

Managing Troublesome Grass Weeds

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AGRICULTURE



What is this weed and how do I control it?

- IPM approach
 - Preventative
 - Cultural
 - Mechanical
 - Chemical
- Generally, several options for managing broadleaves in grass crops
- Very few options for removing grass weeds from grass crops

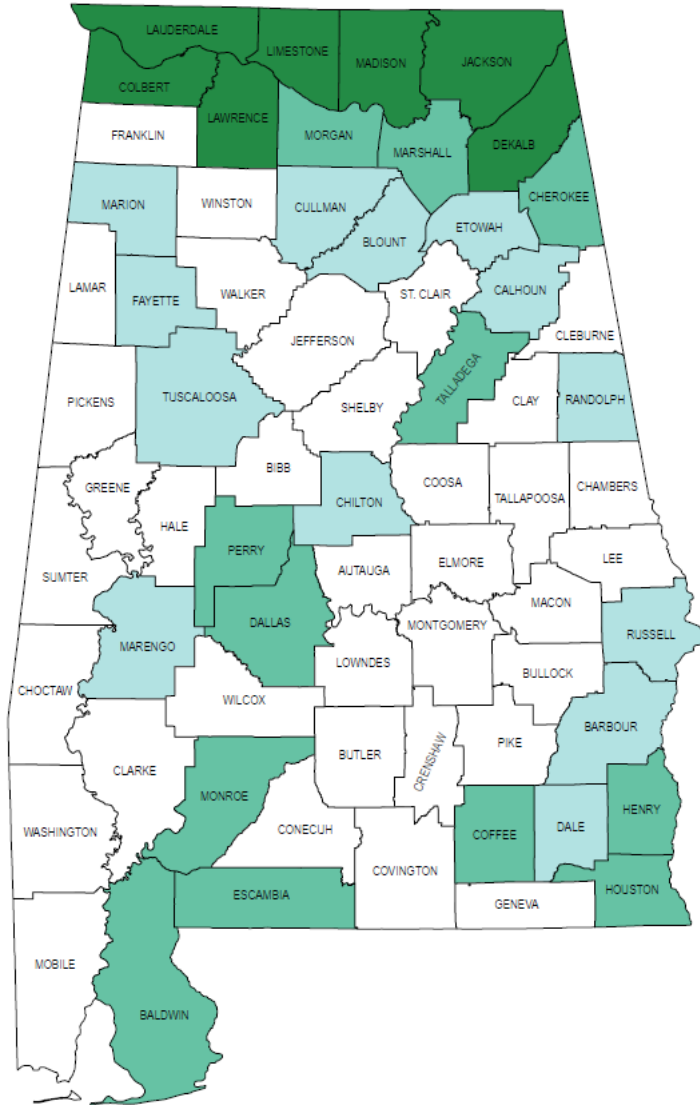
The Ultimate Challenge



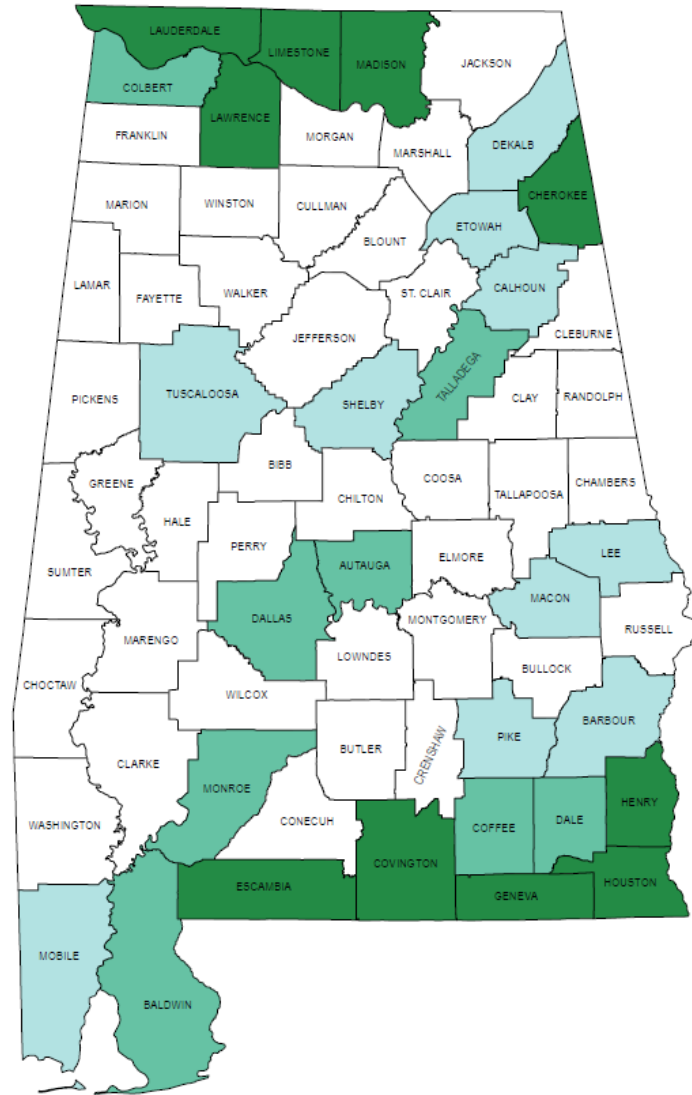
