



Stewardship: Maximising Benefits, Minimising Risks

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Who we are



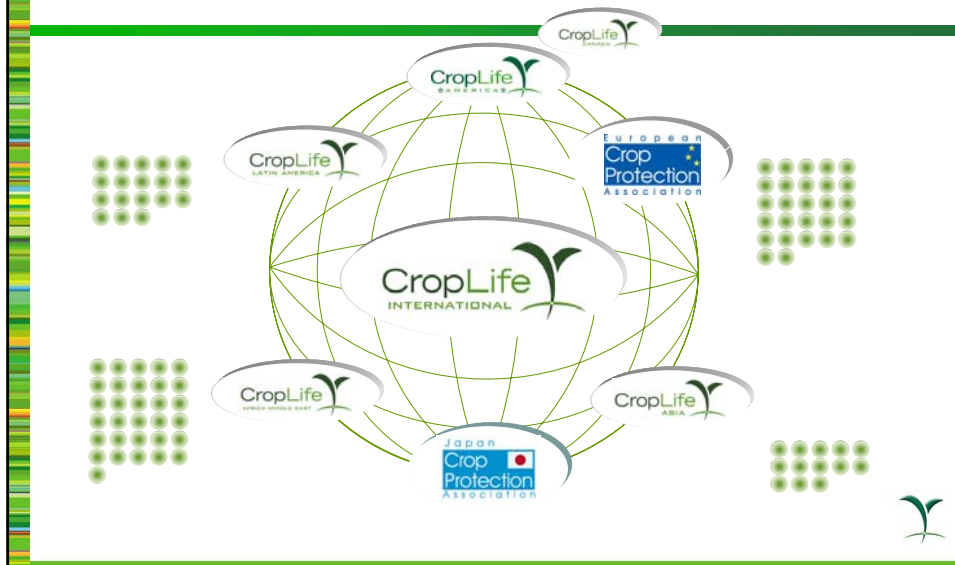
The Plant Science Industry invents, develops, manufactures and sells products and services designed to improve the global production of food, feed, fibre and other useful products in a sustainable way.

The Industry performs this mission through the use of biology, chemistry, biotechnology, plant breeding and other techniques while following the highest ethics and standards and providing safeguards for human health and the environment.

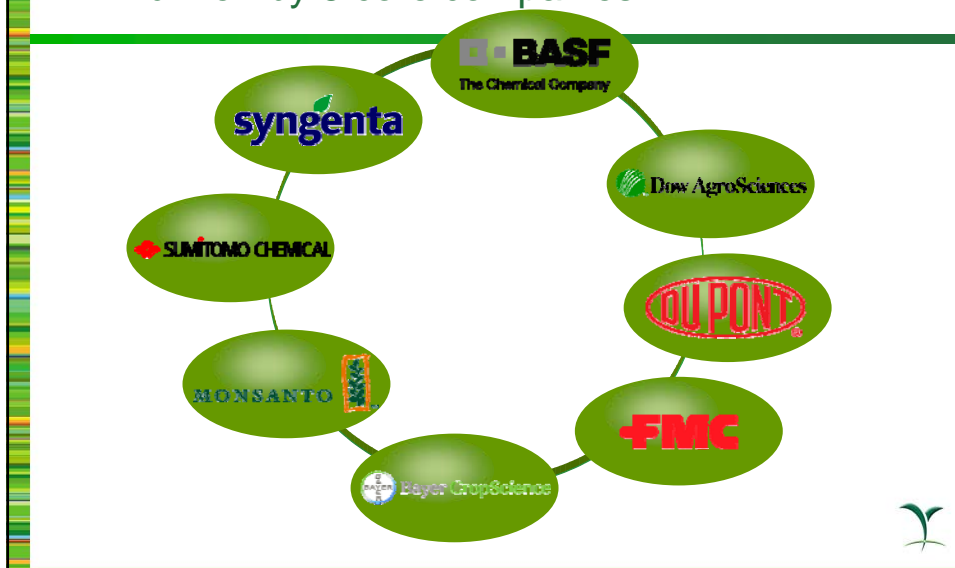
The Industry pursues transparency in its business activities by addressing concerns of all stakeholders – including customers, regulatory agencies and NGOs. The industry embraces the free and open market philosophy supported by the international community.



