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### About this report

This report, for the 2012 calendar year, is the first sustainability report prepared by Nufarm Limited. While we have publicly reported on health, safety and environmental performance for the past 13 years, this report is the first to provide information relating to a broader range of performance indicators.

The health and safety data is collected from Nufarm manufacturing sites, offices and regional service centres. It does not include data from eight offices in Asia and South America due to a lack of available information.

The health and safety data includes permanent and casual employees as well as contractors. Targets set by the Nufarm board have been included, with the expectation of a 15% improvement annually.

Environmental data is provided by our manufacturing plants and summarised for this report. Further detail about individual site performance can be found on our website: www.nufarm.com.

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



### 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 3,200 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 2,100 product registrations, and markets products in more than 100 countries around the world.

### Seed technologies

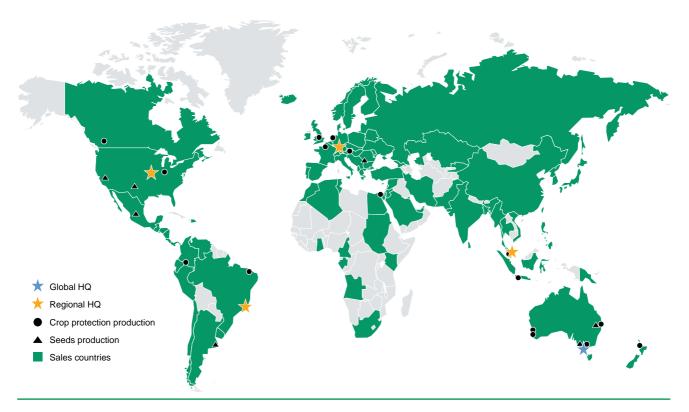
In the past few years Nufarm has diversified into the seeds market via its wholly owned subsidiary Nuseed as well as a focus on seed treatment solutions. Nuseed is focused on enhancing food and feed value through seed technology and has developed proprietary canola, sunflower and sorghum products that 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 that are delivered in a flexible and diverse manner.

### 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

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.





# Mission, values and vision

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

Our mission is to provide solutions for a growing world.

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

Our core values are:

- Responsibility
- Agility
- ▶ Respect
- ▶ Empowerment

### 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 business strategy has been complemented in recent years with the ReNu program which is aimed at identifying opportunities for short and long term efficiency gains and business improvements.

As of the end of June 2013, ReNu had generated A\$21.5 million in profit improvements. The benefits include improved employee development and

project management capability across the business with over 200 employees now trained in Prince2® and AtTask® project management methodologies.

From the start of the program in 2011, employees have identified more than 1,000 major improvement opportunities of which 51 percent have either been actioned or are in the process of being completed.

### 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

At Nufarm we see sustainability as an overarching business strategy that creates financial value by delivering solutions and providing environmental benefits. This is further demonstrated

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

The program is aimed at improving the health, safety and environmental (HS&E) performance of supporting companies and increased 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, its customers, and to 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 Australia's 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 Nufarm and its subsidiaries. Nufarm is also a signatory to Responsible Care® in a number of other countries, including: Brazil, Colombia, Indonesia and the United Kingdom.



### Managing Director's message

Sustainability is a cornerstone of Nufarm's approach to doing business and I am very pleased that the company is now moving to more comprehensive reporting of our efforts and performance across key sustainability measures and activity.



Nufarm has had a long standing commitment to report publicly on our performance against various health, safety and environmental parameters. While these areas of activity remain critically important, our shift to sustainability reporting allows us to communicate our initiatives across a broader range of stakeholder engagement indicators.

Nufarm's products help farmers protect their crops from damage caused by weeds, pests and disease. And we are breeding and supplying new seed varieties that improve the yield and value of certain crops.

As a company engaged in the development, production and supply of inputs to agriculture, we work in an industry where sustainability principles are entrenched. Farmers – and other users of our products – have followed and refined sustainable practices for many years and know that these principles are all-important in maintaining the productive capacity of their land.

