Field Identification and Control
of Suspected Herbicide-Resistant Weeds

HERBICIDE RESISTANCE IS NO LONGER JUST A REGIONAL ISSUE.
IT'S A NATIONAL THREAT.

Though herbicide resistance has been an issue in parts of North America for many years, it's growing in severity. Farmers have become accustomed to a very efficient and simple weed management strategy – using a herbicide-resistant trait with the associated herbicide – but managing existing herbicide-resistant weeds or working to prevent the development of new ones requires farmers to consider more complex weed-management strategies. The occurrence of resistance on a farm can increase rapidly and proper identification and confirmation of resistance is imperative to timely mitigation.
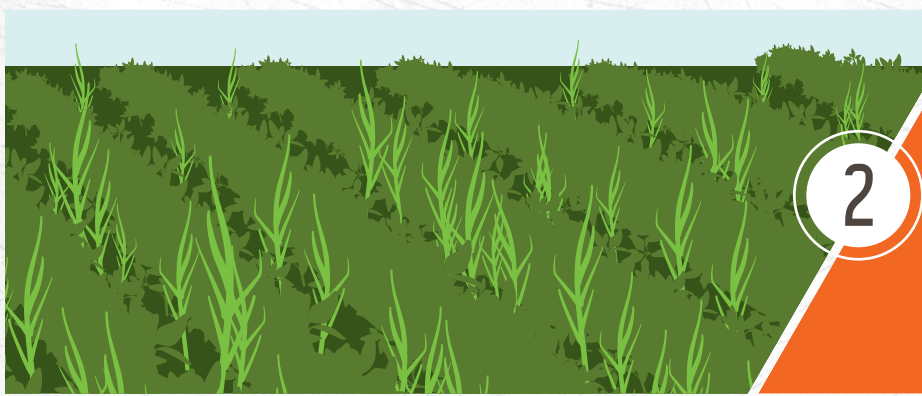

YEAR 1

YEAR 2

YEAR 3

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What does resistance look like?

Three indicators of possible herbicide resistance:

1 A herbicide's failure to control a weed species normally susceptible to the herbicide at the dose applied, especially if control is achieved on adjacent weeds

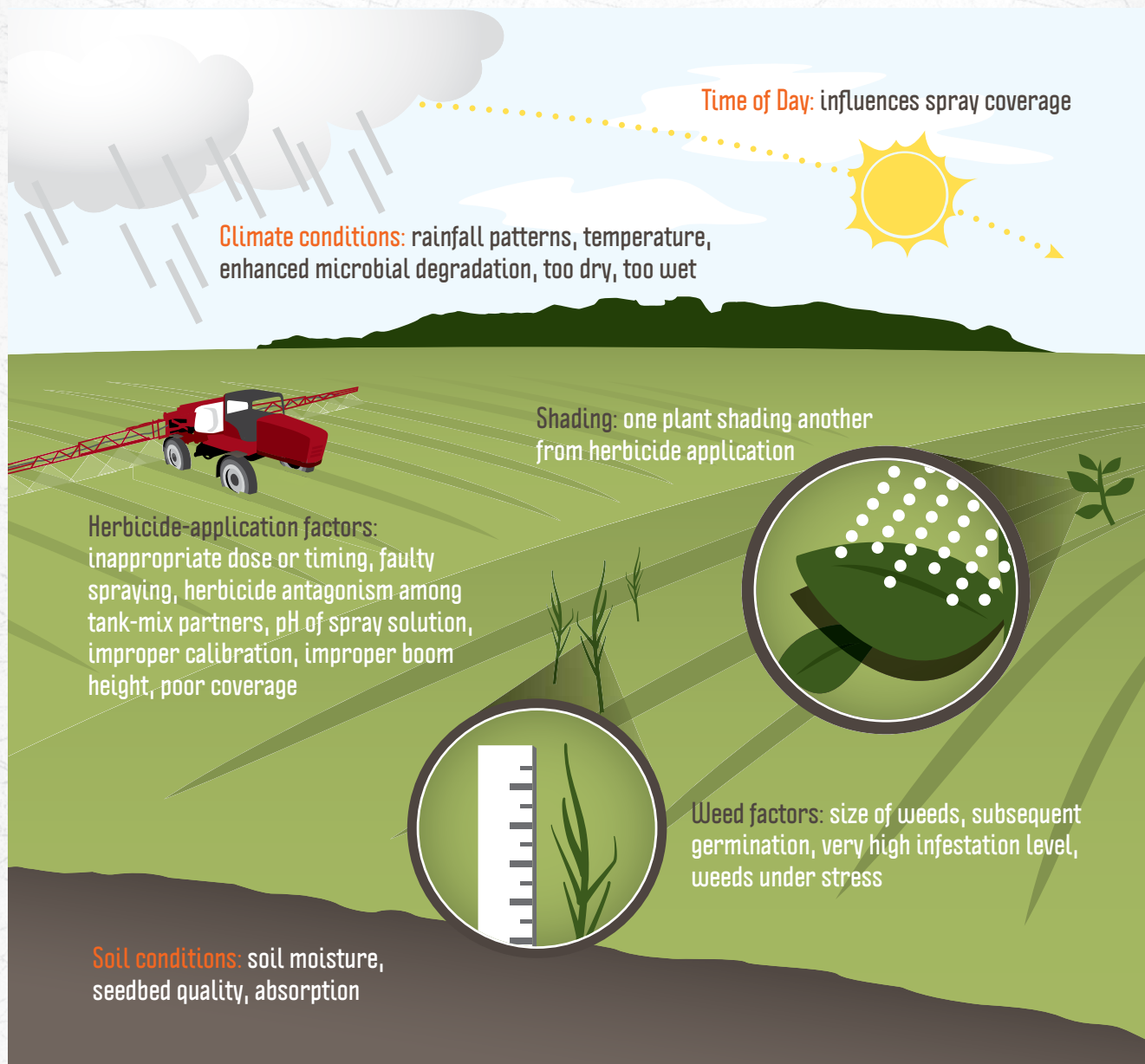**2** A spreading patch of non-controlled plants of a particular weed species

