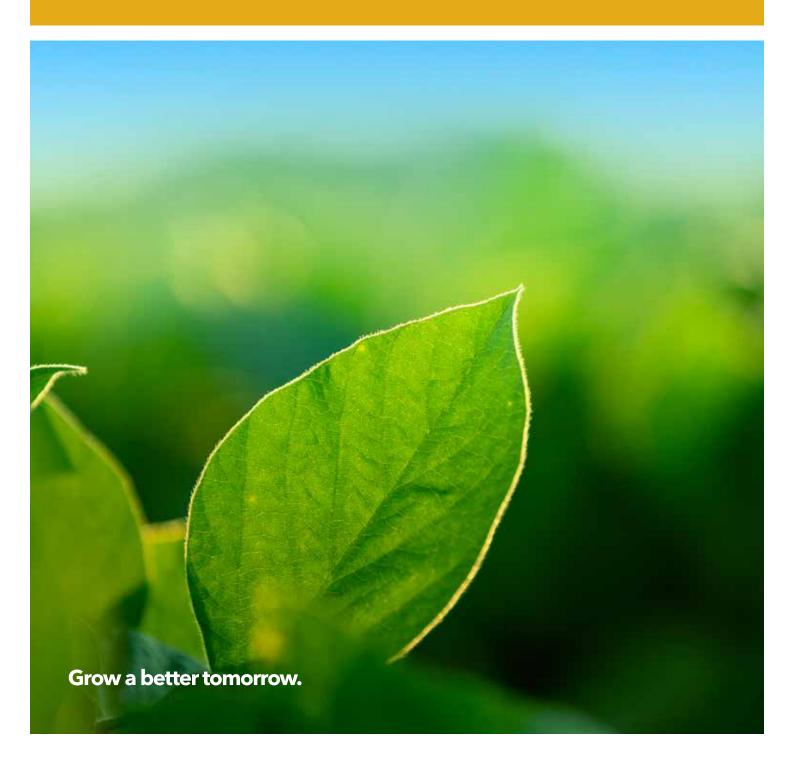


### SUSTAINABILITY REPORT 2014



# Nufarm's vision is to be a world leader in innovative crop protection and seed technology solutions.

### **ABOUT THIS REPORT**

This report, prepared by Nufarm Limited, provides information relating to our sustainability practices and performance for the 2013 calendar year. It reports on a range of sustainability parameters and activities including health, safety, environment, our people, practices and community relations.

The health and safety data includes permanent and casual employees as well as contractors with data collected from Nufarm manufacturing sites, offices and regional service centres. As yet, it does not include data from eight offices in Asia and South America. Targets set by the Nufarm board have been included.

Environmental data is provided by our manufacturing plants and summarised for this report.

Our financial performance and detail about corporate governance are provided in our annual and half yearly reports which are also available on our website: nufarm.com

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### **ABOUT US - OVERVIEW OF OPERATIONS**

Nufarm Limited is a crop protection and seed technologies business. It is listed on the Australian Stock Exchange. We employ more than 3,400 people, across all continents, in more than 25 countries.

### **Crop protection**

Nufarm is a manufacturer, distributor and marketer of crop protection chemicals. These products help farmers protect their crops against weeds, pests and disease and assist them to improve farm yields. We are the eighth largest crop protection company in the world, with a clear leadership position in Australia and substantial operations in North and South America, Europe, New Zealand and Asia.

The company holds more than 2,000 product registrations, and markets products in more than 100 countries around the world.

### **Seed technologies**

Nufarm has diversified into the seeds market via its wholly owned subsidiary Nuseed and has a growing presence in the seed treatment segment.

Nuseed is focused on enhancing food and feed value through seed technology and has developed proprietary canola, sunflower and sorghum products that are marketed in over 30 countries.

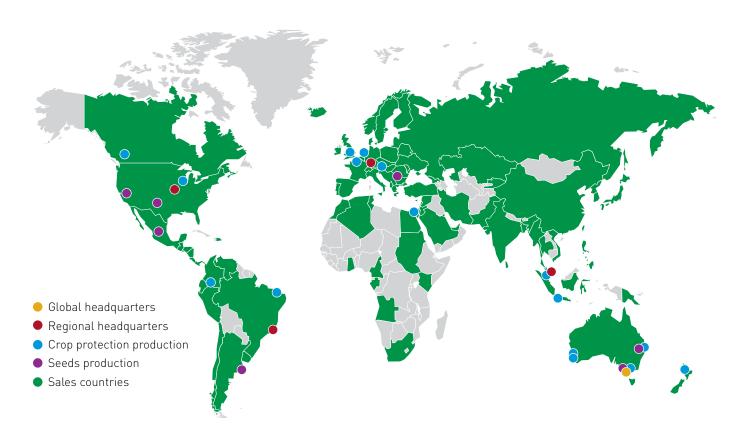
Our seed treatment goal is to bring innovation and differentiation to the market via formulations, mixtures, partnerships and new technologies.

### Strategic alliances

The company has strategic alliances with a number of major agricultural and chemical companies. These alliances involve joint marketing rights to particular products, research and development collaborations and manufacturing joint ventures.

### **Our locations**

The global head office is located in Laverton in Victoria, Australia which is also the site of our largest manufacturing plant. Including Australia, Nufarm has manufacturing facilities in 16 countries across the world.



### **ABOUT US - OVERVIEW OF OPERATIONS CONTINUED**

### Mission, values and vision

At Nufarm our mission, vision and core values shape everything we do.

### Our mission is to grow a better tomorrow.

Our vision is to be a world leader in innovative crop protection and seed technology solutions.

Our core values are:

- Responsibility: We are accountable for our decisions and our actions.
   We recognise that trust is at the foundation of relationships and that acting ethically, safely and responsibly creates that trust.
- Agility: We are resourceful and adaptable in meeting the needs of our customers and our organisation.
- Respect: We respect others –
  colleagues, customers and
  stakeholders and our environment.
   We care for all of our resources.
- Empowerment: We are an innovative, entrepreneurial organisation where individuals and teams can do what is best for the customer, the organisation and our stakeholders.

### Strategic direction

Nufarm is implementing a strategic growth plan with a strong focus on innovation and discipline. We are seeking to enhance the value of our core chemistry positions, while growing faster into higher value product and market segments that are more defendable.

Our regional strategies focus on supporting clearly defined product and market segments. This is done via both new and existing product offerings that are developed to suit local conditions.

In 2013, the company implemented a number of business improvement programs aimed at achieving efficiencies in many areas of the business. These included the introduction of Integrated Business Planning (IBP) across our major regional operations.

### **Economic impact**

Our financial results are released annually and reflect the period 1 August to 31 July. We also release our half yearly results for the period 1 August to 31 January. These reports can be found on our website.

Our impact on, and contribution to, the economy is more significant than our financial performance. Our contribution in Australia and internationally includes both direct and indirect employment, support of farming practices to improve efficiency and productivity, the support of local suppliers, capital investment programs, payment of taxes and contribution to local communities.

### Sustainability at Nufarm

Nufarm works in an industry where sustainability principles are entrenched. As a company engaged in the development, production and supply of inputs to agriculture, we see sustainability as an overarching business principle that generates value by delivering solutions and providing environmental benefits.