Our commitment to these same principles is very strong, and this report reflects a solid performance in

key safety and environment measures and some excellent employee and community engagement activities. While we improved our performance in certain measures of safety, we did not meet our objectives for continuous improvement in other areas. This reinforces our need to strive for further improvement and better outcomes.

Our corporate strategic growth plan is strongly focused on a platform of innovation and discipline. In the 2012 financial year, we made a number of changes in the business and strengthened our management teams. A company wide business improvement program, called ReNu, harnessed the feedback and ideas of many of our employees to develop and implement efficiencies and cost savings and to introduce better project management skills throughout the business. We also introduced new products and initiatives such as our recyclable QuikPour packaging.

Nufarm employees around the world contribute significantly to the communities in which they work and live. We have a clear responsibility to provide a safe environment in which they work and to offer development and training opportunities that allow our people to pursue a range of opportunities within the company. Our 2012 employee survey shows that our people are more satisfied in their roles than they were when the survey was last conducted in 2010.

We will continue to look for ways to strengthen our commitment to sustainability and I look forward to keeping you updated on that progress in future reports.

**Doug Rathbone AM**Managing Director
Nufarm Limited





### 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 the Nufarm website (www.nufarm.com)

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. During the reporting period, Garry Hounsell resigned as a director, and Frank Ford and Toshikazu Takasaki joined the board.



Donald McGauchie AO Chairman JOINED 2003



Doug Rathbone AM Managing Director



Anne Brennan



Gordon Davies





Frank Ford

IOINED 2012



Dr Bruce Goodfellow

JOINED 1991



Peter Margin

JOINED 20



Toshikazu Takasaki

JOINED 2010

#### **Board committees**

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

The health safety and environment committee was established in 2012 to assist the board understand and manage health, safety and environmental issues arising from activities within the Nufarm group as they affect employees, contractors, visitors, customers and local communities.

#### 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
- Diversity

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, security trading policy and continuous disclosure protocol.

In 2012 we also implemented a diversity policy. More details can be found in the People section of this report.

### 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
- licences and operating permits for manufacturing facilities

During the reporting period a general manager global risk and assurance was appointed to enhance and manage our enterprise risk management system. To provide additional support and expertise, we also engaged external consultants to review our risk profile and risk inventory. A risk profile report was presented to the board providing assurance that all material risks are being effectively managed.

### 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.

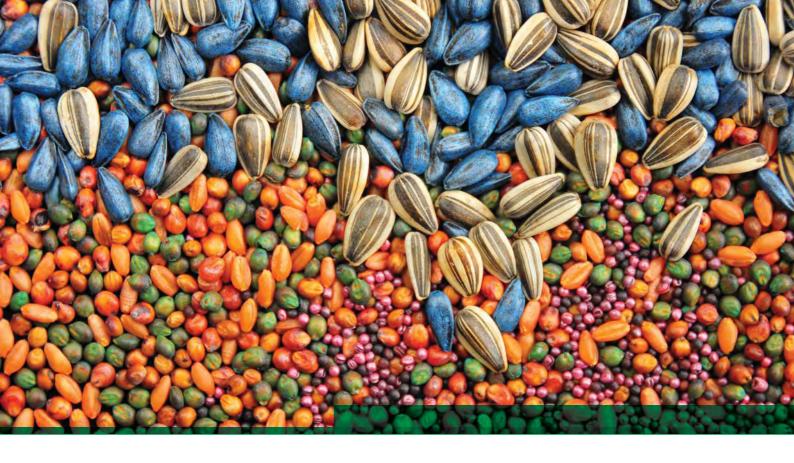
Nufarm's group general manager, David Pullan, is a member of the PACIA board. We also have representatives on the PACIA regulatory council, and economics and trade council.

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 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.





### Innovation

Innovation is a key platform for Nufarm and is reflective of the evolution of our business.

Nufarm develops, manufactures and markets innovative and differentiated crop protection products in our markets 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 the users of our products.

Innovation and differentiation at Nufarm typically involves developing safer, healthier and more efficient formulations and applications. This may involve 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

Nuseed is a wholly owned subsidiary of Nufarm. It 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 greater purpose. Nuseed's research and innovation efforts are focused on creating better food, feed and fuel solutions around the world.

