## Mitigation measures for spray drift reduction

**Flexibility and customised mitigation**
Spray drift data and models in different types of cropping scenarios have helped regulate the *standardisation* of buffer-zone sizes.

Developments in spray drift reduction technology allow further optimisation of buffer-zone sizes.

The AIM workgroup wants to promote mitigation options and approaches to integrate them into regulatory decision making.

**Best Management Practices to improve mitigation**
*Flexibility* in BMPs should be encouraged to minimise the environmental impact of product use beyond standardised label recommendations.

Spray nozzles can be switched on/off, or even changed quickly, to tailor applications to local landscape features and current weather conditions.

To realise these improvements, operators will need support with further *training* to identify potential improvements and their implementation.

## Why implement the AIM project?

**EU policy perspective**
Developments in the CAP health check, revisions to 91/414, the water framework and the sustainable use of pesticides directives are driving the need for improvements in the environmental performance of agriculture.

Mitigation measures can be integrated into regulatory and agro-environment schemes, to meet the broader objectives of EU Rural Development Policy.

**Stakeholder engagement**
A critical part of this project is to engage in dialogue with our fellow stakeholders, to identify and agree the best ways to implement mitigation measures in order to satisfy all our needs with respect to productivity and environmental protection.

European Crop Protection Association
member of CropLife International

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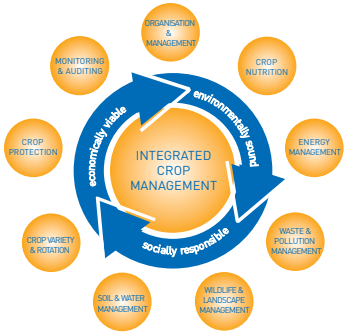
# AIM
# Managing diffuse sources of surface water contamination

An ECPA workgroup has started the project ***AIM*** *(**A**dvancing **I**ntelligent **M**itigation)* in order to further develop mitigation measures that reduce ***spray drift*** and ***runoff*** of plant protection products into surface water and to address the needs of all stakeholders including farmers and growers, regulatory authorities, water resource managers and the crop protection industry.

Only a balanced approach to agriculture can be sustainable, achieved by ***Integrating Productivity*** and ***Protection*** of natural resources and biodiversity. In general, this requires us all to:

- *Optimise external inputs* (e.g. fertilisers, irrigation, organic amendments, pesticides, fuel and machinery) needed for productivity




- *Identify and improve protection measures* that reduce impacts on soil, water and biodiversity, to improve agriculture's environmental performance

## Developing knowledge surrounding spray drift

Spray equipment is still the most widely used form of *Application Technology* for delivering pesticides to the intended target, with continuous improvements in delivery and reduction in environmental impact.
The focus has been on two key aspects:

- Increased precision of pesticide delivery to target pests *(optimising external inputs)*; and
- Reduced losses by spray drift from the target *(improving protection measures)*

Management systems are also being developed to make delivery more dynamic and responsive to conditions. For example, GIS-based decision support systems can combine wind direction, speed and positioning in the landscape, to improve user practice as they spray.

## Developing knowledge to manage runoff

Runoff occurs when rainfall exceeds the rate of infiltration of water into soil or when the soil is already at saturation, thus initiating flow of excess water together with sediment and other contaminants (chemical and microbial) to surface water.

Many complex interactions determine how much runoff reaches surface water, but vegetative cover is critical to reducing runoff and soil erosion. Often small fractions of catchments contribute the greatest proportion of run-off. Identification of the main contributing runoff zones will help to focus the advice on the most vulnerable areas.

Other approaches to reduce runoff include:

- Conservation tillage systems
- Vegetative buffers and retention ponds

## Mitigation measures for runoff reduction

**Improving understanding of performance**
The widespread data on vegetative strips and retention pond buffers demonstrate significant reductions in pesticide levels entering surface water following runoff reduction.

A number of variables influence buffer performance. The AIM group is developing a new approach to predict buffer performance, which could be integrated into regulatory decision-making schemes and advisory tools at the catchment scale.

**Best Management Practices to improve mitigation**
Runoff mitigation practices should be adapted to the local landscape to minimise cost and maximise efficiency.

As a result, the AIM group wants to demonstrate buffer use on farms, to enable farmers to implement best buffer designs and for others to see them working in practice.

Training is important as well, since buffers are dynamic systems needing management to realise the full design benefits.

Finally, buffers, particularly vegetative strips, can be designed to provide benefits for biodiversity.