This is demonstrated by our commitment to programs such as Responsible Care®, an initiative of the International Council of Chemical Associations (ICCA), which is supported and managed by regional chemical associations.

The program aims to improve the health, safety and environmental (HS&E) performance of supporting companies and increase community involvement and awareness of the industry. It supports product stewardship, employee management, business and supply chain partners, and external stakeholders. Responsible Care allows the industry to demonstrate continuous HS&E improvement to the community, customers and government which view commitment to the program as an important component of maintaining a licence to operate.

In Australia, Nufarm is a founding member and signatory to Responsible Care and the Sustainability Leadership Framework through the Plastics and Chemical Industry Association (PACIA). While the Framework is specific to our Australian operations, we believe its overarching direction is applicable to all aspects of our business. We are also a signatory to Responsible Care in a number of other countries, including Brazil, Colombia, Indonesia and the United Kingdom.



NUFARM WORKS IN AN INDUSTRY WHERE SUSTAINABILITY PRINCIPLES ARE ENTRENCHED.

### MANAGING DIRECTOR'S MESSAGE

Agriculture relies on sustainable production systems and – as a key supplier of necessary inputs into agricultural production – Nufarm strives to ensure our operations and products meet appropriate sustainability objectives and standards.

This report outlines Nufarm's performance across a range of sustainability parameters and outlines initiatives we are taking to improve that performance.

It is pleasing to report improved outcomes in 2013 on important safety and environmental measurements, but we believe we can do better. The company is making a significant investment, both in terms of capital and resources, to achieve further improvements and we have restated our commitment to work towards a zero target for safety-related incidents in our workplaces.

Nufarm's growth strategy is built on the two pillars of innovation and discipline. Both of these principles have a strong enabling role in helping us to meet our sustainability objectives.

We are actively encouraging innovative thinking across all areas of our business. While the outcomes of this process are often most noticeable in the form of new products, we have also successfully applied innovative thinking to achieve safer working environments; reductions in emissions and waste; and more sustainable operations generally.

Increased discipline is also vital to ensure we have the right processes and structures in place and that we are measuring and managing our business in a way that allows us to be accountable for our performance.

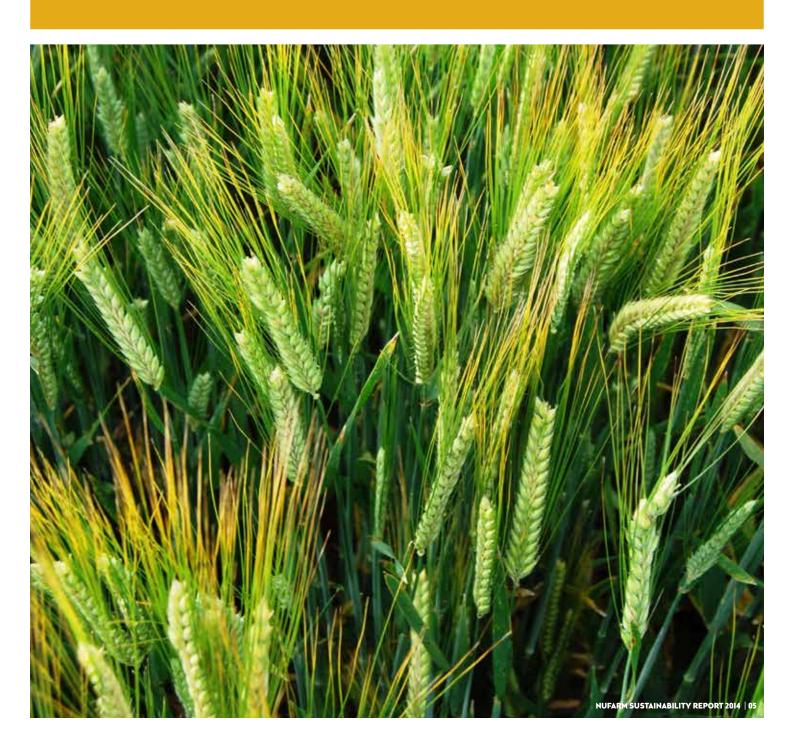
Nufarm operates in many markets and in many communities around the world. Our success is tied to a commitment to generate value on a sustainable basis.

'This report outlines
Nufarm's performance
across a range of
sustainability
parameters and
outlines initiatives we
are taking to improve
that performance.'

**Doug Rathbone AM**Managing director
Nufarm Limited



### WE ARE ACTIVELY ENCOURAGING INNOVATIVE THINKING ACROSS ALL AREAS OF OUR BUSINESS.



### GOVERNANCE

Nufarm is committed to the highest standards of corporate governance and has a range of policies and procedures in place to support this aim. Details of board committees and their terms of reference, and other corporate policies and protocols can be found in the governance section of our website. Nufarm is listed on the Australian Stock Exchange (ASX) and we comply with the ASX Corporate Governance Principles and Recommendations.

### **Board of directors**

Nufarm's board of directors has overall responsibility for corporate governance.

The board charter clearly defines individual and collective responsibilities, including its mandate to oversee the company's operations and ensure Nufarm operates in the best interest of all shareholders and with proper regard to the interest of all stakeholders. Board members are selected based on their experience and skills to ensure the board properly discharges its responsibilities.

The board reviews its composition and terms of reference annually. It also evaluates the performance and determines remuneration of the managing director and senior executives.

All members of the board are non-executive directors, except Doug Rathbone who also holds the position of managing director and chief executive.

### **Board committees**

The board is supported by four committees; the audit and risk committee, the nomination and governance committee, the human resources committee, and the health, safety and environment committee.

### Conflict of interest

Board members must identify any conflict of interest they may have in dealing with the company's affairs and then refrain from participating in any discussion or voting on these matters. Directors and senior executives must disclose any related party transaction in writing.

### Code of conduct

Nufarm seeks to conduct its business in a manner which recognises and adheres to all relevant laws and regulations and meets high standards with respect to honesty and integrity. We require all Nufarm directors, employees, contractors and consultants to be familiar with and uphold the company's code of conduct in all business dealings. While a number of specific and detailed policies have been implemented, the Nufarm code of conduct broadly encompasses the following values:

- respect for the law and company policies;
- respect for others;
- integrity;
- diligence;
- personal use of property;
- health and safety; and
- diversity.



Donald McGauchie AO Chairman Joined 2003



Doug Rathbone AM
Managing director
Joined 1987



Anne Brennan Joined 2011



Gordon Davies

Nufarm operates in many countries and does so in accordance with the social and cultural beliefs of each country.

We are politically impartial except where the board believes it is necessary to comment due to any perceived major impact on the company, its business or any of its stakeholders.

We require directors, senior executives and all employees to adopt standards of business conduct that are ethical and in compliance with all legislation.

### Other policies

Where there are no legislative requirements with which to comply, we develop policy statements to support the code of conduct and ensure appropriate standards are met. These policies include the communications policy, diversity policy, security trading policy and continuous disclosure protocol.

### **Risk management**

The board is committed to identifying, assessing, monitoring and managing its material business risks.