A recent Nuseed innovation was the launch of a new product named Wholis™ – a type of sorghum bred for human consumption that has improved milling characteristics and is gluten free.

The environmental flexibility and drought hardiness of sorghum means it is well suited to areas that may be marginal for the production of other cereal grain crops, such as wheat and barley. As the world's sixth largest crop, the new Wholis™ innovation aims to move sorghum from a feed grain to create a premium food source for people.

#### Omega-3 canola

Nuseed, the Commonwealth Scientific & Industrial Research Organisation (CSIRO) and the Australian Grains Research & Development Corporation (GRDC) formed a research collaboration to develop a high quality, sustainable, renewable and reliable source of long-chain 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.

The collaboration is looking at a solution via genetically engineered canola that contains fish-like levels of long-chain omega-3, which reduces our current reliance on ocean fish. Land plant-based production 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 fish.

The collaboration currently anticipates being ready for commercial production in 2018.



### QuikPour®

QuikPour® is an innovative patented packaging solution from Nufarm which revolutionises the way agrochemicals are delivered to farmers. The easy to handle, 15 litre container has a large mouth and collapsible internal liner which flows out at a very fast rate.

QuikPour's unique design delivers:

- ► Faster, more precise pouring; approximately 50% improvement on decanting time
- ▶ No glug, no splash; safer for users
- ► Lighter pack weight; 25% reduction in weight to carry compared with the current 20 litre container for OH&S benefits
- Easy to open; designed to be opened with gloves on, no need to use a tool
- ► Environmental benefits more than 80% reduction in plastic used per litre compared with rigid plastic containers and is recyclable
- ▶ Patented technology

As well as delivering a range of benefits to growers, QuikPour® has won two medals at the Packaging Council of Australia's (PCA) Australian Packaging Design Awards, Best Packaging Innovation at the international Agrow Awards and the 2012 Technology Innovation CITA Award at the Exposición Rural 2012, held in Argentina.







## 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 organizations 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 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.

This engagement has influenced other initiatives, including packaging innovations such as our QuikPour system. QuikPour containers deliver improved handling and recycling benefits to growers and spray contractors and won Australian and international innovation awards after being introduced to the market in 2012.

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, licenses 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
- ► Encouraging attendance and voting at shareholder meetings

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



# 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 tighter.

In 2012 our environmental expenditure was A\$6.4 million.

The following sections detail our 2012 environmental performance across our key manufacturing sites according to five key impact areas:

- compliance and complaints
- energy and greenhouse gas
- air emissions
- water
- waste

We have included key issues from some sites. Full details applicable to each site can be found in location-specific reports.

# 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 at our site in Wyke, UK we operate 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. 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).

In a significant milestone, our plant in France received ISO 14001 certification in November 2012.



During 2012 we worked to address two compliance issues raised by Victoria's Environment Protection Authority at our Laverton site. One related to a Pollution Abatement Notice involving bunding and the other a Pollution Abatement Notice associated with groundwater contamination.

### 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 of off-site treatment (e.g. sewerage) which includes discharge from scrubbers and (in some cases) fugitive emissions.

### 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 odourous, 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 odourous components. In 2012 there were eight complaints for which Nufarm accepted responsibility. Of these accepted complaints, one was from Botlek in the Netherlands, six from Gaillon in France, and one from Wyke in the UK.