The Ultimate Challenge



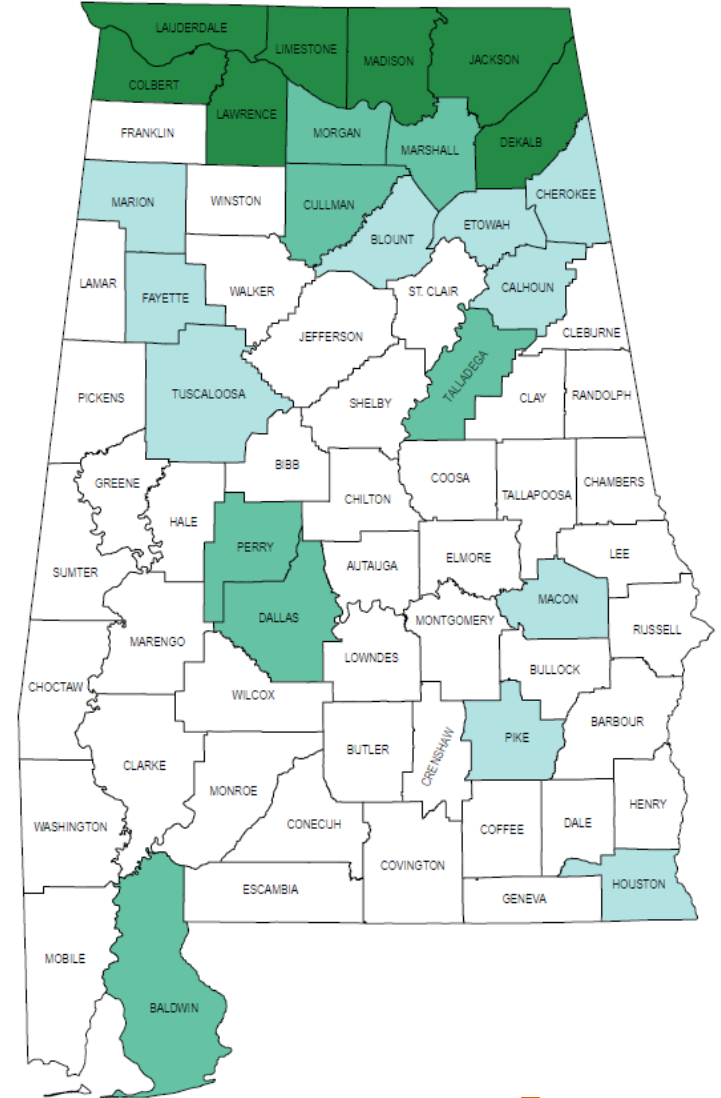
CORN
300,000 A



COTTON
435,000 A



SOYBEAN
360,000 AA



WHEAT 180,000 A

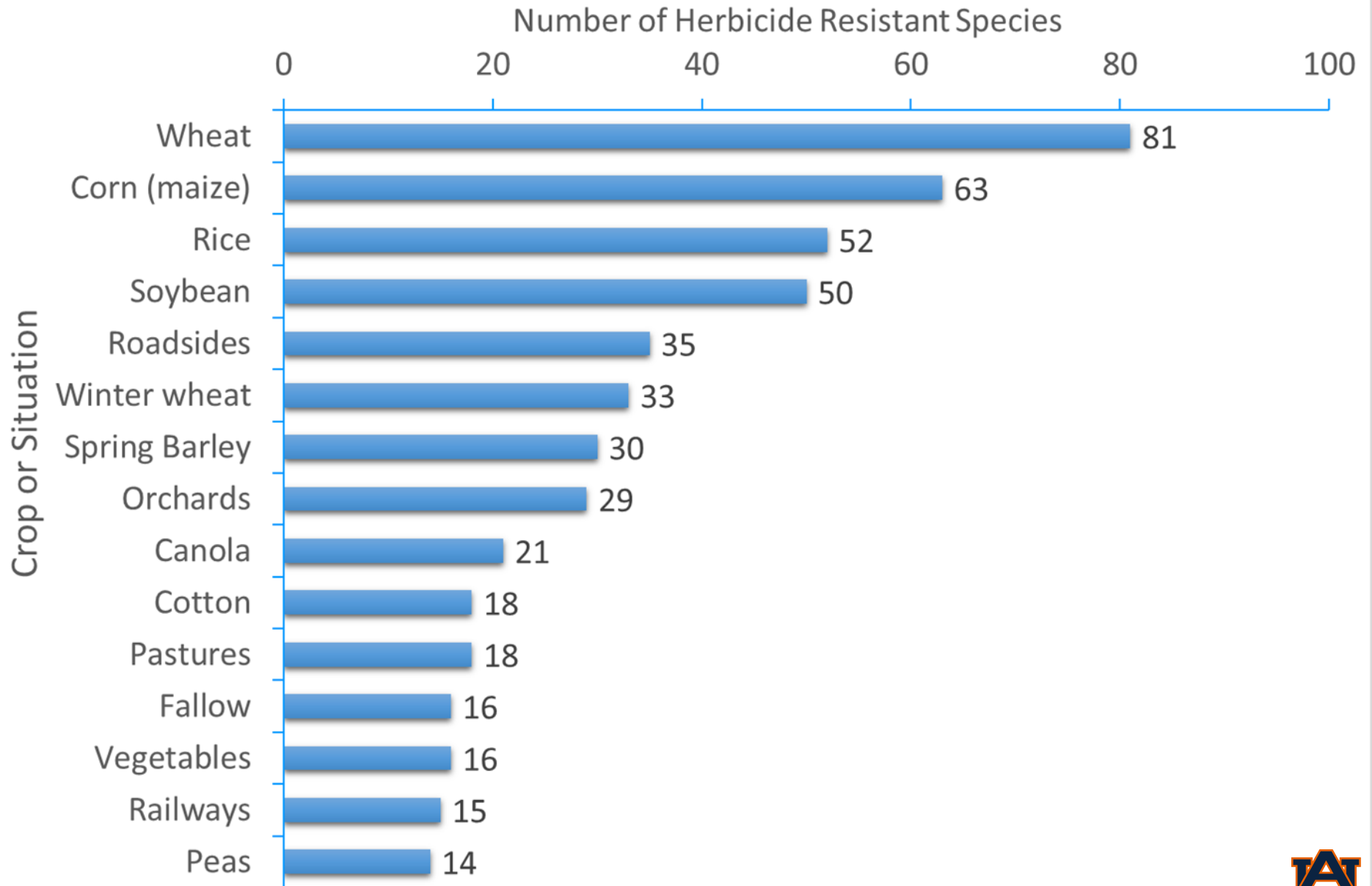
Italian ryegrass
(*Lolium perenne* subsp. *multiflorum*)