Nufarm's risk management policies and procedures are designed to enable effective and appropriate management of material risks. Each year the board undertakes a comprehensive review of the material risks faced by the company. In so doing, it considers the interests of all relevant stakeholders.

The company recognises a number of operational risks related to its crop protection business including:

- climate conditions and seasonality;
- regulatory, freedom to operate, product registration, product use and business sustainability;
- relationships with key suppliers and customers; and
- licences and operating permits for manufacturing facilities.

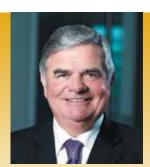
### **Memberships**

Nufarm is a member of the Plastics and Chemicals Industry Association (PACIA), a national body representing Australia's chemical industry. Its members include chemical manufacturers, importers and distributors, logistics and supply chain partners, raw material suppliers, plastics fabricators and compounders, chemicals and plastics recyclers and industry service providers.

Nufarm's group executive, operations, Elbert Prado, is a member of the PACIA board. We also have representatives on the PACIA regulatory council, and economics and trade council. Nufarm is a member of Responsible Care, a global, voluntary initiative developed by the chemical industry that operates in 52 countries. Signatory chemical companies commit to improve their performance in environmental protection, occupational safety and health protection, plant safety, product stewardship, logistics and stakeholder engagement.

The Sustainable Agriculture Initiative (SAI) platform is an initiative aimed at contributing to the development of sustainable agriculture. The Australian Chapter is affiliated with the Global SAI Platform, which was founded 10 years ago in Europe as the main food industry initiative supporting the development of sustainable agriculture worldwide. As an SAI Platform member, Nufarm shares a common vision to enhance agricultural sustainability and impart those benefits along the full supply chain, for the benefit of Australian communities.

We also participate in chemical industry associations in a number of countries and other associations such as CropLife.



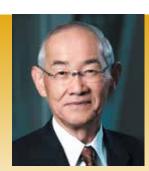
Frank Ford Joined 2012



**Dr Bruce Goodfellow** Joined 1991



Peter Margin Joined 2011



Toshikazu Takasaki Joined 2012

### INNOVATION

Innovation is a key theme of Nufarm's corporate strategy and is reflective of the evolution of our business. Our strategy talks about 'being innovative in everything we do'.

We develop, manufacture and market innovative and differentiated crop protection products in every key market around the world. While we do not discover new chemical molecules, we invest in the development of new mixtures and formulations; improved delivery systems; innovative packaging; and other improvements that add value for our customers.

Our efforts typically involve developing safer, healthier and more efficient formulations and applications. This may be finding ways to reduce the quantity of active ingredient in a product through using an alternative solvent or introducing slow release technology.

In other instances we may look at increasing the concentration of an active ingredient in order to reduce volume. This has positive impacts on the supply chain with less warehousing space needed and reduced transport deliveries which in turn reduces greenhouse emissions.

Product innovation may also focus on improving the health and safety benefits of products. This was the driver of our unique Sorbie technology which is used to manufacture a blank water dispersible granule, which is then infused with a liquid active ingredient to form a solid emulsifiable concentrate. There are a number of benefits of this granular technology, but most importantly, it means that the product is easier to control and disperse and therefore less hazardous for operators.

### **Nuseed Innovation Centres**

Nuseed, a wholly owned subsidiary of Nufarm, is a global seed company focused on improving food and feed value through enhancing the value of three crop types – canola, sorghum and sunflower – by developing seeds with improved performance and higher downstream value. Nuseed's research and innovation efforts are focused on creating better food, feed and fuel solutions around the world.

As part of ensuring speed and efficiency in our development processes, Nuseed opened its first Innovation Centre at Horsham, Australia in October 2013. A second Innovation Centre was also opened in Davis, United States during the reporting period.

These facilities provide a step change in our research capabilities with state-of-the-art molecular research and trait advancement capabilities. Dedicated communication channels between the two locations allow for fast and efficient data transfer to maximise our ability to use different analysis techniques, share results and access expertise. This connection of the two sites ensures that the most appropriate equipment can be used and knowledgeable assessment and analysis can be completed, regardless of the sample location.

The goal of the Innovation Centres is to support product development and breeding programs, ensuring a strong pipeline of elite hybrid seeds that improve yields and deliver significant downstream value to farmers, processors and consumers.

Further developments are planned for the Davis facility to develop a purposebuilt facility to better meet the current and future needs of Nuseed's business.

### Long-chain omega-3 canola

The research collaboration between Nuseed, the Commonwealth Scientific & Industrial Research Organisation (CSIRO) and the Australian Grains Research & Development Corporation (GRDC) continues its work to develop a genetically modified canola to provide a sustainable, renewable and reliable source of high-quality DHA omega-3 oil for human consumption.

Long-chain omega-3 fatty acids are necessary for human health and have traditionally been obtained by eating wild fish. With increasing demand on global ocean fish supplies, access to high-quality long-chain omega-3 is under pressure.

Land plant-based production via canola is a sustainable, renewable and therefore long term solution to the growing demand for long-chain omega-3 oils. Every hectare of long-chain omega-3 canola is expected to produce an amount of oil equivalent to that produced by 10,000 one-kilogram fish.

In 2013, progress was made towards initiating small-scale field trials under strictly controlled conditions that comply with regulatory requirements.

At Nufarm, we define innovation as being different, better, faster, right.

Our approach to innovation means thinking about and doing things in a different way; taking an alternate approach to solving problems and challenging our thinking.

We are always looking for a better way to deliver our products and services. It is one thing to be different, but we also need to be better in the way we do things.

And because we work in a competitive industry where other companies are also thinking about how to improve their businesses, we need to be faster. Finding ways to overcome obstacles and shorten time frames gives us the opportunity to capture the value of what we do as soon as possible.

Finally – and very importantly – we think innovation is about doing it right. We don't want to compromise the quality of our efforts. Attention to detail, appropriate checks and consultation are all important in making sure that when we set out to be innovative, we always get it right.

These clear innovation goals are relevant for all our teams, wherever we work and whatever we do.

The collaboration anticipates being ready for commercial production in 2018.

### Chemical team collaboration

In September 2013, Nufarm took the opportunity to assemble more than 50 of our chemistry team members to address four critical business objectives:

- 1. Ensure that our formulations are zero-defect.
- 2. Improve our speed to market.
- Improve our performance when taking a formulation from the lab into manufacturing production.
- Improve the way we approach product innovation.

This week-long event was the first time the group had been brought together in this way to address business development and improvement.

Cross-regional teams reviewed regional approaches to formulation development, analytical standards and transfer-to-manufacturing, with the aim of developing standardised global approaches for use across the business.

Working groups with representatives from each region have been established to progress the conference's initial ideas through to implementation. It is anticipated that most of the detailed design and trial work will be completed within a year of the conference.

### WEEDit weed targeting

Croplands, our spray equipment business in Australia, launched its WEEDit machinery range in 2013.

Designed to help combat summer weeds and retain soil moisture in low rainfall cropping areas, WEEDit uses near infrared cameras to detect and spray individual weeds and not bare ground.

Depending on machine configuration, it can be used for summer weed control or in-fallow, as well as single pass pre-emergent and knockdown spray applications. Farmers use less chemical, increase cost effectiveness, make fewer passes and therefore have the ability to minimise soil compaction. This high return on investment supports the use of more expensive chemicals and mixtures to help combat weed resistance, that were previously not economical.