# Energy and greenhouse gas

Total greenhouse emissions increased in 2012 compared with 2011. This is due to an increase in production and changes in product mix at some sites. Across our sites, most of the fuel used comprised gas which is consumed across a variety of processes such as:

- heating in Calgary, Chicago and Gennevilliers
- cogeneration in Gaillon and Wyke
- heating boilers in Kwinana and Laverton
- running granules plants in Otahuhu and Welshpool

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

Figure 1 Compliance testing

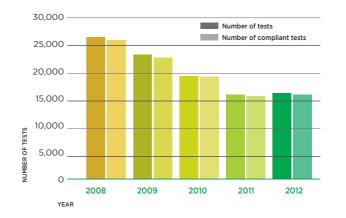


Figure 2 Global complaints

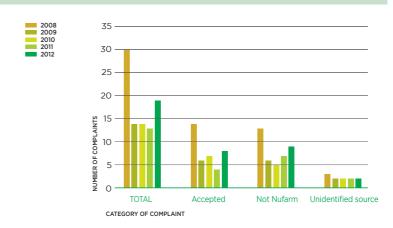
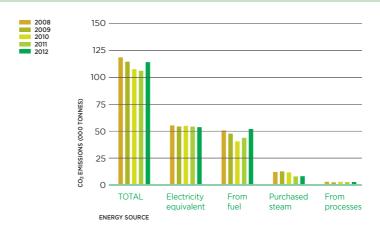


Figure 3 CO<sub>2</sub> emissions from energy use and processes



While overall emissions have increased, emissions per tonne of production have remained consistent.

While  $CO_2$  emissions associated with most sites remained consistent, there was a large increase at our site in Wyke, UK. This was a result of increased production and a change in product mix at the site. Some sites also emit  $CO_2$  directly from chemical processes are included in the data reflected in Figure 2.

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.

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

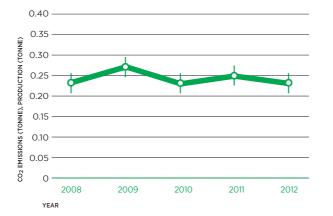


Figure 5 Major CO<sub>2</sub> emitters by site

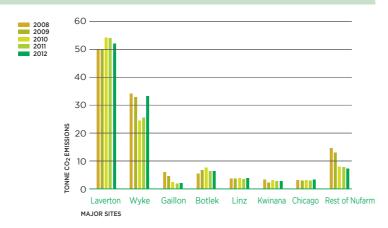


Table 1 Air emissions (kg)

	2008	2009	2010	2011	2012
CO	3,645	13,150	10,362	12,636	53,825
Freon	70	105	300	202	140
Herbicides	600	435	510	513	719
Inorganics	124	140	54	67	60
$NO_X$	181,285	142,032	100,213	150,010	176,251
Particulates	2,307	2,087	1,828	1,651	1,502
Phenolics	620	631	12	6	27
$SO_X$	1,284	1,724	1,395	1,101	930
VOC	86,012	117,923	25,211	22,466	28,323
Total	275,949	278,227	139,885	188,652	261,778

The major greenhouse emitter is our Laverton manufacturing plant. Our second largest emitter is Wyke, however it generates a little over half the emissions of Laverton.

Chlorine production at Laverton is the most energy intensive process on site. More efficient chlorine technology with the potential to offer large energy savings is being investigated. An upgrade to the boiler control

room at Laverton has been partially undertaken and is expected to afford gas savings greater than two percent. Plant and process efficiencies including lighting upgrades are also being investigated.

Greenhouse gas emissions at our production site in Wyke have increased largely as a result of greater production and a change in the product mix. However while

production volumes have more than doubled since 2008, overall energy use and greenhouse emissions is around the 2008 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.

Activities also took place at other sites. At Kwinana in Western Australia, some simple energy conversation activities implemented at the site resulted in savings of A\$120,000. These activities included turning out lights in areas not being accessed at night and planning production so that the boiler could be turned off regularly when not required.

### Air emissions

Air emissions result from the production process. 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), sulfur 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 UK, 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 major increase in CO for 2012 was due to a faulty burner in the co-generation plant (CHP), which has since been fixed. 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.

Emission control equipment has been a key consideration in the design of recently constructed plant at our site in Otahuhu near Auckland, New Zealand. The dust filtering equipment, in particular, has been very successful



at enabling the extrusion plant to generate significant volumes of product while producing emissions so low they cannot be detected.

These design considerations, made by Nufarm engineers, are aimed at futureproofing our business by ensuring that we meet our environmental requirements today and in the future.

