... Protecting the environment

- Recycling – this includes waste water and solvents (zero discharge has been achieved at many formulation sites) and packaging materials, as well as solid products from waste and volatile organic compounds from vent systems.
- Remediation - cleaning up of contaminated soil and groundwater from past practices.

Examples of progress in these areas since the 1990s include:
- Improvements in energy efficiency of between 31 and 37%
- Reduction of greenhouse gas emissions per unit of production by 2 - 76%.
- Improvement in water use efficiencies (use of water per unit of production) of almost 40% in some cases.
- Reduction in waste generated per unit of production in the range of 25 - 63%.

Industry guidelines

In order to promote high standards in the manufacture of crop protection products, CropLife International and CropLife regional associations have established guidelines for the manufacture, formulation and packaging of crop protection products. These guidelines are particularly aimed at third-party suppliers (e.g. toll manufacturers) as well as the formulators of crop protection products. They reflect the standards maintained by CropLife member companies and cover areas such as training, auditing, buildings and location, organisation and management, safety and occupational health, and environmental protection. Many companies also follow, or are guided by, the Responsible Care® principles and the guidelines developed and monitored by the chemical industry associations, under the umbrella of ICCA, the International Council of Chemical (Industry) Associations.

The plant science industry invents, develops and sells products and services designed to improve the productivity of food, feed and other useful products. These technological advancements include crop protection products that enable farmers to protect their crops from noxious pests. While providing benefits to farmers and other stakeholders, the industry recognises that, if not managed and used properly, these products can pose a risk to human and environmental health. To address these concerns, and to maximise the benefits of crop protection products, the industry is committed to the sound principles of stewardship: the effective management and responsible use of crop protection products throughout their life-cycle – from research and development, through manufacture and use, to the eventual disposal of waste.

Important areas of stewardship are ensuring the safety of the manufacturing process - to workers and the environment, as well as ensuring the quality of the product. Several decades ago, the plant science companies, still or originally part of the broader chemical industry, were amongst the first in the world to recognise the direct environmental, economic and social benefits of improved manufacturing processes. The industry’s policy remains to:

- Manufacture products with due respect for people and the environment.
- Design and operate processes according to the three pillars of sustainable development (social, environmental and financial).
- Apply best available industry standards globally.

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Manufacturing

Respect for People and the Environment
CropLife’s leading companies regularly report on the impacts and improvements of good manufacturing practices through corporate social responsibility reports, environmental reports and/or company websites. Due to the differing nature of the companies (dedicated agrochemical companies, agrochemical and biotechnology companies, or a division within a larger company), the areas and impacts that each will report also differ. However, there are common approaches. Through adoption of good manufacturing practices, the industry aims to:
• Protect its neighbours
• Protect its employees
• Protect the environment.

This is achieved through a range of complementary tools – strict adherence to local, national and international regulations, adoption of international (ISO) standards, adherence to international voluntary standards (e.g. the EU’s Eco-management audit scheme, EMAS and the US Occupational Safety and Health Administration’s Voluntary Protection Programs) and voluntary industry-led schemes, most notably Responsible Care® (see www.responsiblecare.org).

Responsible Care® is a programme developed in the late 1970s by the chemical industry to assist companies in improving their environmental, health and safety performance. The programme requires companies to report on performance in the following areas:
• Community awareness and emergency response
• Research and development
• Manufacturing
• Transportation
• Distribution
• Hazardous waste management
• Security.

The industry is committed to ensure that its manufacturing operations do not pose unacceptable risks to the neighbourhood where its factories and plants are located. This is achieved through:
• Hazard and risk assessment – understanding any hazards and associated risks involved in the manufacturing process, or the products themselves
• Risk mitigation – ensuring that risks, either resulting from normal manufacturing operations, potential accidents or from threats to security are minimised or eliminated through the adoption of appropriate systems and management practices
• Emergency preparedness and response – having plans and systems in place, plus appropriate training
• Community outreach – informing and educating the community on what is being manufactured, any risks involved and how they are managed. Actively seeking dialogue and partnerships, and reporting any incidents if they occur.

CropLife International’s leading companies value their people; as a responsible employer, the industry is committed to the well-being of the tens of thousands of employees across the world, through:
• Global standards for occupational health, hygiene and safety - companies have in place programmes of continuous improvement worldwide in order to reduce occupational accidents and illness.
• Generally, the plant science industry has a low incident rate compared to similar industries.
• All leading companies are now reporting injury and illness rates in the order of 0.5 – 5 injuries or illnesses per one million working hours.
• Medical and exposure monitoring – carried out routinely on employees
• Engineering, controls and personal protective equipment (PPE) - providing protection from exposure to hazardous substances; wearing of appropriate PPE is obligatory on manufacturing sites
• Training and emergency drills - training is provided for all employees.

CropLife International’s leading companies are committed to reducing the ‘environmental footprint’ of their manufacturing activities. This is achieved through:
• Minimising consumption and waste - reducing energy consumption and waste generation per unit of production through improved process design
• Reducing hazards - substituting dangerous materials with less dangerous ones