The Importance of Glyphosate to Great Plains Cropping Systems

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Glyphosate for Weed Control

- Fallow weed control
- No-till burndown
- Roundup Ready Crops

Glyphosate & Cropping Systems

- Catalyzed the shift from wheat/fallow/wheat systems in the western High Plains to wheat/row crop/eco-fallow and no-till crop production
- Improved water conservation and utilization
- Intensified crop rotations
- Reduced weed problems

Glyphosate Use Through Mid-1990's

- Low glyphosate rates in combination with 2,4-D and/or dicamba to minimize cost and control weeds in fallow and no-till.
- Always used in rotation with other herbicides applied for in-crop weed control.

Glyphosate Use in The Last Decade

- Glyphosate has replaced conventional herbicides in Roundup Ready crops.
  - > 90% of soybeans
  - ~ 50% of corn
  - ~ 100% of cotton
  - % alfalfa ?
- Producers often eliminating 2,4-D or dicamba from fallow and burndown weed control treatments and increasing glyphosate rate.

Increase in Glyphosate Usage

- Inexpensive
- Effective
- Introduction of Roundup Ready crops
- Helped solve existing herbicide resistance problems
- No crop rotation restrictions

Weed Shifts in Fallow w/ Glyphosate

- Increase in Prairie Cupgrass
- Increase in Windmillgrass
- Increase in Yellow nutsedge



Concerns w/ Increased Glyphosate Reliance

- Selection of glyphosate resistant weeds
- Lack of viable alternatives for fallow and no-till weed control
- Viability of current crop production systems

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