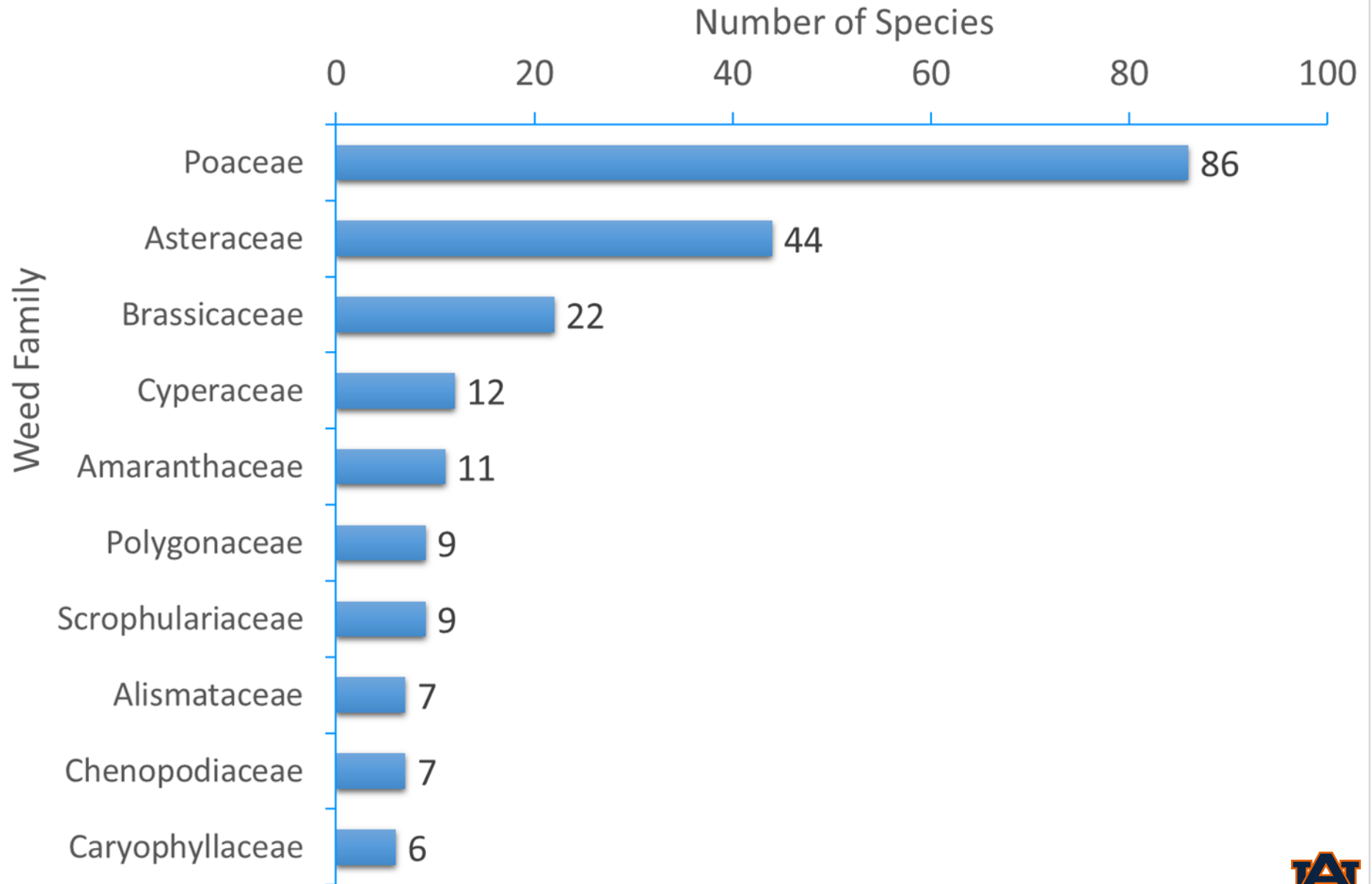
Goosegrass
(*Eleusine indica*)