WEEDit equipment can be used in full sunlight through to complete darkness and does not require recalibration for changes in light intensity or soil type and colour. Machines are carefully designed to maintain optimal height above the ground to ensure the camera stays in focus to optimise weed detection and nozzle angle efficiency.

The Chicago Heights team in the Unites States initiated the use of personal protective equipment (PPE) vending machines. Previously, to help manage cost and supply, supervisors were dispensing PPE from locked cabinets. This was a poor use of supervisor time and inconvenient for operators, raising concerns about being able to access the correct equipment when needed. An interdepartmental team sourced a vendor to supply and stock vending machines, which staff can access at any time using their security access cards.

Nufarm has continued to dedicate resources towards stewardship aimed at improving drift management techniques. Platforms such as the Spraywise® suite of educational programs; CottonMap cotton field awareness initiative developed in conjunction with industry in Australia; and Croplands' nozzle selection and adjuvant information encourage safe crop protection application.





OUR CUSTOMERS AND SUPPLIERS PROVIDE IMPORTANT FEEDBACK ON HOW WE CAN IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF OUR BUSINESS.



### ENGAGING OUR STAKEHOLDERS

Nufarm operates its businesses with the involvement, support and interaction of a range of stakeholders. These include our employees, customers, suppliers, the local communities in which we operate, government regulators, and shareholders. We seek to ensure that these stakeholders are properly informed and we place a high priority on responding to feedback, questions or concerns.

While the majority of these interactions are conducted at a business and/or regional and country level, and are managed by the business units concerned, our code of conduct provides an overarching set of values in respect of how we deal with our own people and with people and organisations outside of the company. All of our business units are required to adhere to the principles outlined in the code of conduct. This code is supported by a number of specific corporate policies which also govern the company as a whole.

This report includes details and examples of how Nufarm engages important stakeholders including our own people and the communities in which our operations are based. Further information is available in the Our People and Community Engagement sections of this report.

Our customers and suppliers provide important feedback on how we can improve the efficiency and effectiveness of our business. We regularly communicate with the end users of our products to ensure we are meeting their needs and expectations by developing and bringing to market innovative crop protection and seed products, and supporting those products with a professional service and information and training on how to use Nufarm products safely.

We operate in a highly regulated industry and maintain regular contact and communication with a range of government authorities, both directly and via various industry associations to which we belong. We have a strong commitment to comply with all government standards, licences and other requirements in relation to both the operation of our manufacturing facilities and the registration and use of our products.

Nufarm is committed to timely, open and effective communications with its shareholders and the general investment community. We have adopted a shareholder communications policy aimed at:

- ensuring that shareholders and the financial markets are provided with full and timely information about our activities;
- complying with continuous disclosure obligations contained in applicable Listing Rules and the Corporations Act in Australia as well as industry guidelines such as the Australasian Investor Relations Associations' Best Practice Guidelines for Communication between Listed Entities and the Investment Community;
- ensuring equality of access to briefings, presentations and meetings for shareholders, analysts and media; and
- encouraging attendance and voting at shareholder meetings.

Management remains accessible to shareholders, analysts, fund managers and others with a potential interest in the company.

'Nufarm is committed to timely, open and effective communications with its shareholders and the general investment community.'

### ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

At Nufarm we are committed to managing environmental impacts at all our sites. As detailed in our health, safety and environmental policy, one key focus is on protecting the environment. The policy sets out key requirements for all sites regarding regulatory compliance, monitoring of effluent and emissions, recording and reporting of environmental incidents, audit and waste management and contamination management.

All of our sites have environmental management systems in place, in varying degrees of complexity and development. Some of the sites have formalised ISO14001 accredited systems, but most do not. The management systems and performance against them are checked annually during detailed audits carried out by the group HSE manager to ensure consistent application of Nufarm requirements across the business. The systems may vary across the Nufarm group mainly due to the vast differences in the complexity of operations. Nufarm policy requires sites to meet local environmental regulations and/or Nufarm standards, whichever is more stringent.

In 2013 our environmental expenditure was A\$7.1 million.

The following sections detail our 2013 environmental performance across our key manufacturing sites according to five key impact areas:

- compliance and complaints;
- · energy and greenhouse gas;
- · air emissions;
- water; and
- waste.

We have included key issues from some sites to provide context and improved understanding.

### **Compliance and complaints**

Each country in which we operate has different regulatory requirements and we establish site-specific environmental management systems to ensure our compliance.

For example, our site at Wyke in the United Kingdom operates a fully integrated Health, Safety, Environmental and Quality Management System that is registered to BS EN ISO14001:2004 and BS EN ISO 9001:2008 Standards. Our site in France is also ISO 14001 certified and the Botlek site holds ISO accreditation as well (OHSAS 18001). In New Zealand the site processes meet the strict standards of our Location Test Certificate, which is a requirement of the NZ Environmental Resource Management Agency (ERMA).

### Compliance testing

Nufarm undertakes environmental compliance testing and reporting at almost all sites. Where there are standards against which to measure compliance, we measure emissions from air, water and effluents sent offsite for treatment (e.g. sewage) which includes discharge from scrubbers and (in some cases) fugitive emissions.

In 2013, 98.9 per cent of our tests were compliant.

'Each country in which we operate has different regulatory requirements and we establish site-specific environmental management systems to ensure our compliance.'

### Complaints

As part of our compliance program we keep a record of all complaints, most of which relate to odour or noise. As some materials we handle are odorous, especially insecticides, we aim to ensure the areas where these materials are handled or used are well ventilated and any extracted air is treated to remove odorous components. In 2013 there were six complaints which, following investigation, indicated Nufarm as the likely source. Of these complaints, two were from Botlek in the Netherlands, with one each for Kwinana and Laverton in Australia, Linz in Austria, and Wyke in the United Kingdom.

### **Energy and greenhouse gas**

Total greenhouse emissions decreased in 2013 compared with the previous year, due to changes in production volumes and product mix at various sites. Emissions per tonne of production remained consistent.

Across our sites, most of the fuel used comprised natural gas which is consumed across a variety of processes such as:

- heating at Calgary, Chicago and Gennevilliers;
- · co-generation at Gaillon and Wyke;
- heating boilers at Kwinana and Laverton; and
- running granules production at Otahuhu and Welshpool.

Fuel is also consumed as diesel and liquid petroleum gas (LPG) for mobile plant at most sites.

We continue to focus on reducing energy use across all our sites. Compared with many chemical companies, we are a relatively moderate energy user. Energy use is impacted by production volume and the product mix.

The majority of greenhouse gas is generated from electricity and gas used in the production process. Some sites also emit  $\mathrm{CO}_2$  directly from chemical processes are included in the data reflected in Figure 3.

While CO<sub>2</sub> emissions for most sites remained generally consistent, there were some reductions at Laverton, Wyke and Botlek sites following concerted efforts by these teams.

The major greenhouse emitter is our Laverton manufacturing plant, followed by Wyke which generates a little over half the emissions of Laverton.

