



WEEDS

INTEGRATED WEED MANAGEMENT

Why is Bayer serious about IWM?

The challenge of feeding a growing global population - over 9 billion by 2050 - is being made more difficult by the spread of herbicide-resistant weeds with their negative impact on agricultural productivity. Already today, every year weeds destroy enough food to feed 1 billion people. With resistant weeds on the rise, the loss may be even higher in future.

Farmers need a varied toolbox of available products and practices to combat the build-up of resistance. This goal is difficult to achieve in day-to-day endeavours because when a particular weed management practice is working well and is economically attractive, it is tempting to continue with it despite knowing that over-reliance on a single measure can significantly increase selection pressure, leading to resistance.

Incorporating Integrated Weed Management measures can help prevent resistance from severely impacting weed control, and may also lead to a decrease in the density of a resistant weed population. This requires, of course, that the problem is recognized, studied in detail, and addressed with a dedicated program over a longer period of time.



Bayer's Integrated Weed Management program is a holistic approach to weed control.

What is IWM?

Integrated Weed Management (IWM) is a fundamental program in the production systems of farmers that enables the sustainable control and management of weeds in fields using methods designed to complement each other. It involves the use of a range of diversified control techniques embracing physical, chemical and biological methods in an integrated fashion and without excessive reliance on any one method. An IWM plan needs to be defined over at least one full crop rotation system. Because of the increase in weed resistance over the past decade, IWM has been adopted increasingly as a tool for managing herbicides-resistant weeds. The purpose of IWM is to reduce weed pressure and keep weeds at low levels. The desired outcome is to put weeds off balance and this make it easier for a herbicide to do its job – which is to protect the yield potential of a crop.

THE GOALS OF AN IWM PLAN CAN BE SIMPLY STATED AS FOLLOWS:

1. Suppress weed growth and biomass accumulation to limit their ability to decrease yield
2. Minimise weed seed production to limit the return of seeds into the soil seed bank
3. Deplete weed seed reserves in the soil to minimise germination in subsequent years
4. Prevent or reduce the spread of weeds to keep problem away from non-problem areas

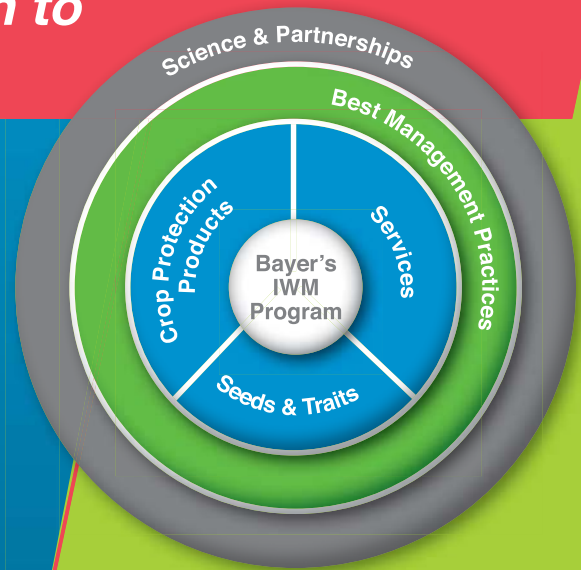
How to implement IWM:

- // Know your weeds
- // Diversity in Mode of Action
- // Diversity in rotation
- // Optimise plant density to compete with weeds
- // Eliminate seedbank e.g.
 - Grazing
 - Mechanical
 - Pre-sowing control
- // Check your sprayer:
 - Calibration
 - Nozzle choice



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It is a well-balanced combination of three components to enhance farmers' productivity and secure food supplies in the long term:

1. Outstanding *Integrated Weed Control Solutions*
2. Implemented locally according to *Best Weed Management Practices*
3. Based on the latest *Scientific Insights* and supported by valuable *Partnerships*.

In this way, Bayer is contributing to a more sustainable future of agriculture.

**COMMITTED
TO THE
FUTURE**

The South African initiative to promote best practices in weed management.

Best weed management practices:

Committed to the future

Our global initiative is called "Diversity is the future". Diversity is the key to success in many aspects of crop protection, including diversity in herbicides, diversity in crops, and diversity in supplementary methods designed to disrupt the life cycle of weeds. In this way Bayer is contributing to sustainable agriculture.