Number of Herbicide-Resistant Species by Crop



Number of Herbicide Resistant Weed Species by Weed Family (Top 10)

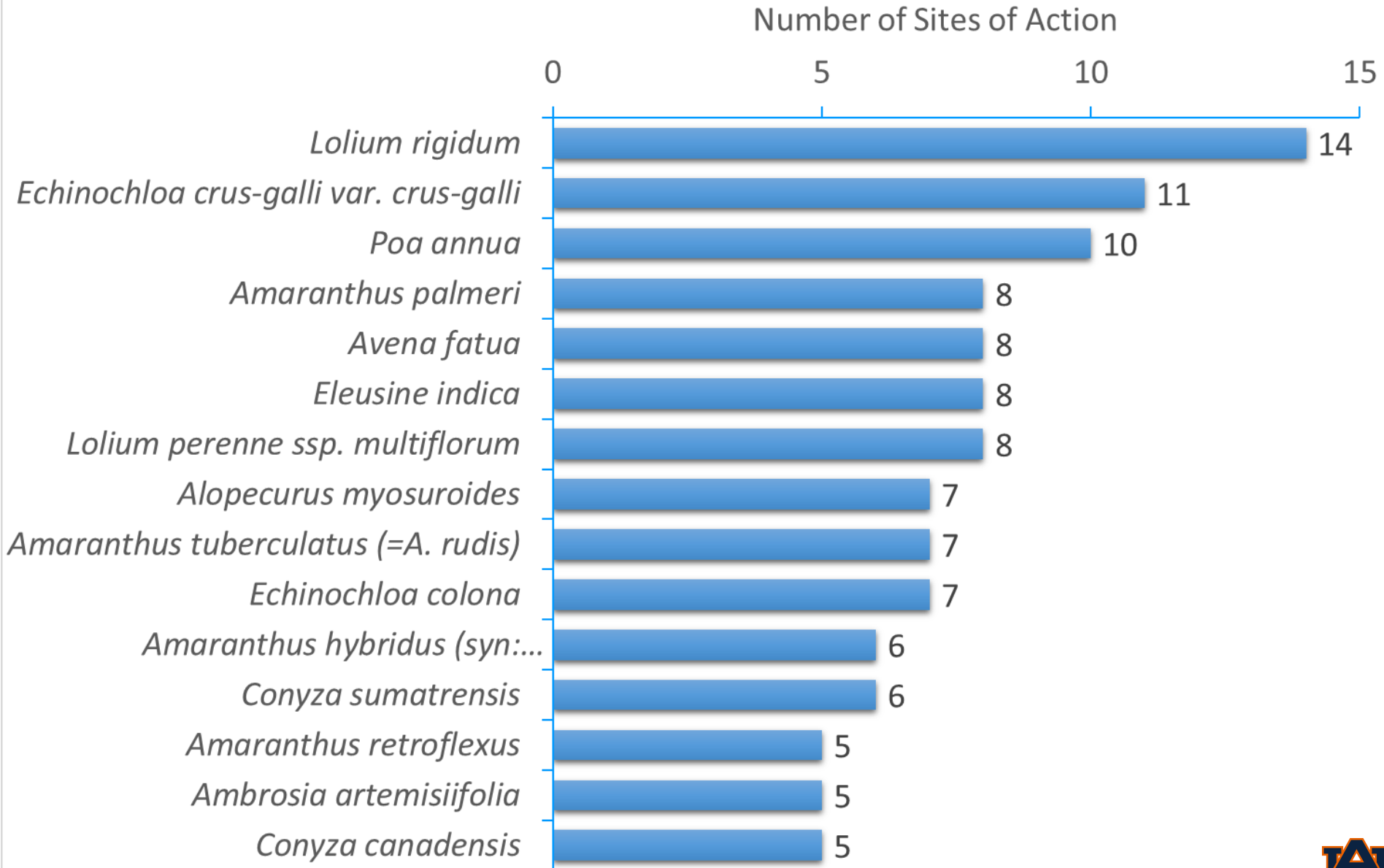


Ryegrass Control Options

- ~~Glyphosate~~
- ~~Paraquat~~ LA & NC
- ~~Clethodim~~ FOPs & DIMs
- ~~Rimsulfuron~~
- ~~Nicosulfuron~~ ALS inhibitors
- Paraquat + Group 5
- Fall applied Group 15
- Pyroxasulfone
- Pinoxaden + fenoxaprop
- Steel



Weed Species Resistance to Multiple Herbicide Sites of Action





Gramoxone + PS II herbicides for ryegrass

- Paraquat applied near sunup or sundown will not flash burn compared to midday application
- Paraquat or metribuzin + atrazine prior to corn
OR
- Paraquat + metribuzin prior to soybean
OR
- Paraquat + Cotoran (fluometuron), Diuron, or Caparol (prometryn) prior to cotton





Benefits of early ryegrass control

- Often at least 2 applications are needed for >90% control
- Benefit to cost ratio of 13:1
- Burndown at least 21 days prior to planting



Ryegrass Control in Wheat

Treatment Name	Group	Rate	Unit	App. Timing
PREEMERGENCE				
Zidua SC	15	1.25-3.25	Fl oz/A	DPRE/EPOST
Anthem Flex	14+15	2.75-4.5	Fl oz/A	PRE/DPRE
Fierce EZ	14+15	3-6	Fl oz/A	PREPLANT/DPRE
POSTEMERGENCE				
