



# FACT SHEET | HERBICIDE RESISTANCE MANAGEMENT



## HERBICIDES | IMPORTANT TOOLS FOR PROTECTING CROPS AGAINST WEEDS

### WHAT ARE HERBICIDES?

Herbicides are essential tools used by farmers **to protect crop yields and quality by controlling weeds** that compete with plants for nutrients, sunlight, space and water.

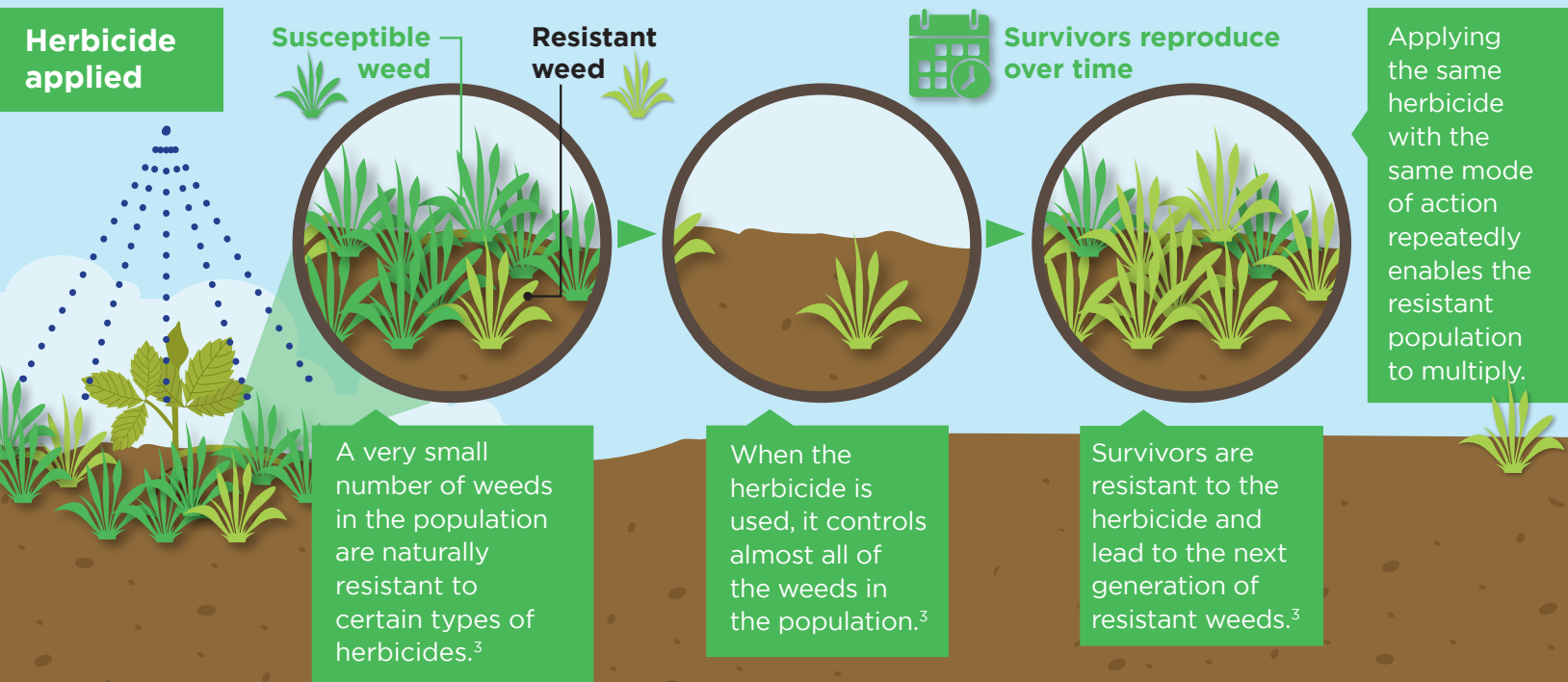
IF IT WEREN'T FOR **WEEDS**,  
**FARMERS WORLDWIDE** COULD GROW AN  
**AVERAGE 34% MORE**  
CROPS EACH YEAR.<sup>1</sup>



Herbicides allow farmers to control weeds and preserve their crop's yield and quality. If farmers rely too heavily on one type of herbicide, however, weeds can naturally adapt and become resistant. In fact, roughly 250 weed species have evolved to resist 160 different herbicides over the past 60 years.<sup>2</sup>

### HOW DOES HERBICIDE RESISTANCE EVOLVE?

Resistance is a natural, biological response that is heightened by overusing the same weed control methods instead of integrating chemical, agronomic and non-chemical tools.





# MANAGING HERBICIDE RESISTANCE

The plant science industry works with farmers, advisors and academia to identify resistance issues and to provide guidance and tools that help them manage resistance on the farm.

## Q & A

**Q.** Why is it important to manage herbicide resistance?

**A.** Resistance management is important to maintain the effectiveness of herbicides, which are essential tools for efficient and healthy food production. If resistance isn't managed, farmers could lose some of the benefits associated with the proper use of herbicides and herbicide-tolerant (HT) crops. These benefits include crop choice and reduced tillage practices, which help farmers retain nutrients and moisture, preserve topsoil and soil structure, boost crop yields, and protect the environment.<sup>4</sup>

**Q.** What can be done to manage herbicide resistance?

**A.** Integrated Pest Management (IPM) combines a diverse range of non-chemical practices with chemical and biotech technologies to prevent and manage resistance. Farmers commonly use practices such as crop rotation, harvest weed seed management and cultivation, and the use and rotation of herbicides with different modes of action as part of their IPM strategies. Herbicide product labels include the mode of action (MoA) in the form of a letter code, to help farmers manage resistance development by avoiding repeated use of products with the same MoA.

**Q.** Do biotech crops cause herbicide resistance?

**A.** No. Weed resistance to herbicides has been around since the beginning of agriculture and it affects all types of production systems. Whether through biotech or conventional agriculture, resistance occurs and must be managed through good IPM practices.

## SOURCES

<sup>1</sup> cambridge.org

<sup>2</sup> APVMA.gov.au

<sup>3</sup> hracglobal.com

<sup>4</sup> croplife.org



Resistance Management Strategies are developed and maintained by our scientific technical review committees in consultation with relevant national and international experts. These strategies help all crop protection users sustainably control pests, weeds and diseases that are a constant threat to Australia's natural environment and our nations food, feed and fibre produce. Visit: [www.croplife.org.au](http://www.croplife.org.au)