Chlorine production at Laverton is the most energy intensive process onsite. Preliminary work assessing potential cost and energy savings of re-engineering efficiencies has been undertaken, with further assessment and review to continue over the coming year across this and other sites.

The Laverton site decreased their electricity (6.8 per cent) and gas (3.7 per cent) volumes. Completion of the boiler control room upgrade contributed to this reduction and is expected to yield further savings in 2014 as optimisation continues. Site-wide energy-saving practices also contributed, included a lighting trial to assess LED, induction and fluorescence illumination.

Our Malaysian and Indonesian teams also looked at energy savings in areas such as replacing lighting at the Malaysian site with energy saving bulbs.

Figure 1: Compliance testing

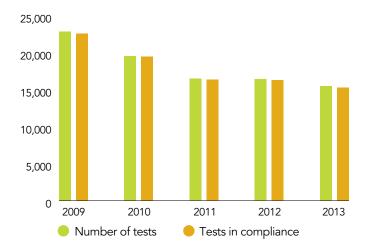
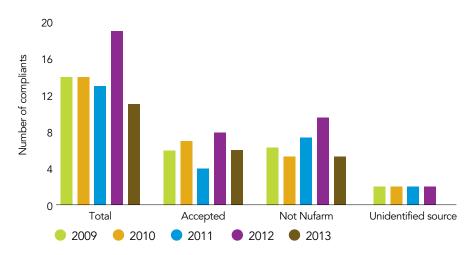


Figure 2: Global complaints



'We continue to focus on reducing energy use across all our sites. Compared with many chemical companies, we are a relatively moderate energy user. Energy use is impacted by production volume and the product mix.'

### ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

### **CONTINUED**

Wyke's results were lower than those recorded in 2012 although the site continued to experience higher production levels and product mix changes compared with their traditional activity levels. Production volumes at Wyke have more than doubled in the past five years; overall energy use and greenhouse emissions have remained at consistent levels.

This has been achieved through a number of initiatives including a focus on managing steam implemented in 2012, whereby changing the operating conditions on one of the distillation columns created a steam saving of 32.5 tonnes per week.

### Air emissions

Air emissions result from our processes. We work to minimise emissions and their impact. Emissions vary depending on production volumes and the product mix.

Some emissions such as carbon monoxide (CO), sulphur oxides (SOx) and particulates are calculated from energy use, based on published emissions factors. This also applies to nitrogen oxides (NOx) emissions at all sites with one exception. In Wyke in the United Kingdom, nitration reactions are carried out and there is some recovery of NOx. The site also has continuous NOx measurements on its stacks.

CO, NOx and SOx are mostly calculated from factors published for various combustion processes. Our Wyke operation carries out direct measurements. The continued high levels in CO for 2013, although down on the previous year, was due to a faulty burner in the co-generation plant (CHP) which was fixed part way through the reporting period. Variations in NOx over the years are due to the difficulty in accurate measurements of discharge concentrations on the same CHP plant. The major decrease in VOC in 2010 was due to cessation of synthesis processes in Gaillon at the end of 2009.

Figure 3: CO<sub>2</sub> emissions from energy use and processes

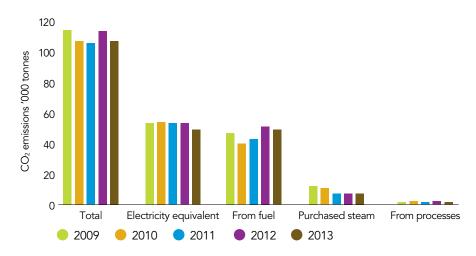


Figure 4: CO<sub>2</sub> emissions per tonne of production

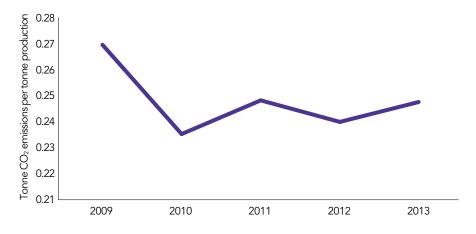
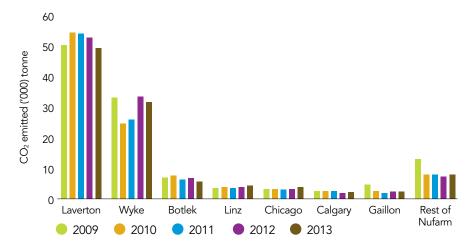


Figure 5: Major CO<sub>2</sub> emitters by site



### Water

Water is used in most of our production processes. The amount of water used and waste water generated is directly impacted by production volumes and the product mix. We aim to reduce the amount of water we use and also the amount of waste water created.

To ensure mains water supply is conserved many of our sites collect rain water run-off, treat it if necessary, and use it to irrigate our gardens.

For example, the Laverton site constructed a system, to harvest stormwater from a large section of the site housing returnable containers. Under the guidance of the local water board, other stormwater harvesting options are being explored including the use of a tributary which runs through the site. Volume calculations and determination of fit-for-purpose uses have been undertaken which will enable alternate water sources to be used within operations rather than discharging to trade waste.

Our sites in the United States also redesigned their water recycling systems to add another 114,000 litres for the storage of recovered and recycled water and rainwater. The captured water is used in a number of ways including product manufacturing.

Activities also took place at other sites across 2013, including projects at Laverton, in Australia, to introduce a stormwater harvesting system, as well as implement a solvent extraction plant. These increased the efficiency of potable water use at the site.

Many other sites have ongoing activities or are investigating ways to recycle, harvest and better utilise water in our systems and processes.

Table 1: Air emisions (kg)

	2009	2010	2011	2012	2013
СО	13,150	10,362	12,636	53,825	39,367
Freon	105	300	202	140	600
Herbicides	435	510	513	719	637
Inorganics	140	54	67	60	64
NOx	142,032	100,213	150,010	176,251	126,443
Particulates	2,087	1,828	1,651	1,502	599
Phenolics	631	12.4	5.9	27.0	8.2
SOx	1,724	1,395	1,101	930	741
VOC	117,923	25,211	22,466	28,323	25,365
Total	278,227	139,885	188,652	261,777	193,824

Figure 6: Water use per tonne production



### Waste

We have programs at each site to minimise waste generation. Where possible we aim to recycle or re-use waste.

Total waste decreased slightly in 2013 compared with 2012. While most waste streams were largely consistent with the previous year, there was again slightly higher salt waste because of continued increased production of phenoxy herbicides.

Salty effluent is produced as a direct consequence of our chlorination processes. This salty effluent contains organic material and cannot be discharged directly to the environment.

The effluent is mostly treated in sewerage plants to biologically remove the organics before the salt is released into natural water bodies. The waste discharged to deep well is almost entirely salt.

The amount of salt discharged to deep well in Kwinana has decreased from 288 tonnes in 2012 to 118 in 2013 due to the cessation of trifluralin manufacture during 2013. This volume should now decrease to almost zero.

Other wastes include inorganics, clean solids, organics, chlorinated, drums, regulated solids and agricultural. The majority of waste goes to sewage treatment followed by recycling, energy recovery, landfill, surface water, deep well and industrial treatment.

### **ENVIRONMENTAL MANAGEMENT AND PERFORMANCE**

### CONTINUED

At many of our sites a waste management system captures the nature and quantity of waste produced onsite and tracks it through to recycling or disposal. Waste generated per tonne of production has remained consistent.