### Water

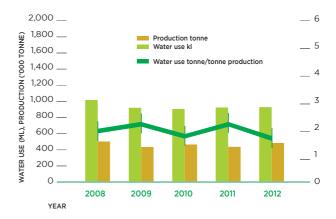
Water is used in most of our production processes. The amount of water used and waste water generated is directly impacted by production volumes and the product mix. We aim to reduce the amount of water we use and also the amount of waste water created.

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 in Welshpool, the site's yard surfaces are divided into clean and potentially contaminated areas. Stormwater from areas where there is no potential for contamination from chemicals is used to water gardens and lawns, or is discharged into the municipal storm water system. Water which may be potentially contaminated with chemicals is either fully contained with no stormwater impact, or directed into a 200,000 L sealed pit. Water is retained in this pit until tested and, if required, is treated before disposal into stormwater soak.

The plant in Canada has implemented a water-recycling program reducing the amount of water required from municipal supply. The program involves collecting rain and snow melt water, and using this soft water resource in some of our products.

Figure 6 Water use per tonne of production



Air-conditioning systems have also been upgraded further reducing our use of water.

In Indonesia we use two sources of water. It is either supplied by the water companies or comes from deep well extraction. Deep well water is used only for domestic purposes, whereas the water from the water company is used for the production process, safety shower and eye wash.

Most of our sites recycle vessel washings to be used in the next formulations for the same product as part of our water conservation program.

As well as fully bunded storage areas, our Kwinana site also has a fully maintained sealed stormwater network. Stormwater is treated with activated carbon and tested before it is discharged to ground via a conventional storm water soak. The sealed stormwater system was tested during the year when an intermodal container was damaged during transport around the site and

leaked 800 litres of an environmentally harmful liquid. Our spill response systems were activated resulting in no discharge to the environment and all stormwater discharge limits were met. Corrective actions were taken to lessen the chance of a similar event recurring.

### Waste

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

Total waste increased in 2012 compared with 2011. While most waste streams increased or decreased only slightly, there was a significant increase in salt waste because of increased production of phenoxy herbicides in Wyke.

Salty effluent is produced as a direct consequence of our chlorination processes. This salty effluent is contaminated with organic material and cannot be discharged directly to the environment. The effluent is mostly treated in sewage 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.

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.

At many of our sites a waste management system captures the nature and quantity of waste produced on site and tracks it through to recycling or disposal. In 2012 significant progress was achieved with a program to dispose of plant washings and wastes from redundant product lines. 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. The site makes every effort to clean its waste packaging and find recycling opportunities.

We have implemented an initiative to recycle wooden pallets at Laverton following collaboration with a local supplier. We now sell the used wooden pallets to a customer who refurbishes and reuses them for the export of raw hides. This has reduced the volume going to landfill and formed a revenue stream. In 2009 disposal of pallets incurred a cost of A\$10,000 to the business for in excess of 15,000 pallets. This new collaboration has generated revenue of A\$10,000 for the resale of 18,500 pallets.

A core part of Nufarm's Canadian mandate is to lead standards in responsible packaging, container return policies and waste reduction practices. This is primarily a blending and packaging operation, taking raw concentrated products, processing and diluting them to a usable strength and packaging them into containers.

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.

Figure 7 Waste generated per tonne of production, excluding salt

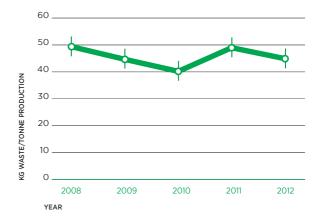


Figure 8 Waste management destination

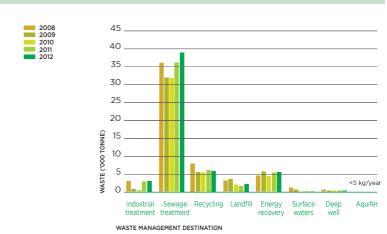
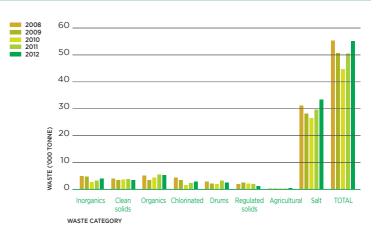


Figure 9 Total waste by category







# Health and safety

### PSM: The Journey to Date

In last year's Annual Report we provided an overview of the first steps taken by Nufarm to develop a structured and systematic approach to improving Process Safety Management (PSM) across all of our manufacturing sites. Six manufacturing sites were assessed between 2011 and 2012: four in Europe, a fifth in Chicago and the sixth in Melbourne. This has allowed approaches that have evolved under quite different regulatory regimes to be compared and contrasted so that common operating principles could be developed.