CropLife's network of Associations in over 90 countries...



... driven by 8 core companies



Stewardship definition and principles

Definition:

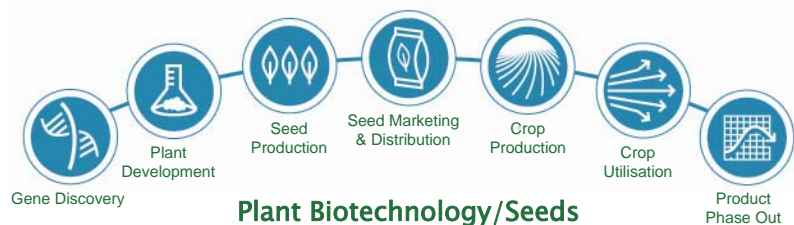
The responsible and ethical management of a plant protection or biotechnology product throughout its lifecycle



Stewardship definition and principles

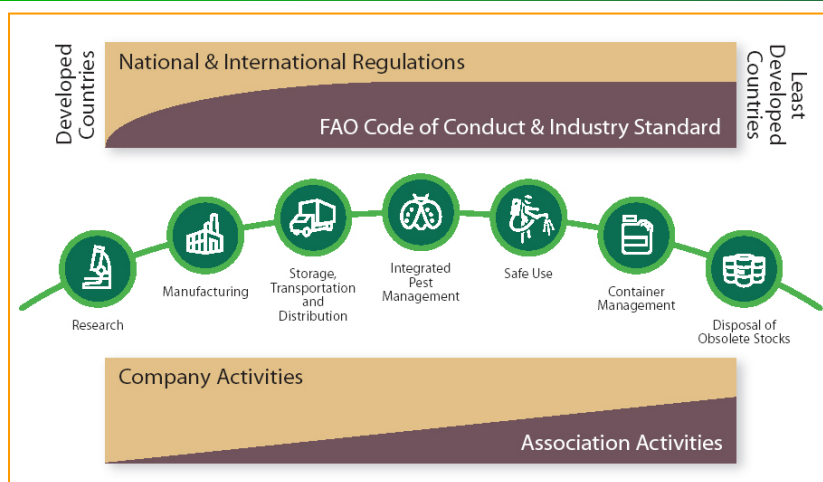
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The responsible and ethical management of a plant protection or biotechnology product throughout its lifecycle



Why Stewardship?

- Stakeholders (customers, employees, shareholders, policy makers, society) are entitled to good stewardship
- Stewardship is proactive identification, management and minimisation of risk
 - Human health
 - Environment
 - Business
- Company and association stewardship activities are complimentary and synergistic
 - Extended reach
 - Resource and policy efficiency



Integrated Pest Management & Responsible Use (incl. CropLife's Safe Use Initiative)



Integrated Pest Management & Responsible Use

- The responsible use of crop protection products is undertaken within the context of promoting an IPM strategy.
- It is premised on the belief that a crop protection product should only be used when necessary – ‘as little as possible, as much as necessary.’
- That Responsible Use is part of IPM is implicit in the FAO Code of Conduct for the Distribution and Use of Pesticides which describes IPM as:

‘The careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risk to human health and the environment...’