Axial Bold	1	15	Fl oz/A	POST
Axial XL	1	16.4	Fl oz/A	POST
Osprey	2	4.75	Oz/A	POST
Powerflex HL	2	2	Oz/A	POST
FINESSE C&F	2	0.3	OZ/A	DPRE





Increasing Issues

- Problems increasing since Xtend crops
 - *Echinochloa*
 - *Eleusine*
- Glyphosate resistance
- Herbicide antagonism
 - Dicamba + glyphosate or clethodim

Evaluation of Dicamba + glyphosate antagonism on grassy weeds

- Evaluate how grass control efficacy of glyphosate + dicamba is affected by:



- Weed size at application



- Effect of dicamba; applied as tank mix or separately



- Spray coverage and addition of a DRA

- Glyphosate rate



- Addition of surfactants



Conclusions

- **Addition of a DRA to glyphosate did not significantly affect control**
 - Consistent across experiments and sites
- **Application to smaller weeds improved control of glyphosate and dicamba tank mix**
- **Overall trend for reduced control when dicamba and a DRA are added to glyphosate**
- **Separating glyphosate and dicamba application by 30 seconds significantly improved control at 2 sites relative to tank mix**
 - Trend for improved control when applied 30 seconds apart at 6 sites
- **Increasing glyphosate rate does not improve control on bigger grasses**