We continue to work towards further reducing waste generation from manufacturing processes. Disposal of packaging such as empty raw material containers (drums and bags) can contribute huge volumes to land fill. Each site makes every effort to clean waste packaging and find recycling opportunities.

For example, our Laverton site in Australia now triple rinse glyphosate bulk bags in process so they are able to be recycled rather than directed to landfill. The active materials are rinsed directly into the formulation vessel rather than using other disposal avenues. The site plans to extend this process to other bulk bag products.

Our Asian teams also implemented a recycling program, working with the local environment agencies, whereby approximately 140,000 kg of metal drums used for raw materials and 12,000 kg of packaging waste was recycled. The Indonesian team also recycled 10,500 kg of metal drums in 2013.

Every attempt is made to reduce waste by recycling plastic, cardboard and wood wherever possible. Wastes requiring disposal consist of empty packaging from raw materials received, used filters, debris, and safety equipment from the formulation and packaging operations.

The United States business made significant reduction to the carbon footprint by switching from truck-only to intermodal (truck and rail) shipping on several of their major routes, utilising rail's far greater efficiency over longer hauls.

Figure 7: Waste per tonne production (excluding salt)

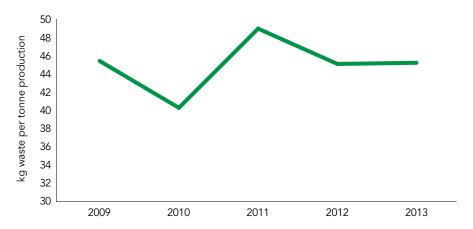


Figure 8: Waste management destination

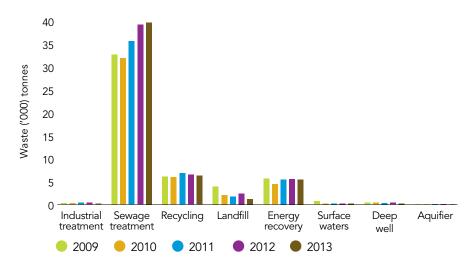
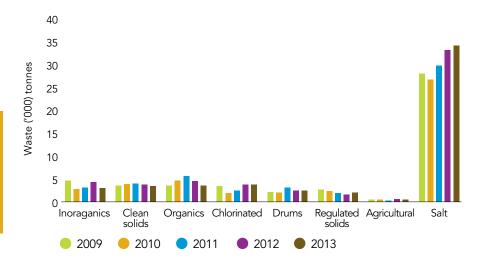


Figure 9: Total waste by category





## WE CONTINUE TO WORK TOWARDS FURTHER REDUCING WASTE GENERATION FROM MANUFACTURING PROCESSES.



### **HEALTH AND SAFETY**

We place a high priority on safeguarding the health and safety of our employees. Our health, safety and environment (HS&E) policy is a public statement of Nufarm's commitment to HS&E, and is a statement of the standards expected of Nufarm's employees.

A number of Nufarm plants operate under strict regulations including Seveso II in Europe and Major Hazard Facilities in Australia. Such sites need to prepare a safety case which provides evidence that the site's systems and procedures are adequate for safe operation. The safety case is regularly reviewed by authorities and requires a new and full review and submission every five years.

Early in 2013 we issued new global Corporate Guiding Principles to promote alignment of best practice and implement common operating principles. The Principles operate within a continuous improvement framework as part of a structured and systematic approach to Process Safety Management (PSM) across our manufacturing base.

Overall, our 2013 health and safety performance improved on our 2012 results.

The Nufarm board sets target limits for lost time injuries (LTI), medical treatment injuries (MTI) and severity, requiring 15 per cent improvement year on year. In 2013 we failed to meet these targets. Efforts are continuing to improve safe working conditions and ensure our health, safety and environment policy and procedures are followed at all times.

### Lost time injuries

Nufarm defines lost time injuries as those that result in loss of working time of at least one full shift. We operate from the premise that all lost time injuries are preventable.

Nufarm's overall LTIFR in 2013 was 1.16, which is higher than our target of <1, but an improvement compared to 2.24 in 2012. The eight lost time injuries suffered in 2013 were spread over eight separate sites. This was an improvement on the 15 LTIs recorded in 2012, although two of the injuries

Figure 10: Nufarm global MTIFR and LTIFR

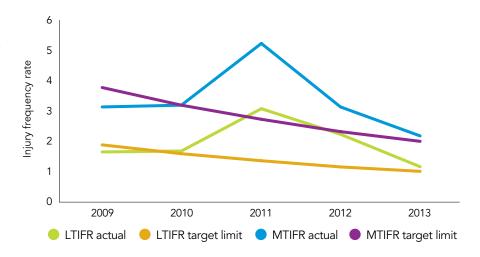


Table 2: Lost time injury frequency rate (LTIFR)

	2009	2010	2011	2012	2013
Australia	2.15	1.32	4.95	4.19	2.29
Europe	2.63	3.46	2.48	3.62	1.04
North America	0	0	3.27	1.51	0
NZ & Croplands	3.60	0	0	3.20	0
South East Asia	0	0.99	0	0	1.57
South America	0.82	0.95	5.69	0	0.76
Global	1.64	1.68	3.08	2.24	1.16
Target	<1.89	<1.60	<1.36	<1.16	<1.00

Table 3: Medical treatment injury frequency rate (MTIFR)

	2009	2010	2011	2012	2013
Australia	7.18	5.29	8.48	7.68	3.81
Europe	3.51	4.94	3.47	4.14	2.07
North America	1.55	1.48	4.90	1.51	1.36
NZ & Croplands	3.60	0	15.75	3.20	6.40
South East Asia	0	0.99	0.92	0	1.57
South America	0.82	0.95	5.69	0	0.76
Global	3.13	3.20	5.23	3.14	2.18
Target	<3.77	<3.21	<2.72	<2.31	<2.00

were extremely severe; one resulting in the death of an Indonesian colleague in a traffic accident, and the lengthy continuing recovery of a Linz team member who accidentally opened a valve containing corrosive material which sprayed onto his face and into his lungs.

The causes of the other injuries in 2013 were a foreign object in someone's eye, two strains due to lifting objects and three slips or trips.

All of these injuries were preventable.

Table 4: Severity rate

	2009	2010	2011	2012	2013
Australia	0.014	0.006	0.021	0.029	0.012
Europe	0.033	0.032	0.116	0.073	0.054
North America	0	0	0.072	0.003	0
NZ & Croplands	0.011	0	0	0.013	0
South East Asia	0	0.005	0	0	0.004
South America	0.007	0.002	0.028	0	0.001
Global	0.016	0.012	0.052	0.028	0.018
Target	<0.022	<0.019	<0.016	<0.014	<0.012

In 2013, 33 locations worked for the entire year without any injury sufficiently severe to require an absence from work of one or more days. Safety awards are presented to sites that have achieved 200,000 hours free of lost time injury, with small sites achieving an award if they have worked for five years without serious injury.

A number of our manufacturing sites have operated for five years or more without a lost time injury, including Botlek in the Netherlands, Calgary in Canada and Lytton in Australia.