3 Surviving plants mixed with controlled individuals of the same or different species

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What causes herbicide failure?

9 out of 10 herbicide failures are due to factors other than resistance.

Time of Day: influences spray coverage

Climate conditions: rainfall patterns, temperature, enhanced microbial degradation, too dry, too wet

Shading: one plant shading another from herbicide application

Herbicide-application factors: inappropriate dose or timing, faulty spraying, herbicide antagonism among tank-mix partners, pH of spray solution, improper calibration, improper boom height, poor coverage

Weed factors: size of weeds, subsequent germination, very high infestation level, weeds under stress

Soil conditions: soil moisture, seedbed quality, absorption

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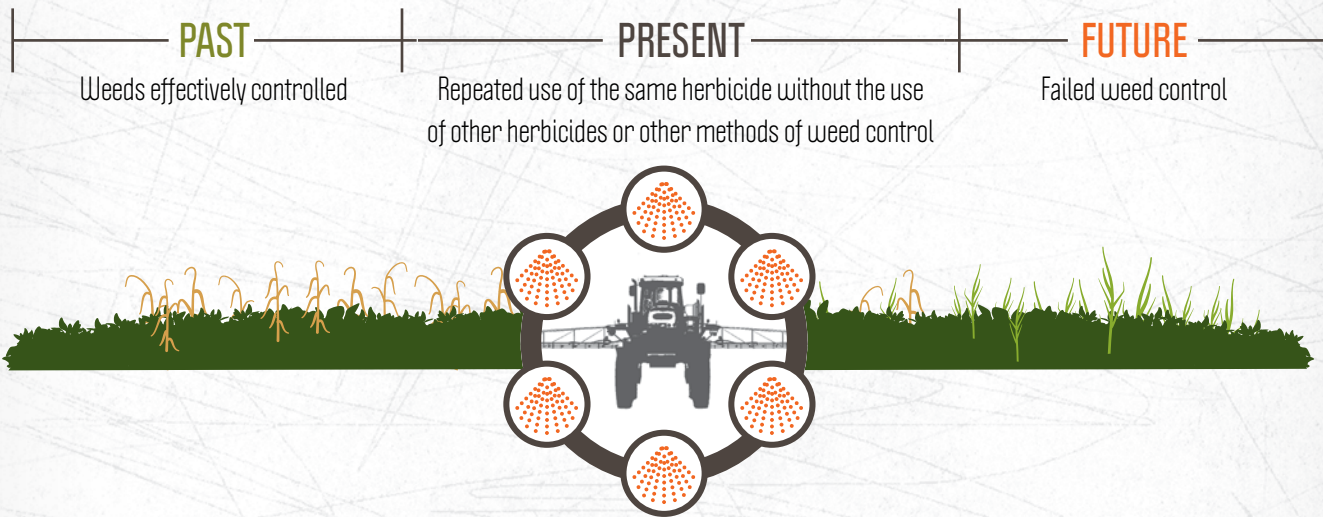WEED SCIENCE SOCIETY OF AMERICA

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How does herbicide resistance occur?

PAST
Weeds effectively controlled

PRESENT
Repeated use of the same herbicide without the use
of other herbicides or other methods of weed control

FUTURE
Failed weed control

What should be done now
if herbicide resistance is suggested?

Scout soon after the initial treatment, and re-treat, if necessary, using a herbicide
with a different site of action or a different weed-management practice.

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Contact your dealer, applicator, extension agent or others for guidance.

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If weeds are too large, the second application may not be effective.
Consider cultivation and hand weeding. Consider destroying
the infested area if resistance is extremely isolated.

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Follow-up during and after harvest. Rotate herbicides and crop next season.