The key elements for examination were identified at process safety management workshops held at Gaillon, France in July 2011. Further workshops were held at our Melbourne site in late 2012 to build on the European activities and work towards development of common guidelines for adoption across the Nufarm manufacturing base.

This 18-month programme of work culminated in a final report which identified common strengths and weaknesses in relation to process safety management and set out guiding principles to promote alignment of best practice and improvement where needed – all within a continuous improvement framework. The new Corporate Guiding Principles were drafted in late 2012 and issued to sites earlier this year.

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.

Overall, our 2012 health and safety performance improved from 2011. Our Lost Time Injury Frequency Rate (LTIFR) recorded a 27% improvement, Medical Treatment Injury Frequency Rate [MTIFR] a 40% improvement and severity rate a 46% improvement.

Disappointingly, we failed to meet the target limits set by the board for lost time injuries (LTI), medical treatment injuries (MTI) and severity. 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 2012 was 2.24, which is higher than our target of 1.16, but an improvement compared to 3.08 in 2011. The 15 lost time injuries suffered in 2012 were spread over seven sites, with two sites accounting for ten of the LTIs. This was an improvement on the 20 LTIs recorded in 2011. The causes of these injuries were two chemical burns, five were strains due to lifting objects, and the remainder were slips, trips and falls.

All these injuries were preventable.

In 2012, 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. For small sites, an award is achieved if the site has worked for 5 years without serious injury.

### Medical treatment injuries

Nufarm takes the approach of recording medical treatment injuries. We consider medical treatment injuries to 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 2012 there were 21 medical treatment injuries of which six 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 2012, with a fall in severity to 0.028 (from 0.052 in 2011). This improvement can be attributed to the significant and sustained effort applied across the business following the poor results in 2011.

Figure 10 Nufarm Global MTIFR and LTIFR

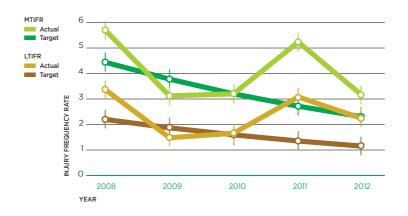


Table 2 Lost Time Inury Frequency Rate [LTIFR] 2008 2009 2010 2011 2012 3.38 2.15 1.32 4.95 4.19 Australia 4.07 2.19 3.46 2.48 3.62 Europe North America 4.66 0 0 3.27 1.51 NZ & Croplands 3.6 3.6 0 0 3.2 South East Asia 0 0 0.99 0 0 South America 3.67 0.82 0.95 5.69 0 Global 3.38 1.49 1.68 3.08 2.24 <2.22 **Target** <1.89 <1.6 <1.36 <1.16

Table 3 Medical Treatment Injury Frequency Rate [MTIFR]					
	2008	2009	2010	2011	2012
Australia	8.11	7.18	5.29	8.48	7.68
Europe	5.42	3.51	4.94	3.47	4.14
North America	13.99	1.55	1.48	4.9	1.51
NZ & Croplands	3.6	3.6	0	15.75	3.2
South East Asia	0	0	0.99	0.92	0
South America	3.67	0.82	0.95	5.69	0
Global	5.73	3.13	3.2	5.23	3.14
Target	<4.44	<3.77	<3.21	<2.72	<2.31

Table 4 Severity rate					
	2008	2009	2010	2011	2012
Australia	0.016	0.014	0.006	0.021	0.029
Europe	0.08	0.033	0.032	0.116	0.073
North America	0.016	0	0	0.072	0.003
NZ & Croplands	0.011	0.011	0	0	0.013
South East Asia	0	0	0.005	0	0
South America	0.059	0.007	0.002	0.028	0
Global	0.043	0.016	0.012	0.052	0.028
Target	<0.026	<0.022	<0.019	<0.016	<0.014





# 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 resource heads of the respective regional businesses which allows the function to stay in touch with the needs of the business.