### Medical treatment injuries

Medical treatment injuries include all injuries that result in loss of time as well as those that require treatment by a qualified medical practitioner (excluding those that are of a diagnostic or precautionary nature only). Those injuries that could be treated by a person trained in first aid or a qualified nurse are not considered medical treatment injuries.

In 2013 there were 15 medical treatment injuries, seven of which did not involve loss of working days.

### **Severity**

Severity is a measure of the seriousness of the injuries that resulted in loss of working days (severity rate = days lost per thousand hours worked). Our global performance improved in 2013, with a fall in severity to 0.018 from 0.028 in 2012.



The Canadian business runs an annual competition aimed at raising internal awareness and fostering new attitudes and behaviours toward safety, whereby staff submit a safety slogan which is then used throughout the year.



Botlek site initiated tepid temperature safety showers to ensure that someone using it for the mandated time is not unnecessarily exposed to cold water in winter temperatures.

Many HSE initiatives were undertaken across the regions during 2013, including:

- The appointment of a European facilitate and support activities across all local sites.
- Botlek in The Netherlands commenced a project with an and improve the resilience of shifts operating the plant, especially under emergency situations. This work will continue into 2014.
- Wyke also participated in an industry project to better understand its safety culture with the support of a local occupational psychology academic and the Institute of Occupational Safety & Health. The work assessed the effectiveness of training in promoting a positive safety culture and identified actions occupational safety performance.
- Significant modifications to the chlorine unloading and storage facilities were implemented at Linz, Austria, during a implementation of the agreed Principles as part of the PSM
- The Alsip site in the United States initiated a weather warning system to give extra notice in provided extra notice when used to ensure more time to safely shut equipment down and minimise damage during a power outage, maximising the safety of teams. The system has since also been implemented at the Chicago Heights location.
- Brazil's internal TopQesh awareness reporting system achieved more than 10,000 observations, reinforcing the focus on pre-emptive safety, environmental, health and quality activities. The team also initiated disseminating a safety culture and preventive action training in partnership with the community and neighbouring companies.

### **OUR PEOPLE**

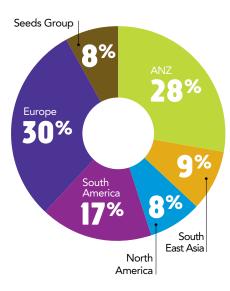
Nufarm's manufacturing and marketing operations are based in Australia, New Zealand, Asia, Europe and the Americas. We therefore employ many people, all of whom make a vital contribution to the company's reputation for quality products, innovation and best practice marketing and technical support.

At Nufarm, our approach to people management is focused on attracting and protecting our most important assets – people – and building our reputation as a global employer.

We coordinate strategic human resources and organisational development at a global level, but day-to-day operations are managed at the regional level. This means that people report through to the human resources heads of the respective regional businesses allowing the function to stay in touch with the needs of the business.

In 2013 we had 2,950 permanent employees. We also engage employees on a casual or temporary basis mainly in the manufacturing areas.

Figure 11: Nufarm employee representation – geography



Nufarm is a global company with operations based around the world and this is reflected in the geographic location of our employees.

### Focus on diversity

As a global company, Nufarm recruits people from around the world. We believe that our employees from many different cultures, linguistic and national backgrounds provide us with valuable knowledge for understanding and operating profitably in complex international markets.

In 2013, we continued to build a deeper understanding of our diversity profile in order to ensure our employee value proposition appeals to a diverse range of candidates, including gender, culture and experience, to attract them to our industry and company while maintaining inclusion for all employees.

### **Development**

A sustainable competitive advantage requires that we continue to maintain and improve our capability across the company.

During 2013, development of leadership capability has been a key priority. Tailored programs and activities were implemented across different parts of the organisation.

For example, the NuLead education program was launched in the ANZ region. The course consists of a number of learning modules to support the ongoing development of our leaders at all business levels.

Our learning strategy in Asia is focused on increasing capability, such as making Nufarm Indonesia a learning organisation through training and a mentoring and coaching program.

North America's Nufarm University provides ongoing training in the technology platforms which support day-to-day operations in the business.

The Nuseed leadership group participated in an intensive Marketing Excellence program delivered by Purdue University covering market analysis, segmentation, planning and prioritisation of resources.

And our Latin American teams are using a number of specific modules such as Sinergia (sales, marketing and R&D), which are supported through individual and team coaching.

The diverse approaches and programs used around the globe recognise that the needs of different regions vary according to the requirements of that business.

### Innovation

Innovation is one of Nufarm's key areas of strategic capability. The Nufarm Thinking Differently initiative introduces people around the globe to a range of creative thinking processes which bring discipline to the innovative process and help us prioritise and implement innovative ideas.

### **Employee engagement**

Every two years, Nufarm administers a global survey of employees across the business. The most recent survey was conducted in September 2012. The results indicated strong engagement and a higher level of job satisfaction than in a similar survey undertaken two years earlier.

In response to the survey outcomes, a number of initiatives were implemented in 2013 to take better advantage of the organisation's diverse global knowledge.

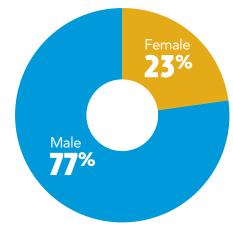
For example, in Europe dedicated crop teams were established to direct product portfolios for specific major market segments and take accountability for new product launch processes, including creating and communicating product launch packages.



The global chemistry conference, mentioned previously, was held to bring all of our chemistry talent together. The conference focused on three themes: connecting, consistency and collaboration. As a result of the conference, seven global teams were put in place. All are working to align our processes, systems and culture to fundamentally change the way Nufarm approaches formulation development and ensure that we continue to improve.

Another area of focus as a result of feedback from the last global survey was around reward and recognition. In response, Nufarm has established two global Awards: innovation and sales. In November 2013, 20 of our top-performing employees, representing all Nufarm regions, were welcomed to the Laverton head office to receive their Awards and take part in a variety of events. The Award recipients spotlight outstanding performance in these two key business capability areas.

Figure 12: Nufarm employee representation – gender



Women are represented at all levels and in all functions within Nufarm including operations, scientific, sales and administration. 'We believe that our employees from many different cultures, linguistic and national backgrounds provide us with valuable knowledge for understanding and operating profitably in complex international markets.'

### **COMMUNITY ENGAGEMENT**

### The key aim of Nufarm's community engagement is to develop proactive local relationships.

We do not have a company-wide community engagement policy or strategy but prefer our local sites to develop and implement their own approach, making sure the people important to our industry and operations are engaged, participating and supported.

Our commitment to community support is further demonstrated by our membership of Responsible Care, supporting its aims to improve the health, safety and environmental performance of supporting companies and increase community involvement and awareness of the industry. It includes a Community Right to Know Code of Practice.

Following is a snapshot of some community engagement activities from across Nufarm's global operations.

### **Australia**

The Australian team's commitment to community engagement involved their ongoing education and stewardship programs, tours, manufacturing site visits and community group and business partnerships.

The region continued their 'Cropping for the Community' sponsorship program, whereby Nufarm donates a portion of product sales purchased through local participating agribusinesses to nominated local schools and sporting clubs. The program has steadily grown since its introduction four years ago and is dependent on the support and partnership of local resellers to participate in the program.