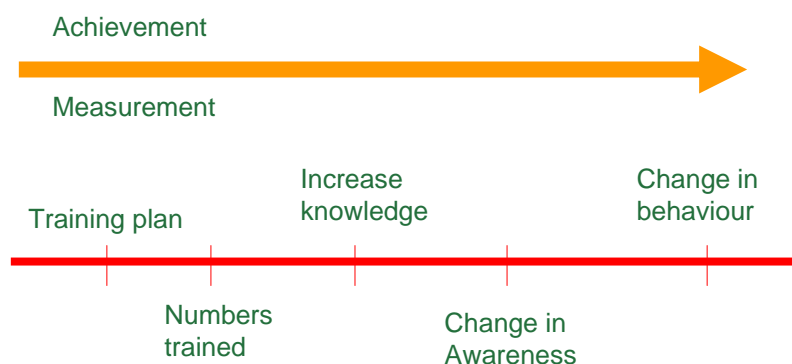


The Start: Safe Use Initiative

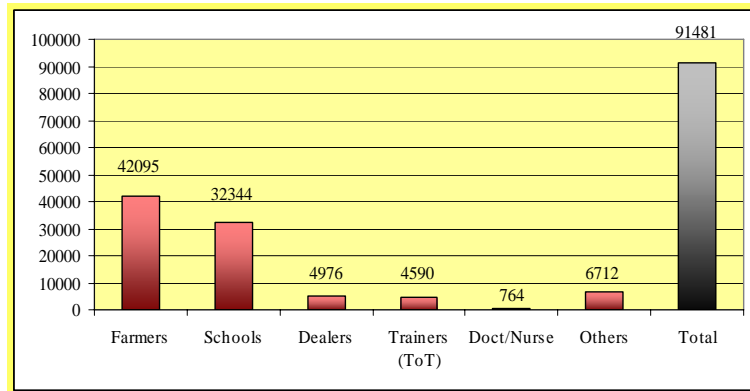
- Need for a global, industry-wide, coordinated approach to promote responsible use of pesticides:
 - Improve compliance with the national laws and FAO Code of Conduct
 - Reduce the number of pesticide-related incidents
 - Protect the environment
 - Produce healthy and affordable food
- Initiated in 1991 with 3 pilot countries, extended worldwide



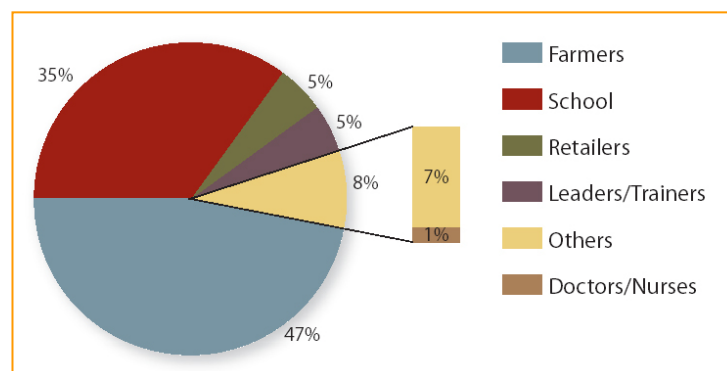
The aim: Change in behaviour



Persons trained in 2003



Training numbers - 2003



IPM and Responsible Use: Achievements

- Industry participation in 80+ countries
- Over 2.5 million trained since 1991
- In 2003, 100,000 people trained (including 9000 trainers) in circa 30 countries in Africa, Asia and Latin America;
- Participation in programmes in developed countries, e.g. certification schemes
- Independent audits show change in attitude and behaviour amongst farmers
 - » *Lesson learnt on improved training methodologies and monitoring behaviour change – will be incorporated in all programmes, participatory approach*
- A growing number of multi-stakeholder partnerships e.g. IFAD, US EPA, Worldview network, USAID, IFDC, GTZ, AVRDC, governmental bodies – outreach & impact.



