Perspectives on Glyphosate Technologies within the North Central Cropping Systems

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Glyphosate Technologies

Burndown in no-till

Glyphosate-resistant crops

in-season glyphosate use
Glyphosate Technologies

Burndown in no-till

No-till Corn

No-till Soybean

CTIC 2004
Glyphosate Technologies

Burndown in no-till

40 Million No-till Acres

105 Million Acres

Fuel Price?
Glyphosate Technologies

Glyphosate-resistant crops
in-season glyphosate use
Glyphosate Technologies

Glyphosate-resistant crops

in-season glyphosate use

2005
@ 90% GR soybean
@ 30% GR corn
@ 70% GR canola

2006
GR soybean?
GR corn?
GR canola?
GR alfalfa?
Glyphosate-Resistant Weeds
## NC Herbicide Resistant Weeds

<table>
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<tr>
<th>Species</th>
<th>ND</th>
<th>SD</th>
<th>NE</th>
<th>MN</th>
<th>IA</th>
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7 single state species
At the end of the Day

Reduce selection pressure from glyphosate
Reduce Selection Pressure

Limit use of glyphosate-based systems
  – Continuous glyphosate-resistant crops?

Diversify herbicide use
  – Ideally, use more than one herbicide mode of action on all weeds every year
  – Rotate glyphosate with other herbicides
  – Burndown herbicide application includes 2,4-D
  – Use preemergence herbicides
  – Apply glyphosate in combination with other POST herbicides
At the end of the Day

Reduce selection pressure for glyphosate

Improve weed management when glyphosate is used
Capture the benefits of PRE herbicides

Controls or suppresses the initial flush of weeds

- Protects yield from early weed competition

Reduces selection pressure from glyphosate

- Fewer weeds at time of POST application

Maximizes glyphosate activity

- Weeds are smaller when POST applied
Manage POST glyphosate applications

Make first application to young, small weeds

- Less than 6 inches tall, less than 4 weeks old

Use appropriate glyphosate rates

- 0.75 lb/a too low on tough weeds
- 1.1 to 1.5 lb/a

For some weeds, if escapes exist, make a second application to prevent seed production (not a planned program)

- 0.75 to 1.1 lbs
Summary

1. Glyphosate technologies have value
   - no-till and in-crop
   - high intensity of use
2. Several key North Central weeds of concern
   - multiple resistance potential
3. Need to improve management
   - overall weed management
   - resistance management