The sponsorship program donated approximately \$22,000 in 2013 to various local schools and sporting organisations.

### **Europe**

Many of our European sites support their local communities in a wide variety of ways.

Wyke in the United Kingdom were very active in the local community and industry initiatives. These included partnering with local chemical manufacturing companies to implement a Process Manufacturing Advanced Apprenticeship program with a local college to address the need for appropriately skilled employees and provide opportunities to local students.

The United Kingdom team also participated in a collaboration between government, employers and educational institutions to promote and motivate school students to consider a career in Science, Technology, Engineering and Mathematics disciplines. Nufarm staff acted as ambassadors working in local schools, colleges and universities to provide insight into potential careers and opportunities.

Donations were also made towards the provision of science-based learning resources and sports equipment for students of local primary schools.

### **Colombia**

The Responsible Care program recognised our Colombian operations for achieving 98 per cent compliance in all their activities. The local team are members of their regional committee, where they work towards collectively improving environmental, health and safety practices. This included conducing consultations with government representatives, chemical company leadership and community members regarding a new chemical transportation program.

This regional engagement is consistent with the activities we have traditionally undertaken in our more developed markets, and believe are critical in our developing market regions.



'Our commitment to community support is further demonstrated by our membership of Responsible Care, an initiative of the International Council of Chemical Associations (ICCA).'



### **Brazil**

The Brazilian team conducted its 'Nufarm Supportive Christmas' campaign to raise funds for local charities near the Maracanaú-Ceará plant. A total of six institutions benefited, with 1,800 kg of foodstuffs, 300 personal hygiene kits, 1,185 items of clothing and 94 toys collected. The initiative encouraged both supportive spirit and teamwork.

Also, as part of its partnership with Enactus not-for-profit organisation, the local team launched the first Nufarm Awareness and Ethics in Agribusiness Award.

The students, working in groups, designed and implemented strategic projects aimed at broadening the awareness and understanding of responsibility in the use of agrochemicals by small farmers in Ceará, encouraging the formation of local agents of change to create a positive influence on agribusiness, and to demystify the use of agrochemicals and their impact on the environment.

The students received support from Nufarm volunteers, known as a business advisory board, to guide teams and provide them with tools necessary for their work.

Five groups were selected to make a submission, with the Instituto Federal do Ceará (IFCE) Maracanaú taking first place.

The Brazil team also worked in partnership with the municipality's environmental agency to provide lectures and visits to local public schools and universities to talk about environmental awareness, as well as activities such as tree planting and garbage collection awareness.

They also donated 40 per cent of the total clean solid wastes generated via production processes to a local charity, which then recycles and processes the waste for a dollar return. The charity then uses these funds to purchase educational materials, toys and foodstuffs.

### **United States**

The United States team continued their ongoing involvement in community support activities including Project Evergreen which this year included replanting grove trees at the 9/11 Memorial on Liberty Island following a major storm, as well as participation in Renewal and Remembrance to beautify Arlington National Cemetery.

In partnership with the Chicago High School for Agricultural Sciences the Nufarm team worked with students to develop a pollinator and bird landscaped preserve on the site grounds at the Alsip office, offering students experience with different crops, landscape design and project management activities. In addition, teacher training, job shadowing and scholarship assistance was provided to members of the school.

### **PROCUREMENT**

Nufarm recognises the enhanced business value of a robust approach to procurement. We have developed a draft policy document and implemented a new procurement structure that aligns business requirements and best practices.

The global procurement policy documents a set of foundation principles, consisting of:

- · health, safety and the environment;
- sustainability;
- corporate governance;
- · continuous improvement;
- · capability development;
- stakeholder relationship management;
- · risk management;
- · value for money; and
- quality.

The objective of this policy is to ensure that all procurement activities carried out by Nufarm:

- provide best possible value through proactive engagement of internal customers and suppliers;
- are conducted in a fair, objective and transparent manner;
- are compliant with Nufarm's corporate policies;
- are compliant with national and international law; and
- encompass the short- and long-term objectives of the business.

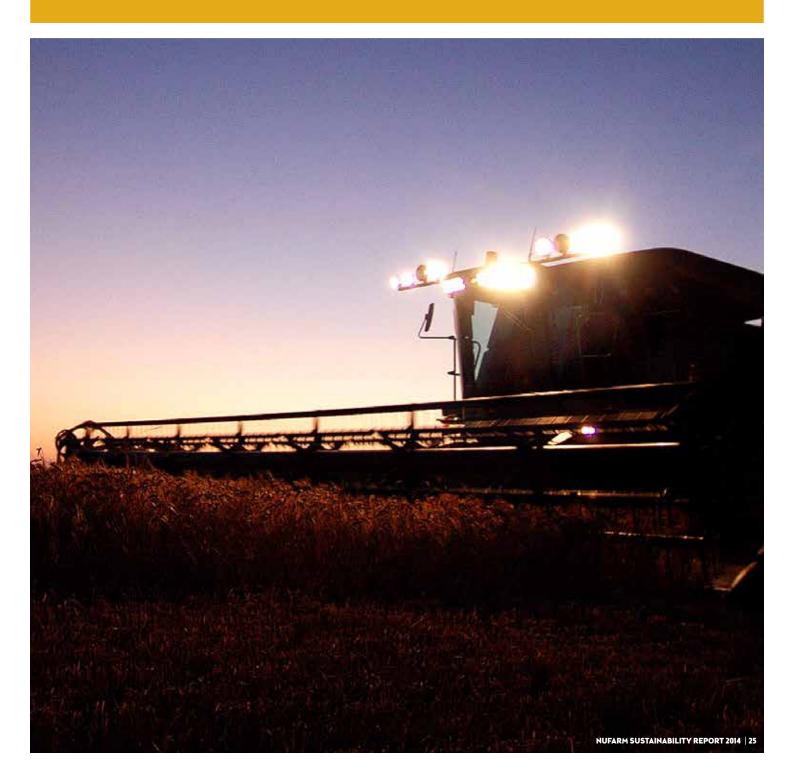
The procurement function assists Nufarm in its sustainability and corporate social responsibility objectives by integrating these principles into the procurement of all goods and services.

The role of procurement is to help improve operational efficiencies, decrease overall costs and enhance Nufarm's ability to react quickly to unexpected changes in supply or demand. Nufarm's procurement approach aims to achieve value for money on a whole-of-life basis, whilst minimising damage to the environment. It focuses on generating benefits to Nufarm, as well as local communities and economies.

Nufarm's approach is based on classleading processes, operational discipline and stakeholder engagement. It is designed to deliver competitive advantage through building procurement capability and forging strong relationships with stakeholders. We proactively engage with end users where procurement decisions have the potential to impact on the safety of employees, assets, suppliers, contractors, customers and visitors.

'The role of procurement is to help improve operational efficiencies, decrease overall costs and enhance Nufarm's ability to react quickly to unexpected changes in supply or demand.'

### NUFARM'S APPROACH IS BASED ON CLASS-LEADING PROCESSES, OPERATIONAL DISCIPLINE AND STAKEHOLDER ENGAGEMENT.





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