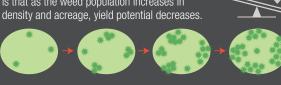
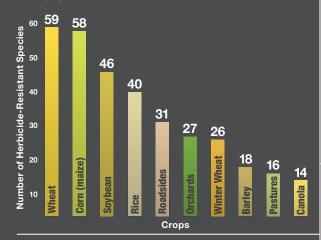
Prevent Resistance

A herbicide resistance problem doesn't develop overnight. Usually, it's the result of high selection pressure exerted on a weed population over the course of several years. By repeatedly applying the same herbicide or several herbicides that use the same mode of action, growers can inadvertently create that pressure. The results of herbicide resistance can be extremely costly. In the long run, taking a proactive approach to weed management is the most effective and economical way to tackle this problem. The first step toward effective weed resistance management is to know the facts.

POTENTIAL YIELD IMPACT While each situation may vary in the details, the general rule is that as the weed population increases in



TOP 10 CROPS Many of the global food supply's most important staples are affected by resistant weeds. The U.S. has an especially challenging situation with 145 identified weeds resistant to herbicides.



unique cases (species x mode of action) of herbicide-resistant weeds globally



The Spread of Weed Resistance in the U.S.

In recent years, the number of resistant weeds and the acreage affected by them have seen dramatic increases.



2010

WEED RESISTANCE AND GLYPHOSATE

Glyphosate-resistant weeds have been of special concern. Here are just of a few of the most widespread—and most devastating



Giant Ragweed



Can produce up to 200,000 soybeans and wheat

Horseweed (Marestail)



Palmer Amaranth resistant weed in the South



GIANT RAGWEED

2012

Ryegrass Can reduce wheat yield weeds/sq. meter



PALMER AMARANTH GOOSEGRASS

WATERHEMP

HAIRY FLEABANE

JOHNSONGRASS

Can produce up to female plant



ANNUAL BLUEGRASS

JUNGLERICE SPINY AMARANTH

Common Ragweed Has developed herbicide

resistance to four modes of action, including glyphosate

POWER MEASURES



Apply residual herbicides with multiple modes of action.



Increase herbicide diversity with premixes and tank mixes.



Rotate crops, which also allows rotation of herbicide modes of action.



Scout fields, borders, fencerows and ditches for weed pressure.



Start with clean fields, including borders.



Use full herbicide rates, carrier and recommended adjuvant(s).



control (cultivation), if appropriate.



Use cover crops to help knock down existing weed populations.