Container Management



Design

- Robust – do not break or leak during normal use
- Practical – suited for conditions of use (size, material)
- Recyclable – where possible (including thermal recovery)



Handling

- Training of Trainers, Dealers, Farmers in proper handling and responsible use
- 'Triple rinsing' is the minimum standard – removes more than 99.99% of product residue
- Proper storage, product preparation, application and disposal



Disposal

- Recycling/recovery is the ultimate goal
But it is not always practical or possible in all countries/regions
- Needs to be practical solutions based on local needs



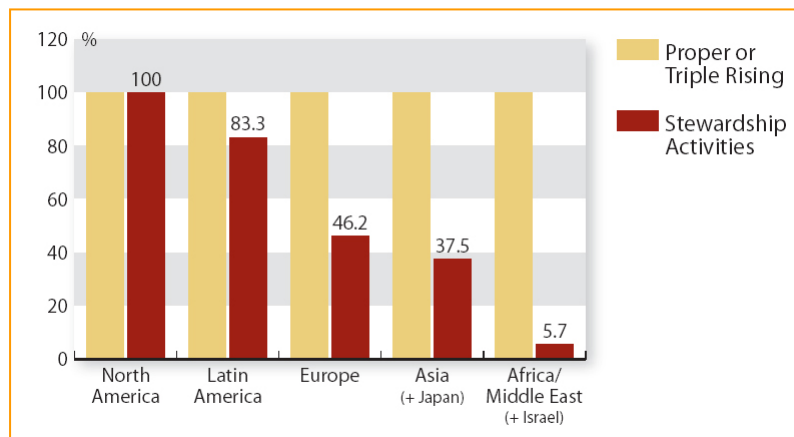
Global overview of activities

Survey of all CropLife national associations:

- 56 responses: 49 out of 56 have an established management programme (beyond 'triple rinsing') – includes schemes covered by national legislation
- Variation of schemes
 - Dedicated recycling well established in Nth and Sth America, Australia and most of western Europe
 - Inclusion in 'main-stream' recycling in parts of western Europe (thermal recovery)
 - Destruction (bury/burning – in-line with local law and recommended practice) in Africa and Asia



Global Overview: Associations with container management schemes



Examples

- Costa Rica – partnership with GTZ; 12.5% plastic 45% metal collected, thermal recovery
- Canada – Voluntary association-led scheme, 70% plastic collected (55m containers since 1989), recycled (e.g. fence posts) and thermal recovery
- Sri Lanka – local schemes for collection of (glass) containers
- South Africa – Association initiative for thermal recovery programme for plastics



Obsolete Stocks



Association disposal projects



Global Obsolete Stocks Management

Programs in Developing Countries

- 5000 t. in last 10 years – approx 20 projects
 - Mauritania, Senegal, Gambia, Niger, Southern Africa, Mozambique, Uganda, Madagascar, Pakistan, Brazil
- Some recent initiatives
 - Ethiopia: 2000t., incinerate in Finland
 - Senegal, Mauritania, & Cape Verde: 170t.
 - Africa Stockpiles: US\$30m commitment – Industry support and expertise – remove all obstocks from Africa



Global Obsolete Stocks Management

plus

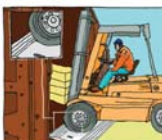
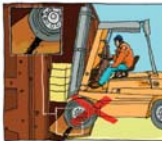
circa 5000 t. of former stocks collected in OECD countries



Training Guidelines



Handling Methods and Equipment



Loading equipment such as a forklift or a properly constructed

Care must be taken to ensure that packages are correctly handled during loading and unloading. In general, the use of suitable mechanical handling equipment is recommended, as it can reduce the risk of damage.

Conversely, the use of unsuitable equipment or poor handling techniques can seriously damage packages and increase the risk of spillage.

For large quantities of crop protection products, a detached, enclosed store is preferred. Where this is not practicable, crop protection products may be kept in a segregated, dedicated storeroom which is part of a larger building provided the building does not contain a staff room, vehicle store, workshop, office or area used in any way for food.

Site access

The site must provide suitable access for safe delivery and collection with a reasonable working area for loading and unloading of delivery vehicles. Ideally, the building should stand alone with a space of at least 10 metres between it and the surrounding property. The distance depends on the applicable building codes and fire protection codes and on local legislation, e.g. if the warehouse contains flammables, the amount of material stored and the rating of the fire wall can determine how far away other structures must be. As a consequence, more buffers to the neighbouring property line may be needed.

