Integrated Weed Management for Prevention of Herbicide Resistance

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From one herbicide to another
Technology can look good...

Triazine resistance...

Pursuit saves the day
Technology can look good...

Group 2 Resistance

Roundup saves the day...
Technology can look good...

Roundup resistance... → Dicamba saves the day
Favourite solution = Alternative herbicides
What do weeds need?
Fight the light
Bring more shade in the system

Reduce reliance on herbicides
Two trials

• Cultural weed control in soybeans
• Corn/soybean/wheat rotation
Soybeans

- Thin vs branching cultivar
- N-fertilizer at planting vs no fertilizer
- High seed density vs normal density
- With or without herbicides
Adding fertilizer at planting reduced yield

-3%

-9%
Increasing seeding rate was beneficial

10%

16%
Cultivar effect was variable

-7%  

16%
Rotation trial

Low intensity → High intensity
Rotation trial

Low intensity

Limited

Conventional

High density

High intensity

Fight the light
Rotation trial

Low intensity

Limited

Conventional

High density

High intensity

Fight the light
Rotation trial

Low intensity

Limited

Conventional

High density

High intensity

Fight the light
Corn density has an effect on weeds
Corn at 32000 plants/ac
Corn at 42000 plants/ac
Corn at 42000 plants/ac + cover crops
Soybeans high density
Soybeans low density
There are ways to increase canopy

Herbicides still an important part of the system
Thanks!!!