GLYPHOSATE + DRA

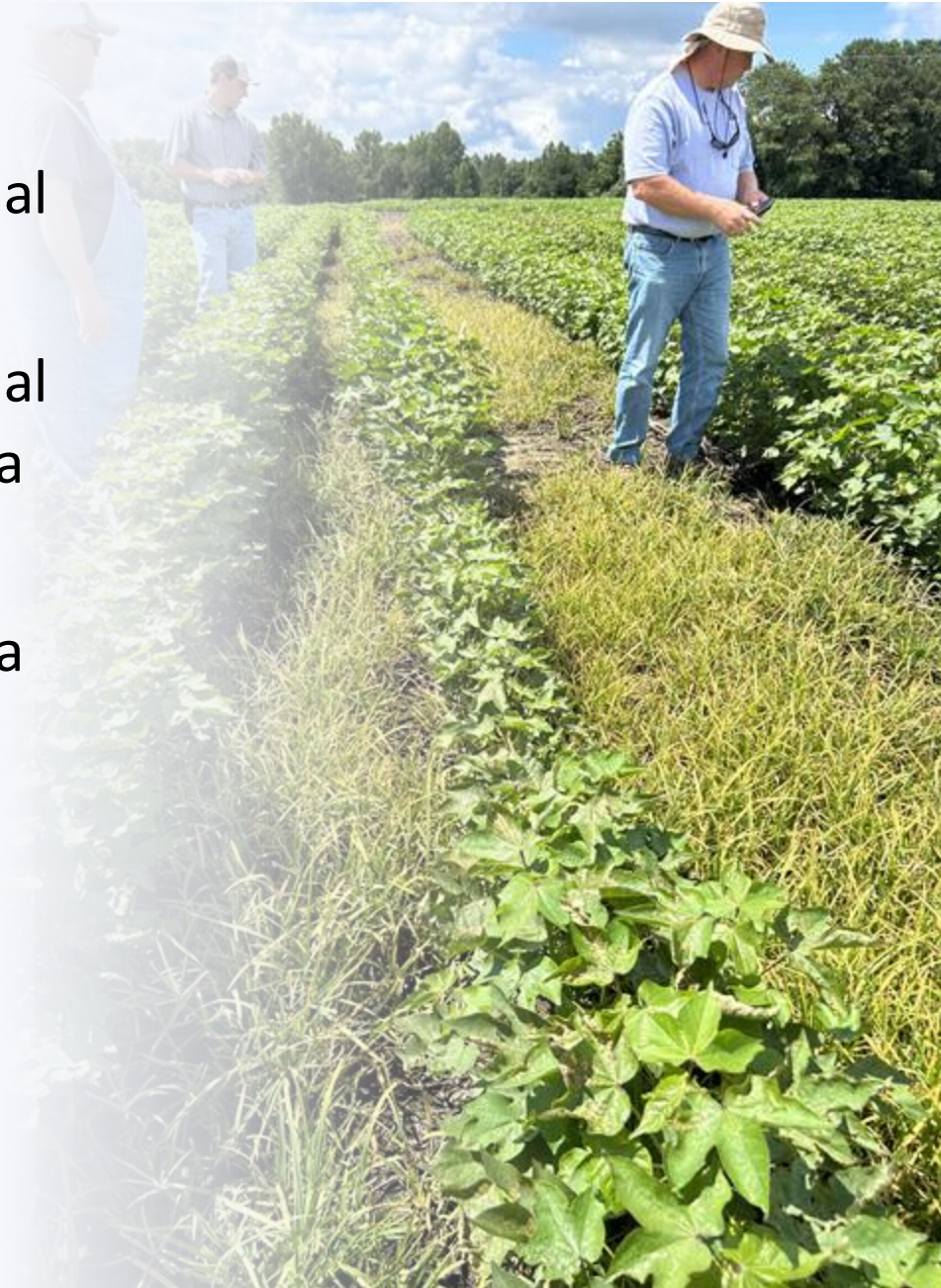


GLYPHOSATE + DGA + DRA



- Unsuspecting
- Initial prostrate growth
- Waxy cuticle early
- 2" tall grass has a bigger root by the time it begins to grow vertical

- PRE
 - Warrant or Dual
- Early POST
 - Warrant or Dual
 - RUP + dicamba
- POST
 - RUP + dicamba
 - RUP
 - clethodim



Final Thoughts

- **Ryegrass**
- Crop rotation and clean field edges
- Consider fall residuals where applicable
- Be proactive for 2 consecutive years
- **Goosegrass**
- Split dicamba and glyphosate/clethodim
- Prowl PRE?
- Surfactants & Additives (water sources)
- Timeliness
- Statewide resistance screening

Thank you



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