In 2012 we had 2,826 permanent employees. We also engage employees on a casual or temporary basis mainly in the manufacturing areas.

### 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 2012 we undertook a review of diversity at Nufarm to better understand our profile and identify opportunities for improvement. In response, we introduced a diversity policy in 2012 which is available on our website. We also reviewed a number of practices to ensure they supported diversity. These included a review of flexible working hours, recruitment and selection processes, and expatriate and relocation policies.



### Performance management

We also developed the Nufarm global performance management and development process in 2012 which provides an opportunity for discussion with employees. This process has formalised our approach to managing and attracting talent for the business. A formal process to collect global gender and cultural diversity statistics was also established and we reviewed the board selection criteria to ensure gender diversity is encouraged.

# 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. That improvement was reflected across our global businesses and various job functions and is particularly strong among employees who were directly involved in business improvement and efficiency initiatives undertaken during the past year.

The survey is translated into all applicable languages to enable participation from every employee. The survey consists of a set of standard questions for all employees, but also nationally includes specific open questions. Each region is encouraged to develop specific and relevant questions in order to capture rich data that is applicable to the locality and is reflective of its issues, challenges and cultural diversity. This allows Nufarm to interpret findings and outcomes that are applicable globally but also understand perspectives at regional and local levels.

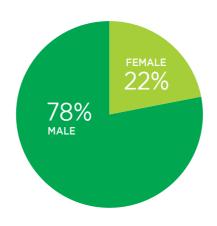
An area of focus to come out of the last global survey was around reward and recognition. In response, Nufarm has established two global awards: innovation and sales.

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.

Figure 12 Nufarm employee representation - Gender



Women are represented at all levels and in all functions within Nufarm including operations, scientific, sales and administration.







# Community engagement

The key aim of Nufarm's community engagement is to develop proactive relationships with local communities. 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 with Responsible Care®, an initiative of the International Council of Chemical Associations (ICCA). The program 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

Our Australian employees have been supporting their local communities for over three decades. Community engagement and interface continues through well-established education programs including science tours, farmer visits to site and a number of in-kind support opportunities such as science lectures for students along with sustained contributions to community arts facilities and partnerships.

The team at Nufarm's Regional Service Centre (RSC) in Esperance took part in a training exercise with the local Fire and Emergency Services Authority (FESA) volunteer group. The Esperance community and the surrounding area depends on these FESA volunteers to coordinate emergency services in case of a natural disaster and emergency incidents that could threat life and property. The Esperance RSC allows FESA to use of the site every second year to train volunteers under strictly supervised conditions in dealing with search and recovery, chemical spills and fires.



Emergency services training at Esperance Service Centre, Australia

### New Zealand

Nufarm New Zealand believes in developing a strong bond with its community through the provision of opportunities for young people. In 2012 students were again invited to experience a day in the life of a business, helping them make career decisions.

The company has also made managers and supervisors available to assist with business enterprise competitions. The contestants have been local senior high school students, with Nufarm employees acting as mentors.

### Indonesia

Water has been the community support focus for Nufarm's Indonesian teams. During the reporting period, parts of Indonesia were affected by severe drought. To help alleviate this problem, Nufarm supplied clean water to the local community.

### **United States**

In the past year there was a strengthening of support for local and national communities by Nufarm Americas.

Our North American head office in Alsip has formed a strong partnership with the Chicago High School for Agricultural Sciences (CHSAS). Over 2,400 items were donated to a food drive sponsored by the school, which was just one of several activities between the two organisations.

In North Carolina, Nufarm volunteers worked a day of service with the

Professional Landcare Network (PLANET) an initiative of the lawn care industry, doing garden maintenance at the local Girl Scout headquarters building.