Access for emergency vehicles should preferably be available from two sides. The emergency response vehicles (e.g. fire fighters) should be able to take a route that cannot be blocked.

The response to an emergency should be planned in advance, especially if it is known that the approach to the building might be restricted for any reason.



Provide suitable access for fire fighters

3. FORMULATIONS, PACKS, MEASURING AND MIXING

Formulations

Crop protection products are formulated (made up) into usable products by manufacturers to optimise the efficacy and safety of each crop protection product and to accommodate the ways in which it is to be used.

There are many different types of formulation - liquids and solids - most requiring to be diluted, usually with water, before use, although some are used without dilution. The most common are shown in Appendix 2 (pages 56-57), which also gives a general indication of the associated problems and hazards of which users must be aware.



Do not buy sacks with broken seals



Do not re-pack crop protection products into other containers

Vegetable IPM

The past decade has seen a movement of people from rural to urban environments in Asia and, indeed, in most developing countries. The migration is fuelled by the increased economic opportunities offered by an urban lifestyle. Improvements in the economic status of urban populations have resulted in an increased demand for a wider diversity of foodstuffs and in particular high quality vegetables. To meet this demand smallholder, peri-urban, vegetable production has expanded rapidly. This production provides nutrition, income and employment and in some cases generates foreign exchange through exports to other countries. Currently such vegetable farmers rely mainly on pesticides to control a wide range of devastating pests and diseases - a strategy which, unless they are used wisely, threatens the health of smallholders and the peri-urban ecosystems on which they depend.

Economic Injury Simulator

Use the EIL simulator below to see how EILs work. This EIL simulator allows you to adjust the parameters discussed on the previous in order to see how they affect the Economic Injury Level. You can use the arrow buttons to adjust the values up and down. When you have set the EIL at the desired level, press play. When (or if) the pest population reaches the EIL level, press the spray button to knock the population back below economically damaging levels.

To see the effects of the pests on your harvest, you can adjust the number of pests to zero in the population bar and run the simulation. This will give you an idea of how much crop you can harvest in a completely pest-free environment. You may also want to test the effect of numerous or particularly damaging pests. Setting the initial pest population to a high number (e.g. 50) or setting the injury per pest or damage per injury levels high will certainly reduce harvests.

agLearn.net - A Network for Sustainable Agriculture

agLearn.net, the Network for Sustainable Agriculture, is dedicated to the knowledge, attitudes, and working practices of farmers through the promotion of sustainable agriculture practices.

agLearn.net is an Internet based series of courses aiming to support farmers communities through the sharing of knowledge and positive experiences, stakeholders together via partnership and constructive dialogue. The key of agLearn.net cover three key areas:

1. **Responsible Pesticide Use.**
2. **Integrated Pest Management (IPM), and**
3. **Integrated Soil Fertility Management.**

In line with the **Plant Science Industry's** commitment to the principles of IPM, four courses are offered in the field of IPM:

- **Introduction to IPM.**
- **Cotton IPM.**
- **Rice IPM, and**
- **Vegetable IPM.**

Key Issues: Measurement and Indicators

- Measure impact
- Report impact
- Improve programmes – targeted, cost-effective
- Stakeholder consultation workshop (October, 2005)



- 70+ participants, >two-thirds external
- Report of current stewardship activities circulated and discussed
- Major issues and concerns voiced
- Roadmap agreed for development of indicators
- Consultation document circulated in June 2006



Benefits and Advocacy



Lessons

- Large challenge – particularly in developing countries
- Need to be proactive
- Need to measure impact and adapt
- Partnerships essential
- Need to demonstrate benefits of technologies & stewardship
- Long-term commitment – but essential



Interaction with IFA?

- Share 'good practice' e.g. training methodologies
- Encourage network coordination
- Support input supply chains (esp. smallholders)
- Joint training (c.f. Aglearn; IFDC)
- Joint programming (e.g. container management)
- Joint publications/advocacy, esp. on benefits of technology



Thank you

