**India: Withdrawal of Application for Introduction of Bollgard II Roundup Ready Flex Technology**

In August 2016, Monsanto withdrew its application to introduce a new technology on genetically modified (GM) cotton seeds, named Bollgard II Roundup Ready Flex, in protest of government regulations affecting GM crops. A government body had issued a proposal that would have compelled Monsanto to share its technology with local seed companies. After a protest by Monsanto and other international seed companies, the government body withdrew the proposal. Subsequently, Monsanto formed an alliance with other international seed companies to address concerns over increased government regulation over the GM seed and food crop industry.

UPDATES: 28 Aug 2016: Global seed giants join hands against the govt's proposed regulatory mechanism. (THE TIMES OF INDIA (TOI))

25 Aug 2016: UPDATE 2-GM mustard clears hurdle in India but more remain. (Reuters)

24 Aug 2016: Exclusive: Monsanto pulls new GM cotton seed from India in protest. (Reuters)

Source: 28 Aug 2016_THE TIMES OF INDIA (TOI)

Date: June 2016**Assessment:** Moderate**Status:** Ongoing**Monsanto Challenges Moratorium on Cultivation of GMO Crops in Maui Hawaii**

In November 2014, a moratorium on the planting and cultivation of genetically modified (GM) crops in Maui County in Hawaii was approved through local referendum. GM manufacturers Monsanto and Dow Chemical opposed the ordinance and subsequently filed a lawsuit against the local government to challenge the decision. In June 2015, a Maui District Court judge struck down the GMO ban. Subsequently, three counties in Hawaii appealed the ruling.

UPDATES: 15 Jun 2016: Rules on GMO crops in Hawaii heads to US appeals court. (ASSOCIATED PRESS FINANCIAL WIRE)

01 Jul 2015: BIOTECH: Judge tosses Maui's GMO ban. (GREENWIRE) A district court judge nullified Maui County's ban on GMO cultivation, saying that the county does not have authority to enforce such an ordinance. Representatives from the local government declared that the county will abide by the ruling. Meanwhile, members of anti-GMO advocacy groups have declared the intention to appeal the court's decision.

16 Jun 2015: Maui GMO case judge focuses on county authority to regulate. (ASSOCIATED PRESS FINANCIAL WIRE)

10 Mar 2015: Federal judge considers delaying Maui GMO ban hearings. (ASSOCIATED PRESS FINANCIAL WIRE)

16 Dec 2014: Maui group wins ability to intervene in GMO case. (Associated Press State & Local)

18 Nov 2014: Washington: Monsanto, Dow Chemical File Lawsuit to Destroy Maui County's GMO Ban. (US Official News)

Source: 15 Jun 2016_ASSOCIATED PRESS FINANCIAL WIRE

Date: February 2016
Assessment: Moderate
Status: Concluded

USD 80 Million Penalty Over Accounting Violations

In February 2016, Monsanto agreed to pay USD 80 million to resolve allegations by the U.S. Securities and Exchange Commission (SEC) that it misstated its financial results over a three-year period and did not comply with accounting rules in relation to its Roundup product. According to the SEC investigation, Monsanto had inadequate internal accounting controls to account for rebates issued to distributors and retailers of Roundup. As such, the company failed to recognize the costs of the sales incentive program when it recorded revenues attributed to Roundup. As part of the settlement, the company also agreed to retain an independent consultant, while three executives also agreed to pay penalties.

UPDATES: 09 Feb 2016: Monsanto Paying \$80 Million Penalty for Accounting Violations. (U.S. Securities and Exchange Commission)

Source: 09 Feb 2016_SEC News Release

Date: February 2016
Assessment: Moderate
Status: Concluded

USD 80 Million Settlement over Alleged Accounting Violations Related to Roundup Rebates

In February 2016, the Securities and Exchange Commission (SEC) announced that Monsanto agreed to pay USD 80 million in penalties to settle charges of its alleged violation of accounting rules and misstatement of its earnings for its product, Roundup. An SEC investigation revealed that the company had insufficient internal controls to account for millions of dollars in rebates it offered to Roundup distributors and retailers. The rebates were a component of a promotion Monsanto implemented after the sales of a generic version of its product undercut its business in 2009. According to the agency, Monsanto booked substantial revenue from the scheme from 2009 to 2011 but failed to recognize the accompanying costs, which resulted in its misstatement of consolidated earnings over a three-year period.

UPDATES: 09 Feb 2016: Monsanto Paying \$80 Million Penalty for Accounting Violations. (US Securities and Exchange Commission)

Source: 09 Feb 2016_US Securities and Exchange Commission

Minor Controversies

Date: August 2016
Assessment: Minor
Status: Ongoing

Director William U. Parfet Faced Sexual Harassment Allegations

UPDATES: 09 Aug 2016: Upjohn heir will contest sexual harassment lawsuit, lawyer says KALAMAZOO. (KALAMAZOO GAZETTE (MICHIGAN))

Source: 09 Aug 2016_KALAMAZOO GAZETTE (MICHIGAN)

ISSUER COMMUNICATION SUMMARY

Company Communication Past 15 Months

Direction	Method	Category	Research Product	Date
Outgoing	E-mail	Request for information	ESG Controversies	Jun 13, 2016
Incoming	E-mail	Request for information	ESG Controversies	May 31, 2016
Outgoing	E-mail	Data Review - Report	ESG Ratings	Feb 25, 2016
Incoming	E-mail	Data Review - Feedback Provided	ESG Controversies	Feb 09, 2016
Outgoing	E-mail	Data Review - Alert	ESG Ratings	Dec 16, 2015
Incoming	Phone Call	Request for information	ESG Controversies	Dec 01, 2015
Incoming	Other	Request for information	ESG Controversies	Oct 08, 2015
Incoming	E-mail	Request for information	ESG Controversies	Sep 25, 2015
Outgoing	E-mail	Other	ESG Controversies	Sep 25, 2015

LEGEND

Direction

Outgoing: MSCI ESG Research contacts issuer.

Incoming: Query by corporate issuer.

Category

Data Review - Alert: Notification of pending annual update of ESG Rating, and invitation to engage MSCI.

Data Review - Report: MSCI ESG Research delivers report of updated ESG data

Data Review - Feedback Provided: Feedback provided to MSCI ESG Research.

Request for Information: Issuer inquiries; MSCI ESG Research queries.

Published Report Sent: MSCI ESG Research delivers issuers' ESG product report that is posted to the MSCI ESG Manager platform.

Other: Issuer notified of custom projects; Miscellaneous queries.



Corporate Governance Details

Included in this section is the MSCI ESG GovernanceMetrics report, providing in-depth corporate governance data and analysis

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