A group of 33 Nufarm employees and family members gathered in Washington, DC for 'Renewal and Remembrance'. On this day, which Nufarm has sponsored since 2006, hundreds of turf industry professionals donate time, materials and expertise to maintain and beautify Arlington National Cemetery. It attracts over 500 participants every year to the 250-acre site.

### France

At Nufarm's manufacturing facility in Gaillon, we are proud of the new landscaping works that have enhanced the visual space and created a new green space for our team to enjoy.

The 'D' building had been standing since the 1950s and was the main manufacturing building on the site. It had served its purpose well as the main location for the production of detergent and surfactant, including the product range 'Galoryl'. However, it was recognised that a site restructure was necessary. Production at the 'D' building was wound down at the end of 2010 and it was scheduled to be demolished.

Prior to the demolition of the old building, it was agreed that a large green space would be created in its place, rather than filling it with another structure. This would improve the aesthetic appeal of the local environmental and also create a space for Nufarm employees to enjoy.







Creation of green space at the Gaillon manufacturing site, France



'Renewal and Remembrance Day' at Arlington National Cemetery, Virginia



### United Kingdom

A key focus of our community engagement activities in the UK involves working with schools and support for local sporting teams. In 2012 we continued to provide instruction on industrial chemistry to a number of schools in the local community, including a two-day course on laboratory procedures and protocols. The course is an integral part of their studies in applied chemistry and the contribution each student makes is formally assessed as part of their end of year grade. In addition, seven students carried out work experience at the Wyke manufacturing site.



Australian customers and growers being shown the Laverton production facility

### Colombia

Nufarm's plant in Colombia holds meetings every three months with community leaders to talk about our activities and projects, and listen to any concerns or issues they may have.

Last year, as part of our membership under Responsible Care®, we took part in a public consultative panel on the new chemical transport program. This involved meeting government employees, leaders of the private industrial sector and members of the community.

Our Colombian team also supports community education via involvement with SENA, a national government entity that provides technical training for employees and the community. A main objective of the program is to train and educate specific age groups or vulnerable groups in production areas.

### Brazil

Our plant in Fortaleza, Brazil supported the community with children's gifts on holidays such as Christmas and Children's Day. We also run an open house program to show people what happens at the plant which attracted more than 305 local stakeholders in 2012.

To support local employment, Nufarm Brazil operates a training program. Approximately thirty students from local universities and schools have worked at Nufarm through this program. We also support the Enactus organisation, as outlined in the case study below.

We actively encourage and support the inclusion of disadvantaged or unskilled people into our workforce. Currently, three percent of employees in the workforce are physically challenged and five percent of nontechnical employees are inexperienced students from public schools.

### Supporting Enactus in Brazil

Enactus is an international non-profit organization that brings together student, academic and business leaders who are committed to using the power of entrepreneurial action to improve the quality of life and standard of living for people in need. Guided by academic advisors and business experts, the student leaders of Enactus create and implement community empowerment projects around the globe.

The experience not only transforms lives it helps students develop the

The experience not only transforms lives, it helps students develop the kind of talent and perspective that are essential to leadership in an ever-more complicated and challenging world.

Seeking to stimulate awareness and ethics for the adequate and safe use of agrochemicals by small producers in the region, Nufarm Brazil has set up a partnership with Enactus. Teams of local students are encouraged to develop innovative projects with the potential to implement change and positively influence the agrobusiness



Nufarm staff show local community members the Fortalaza facility in Brazil





### Procurement

Nufarm recognises the enhanced business value of a robust approach to procurement. We have been working to define and develop a policy and procurement structure that aligns business requirements and best practices. This has involved the development of a global policy, professional standard and governance to create a common and coordinated approach to procurement across the business.

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
- 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 the Nufarm's corporate policies
- Are compliant with national and international law
- Encompass the short and long term objectives of the business

To further support this Nufarm has established a procurement advisory board which is responsible for ensuring appropriate and effective governance arrangements are in place.

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 class leading 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.



