

Product Review



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Today's Situation



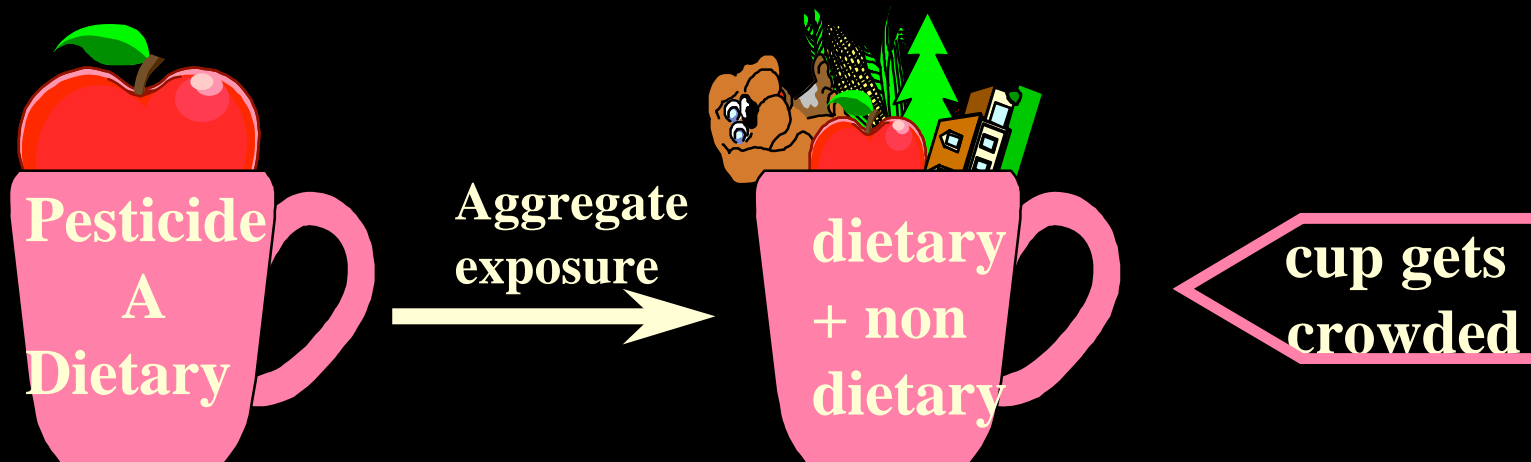
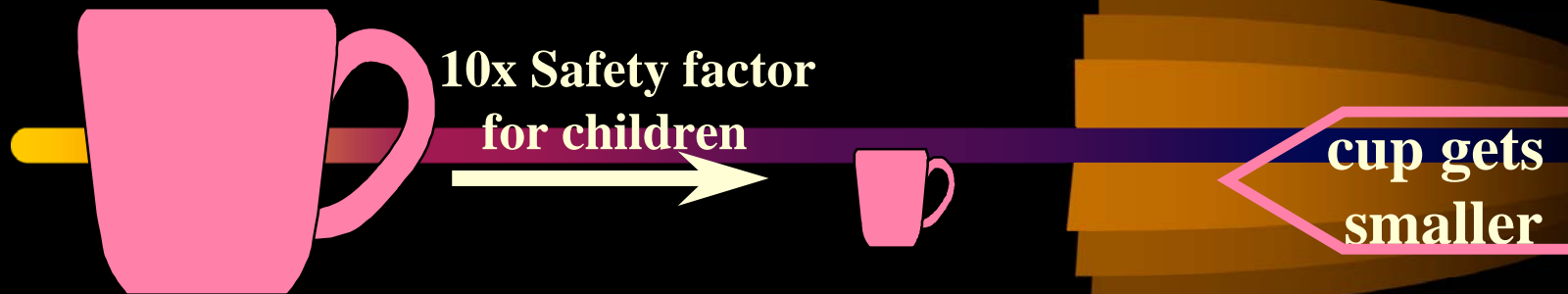
- Realities
- Trends
- New Chemistries
 - Herbicides
 - Fungicides
 - Insecticides
- Finding Information & Help

Realities



- Risk Cup and EPA Regulations

Effects of FQPA Risk Cup Changes:



Realities



- Fewer R & D Companies
- Fewer New Active Ingredients
 - Innovative Marketing of older AI's

Trends (chemicals)



- Minute Use Rate Products
- Pre-mix Combination Products
- Better Formulations and Packaging
- Generic Marketing (off patent chemistries)

Generic Marketing (Performance vs. Cost)



- Active Ingredient Purity
- Formulations, Inerts, Adjuvants
- Tank-mix Compatibility & Stability
- Packaging
- Safety – Plants, Environment, Applicators
- Consistent Performance
- Customer Service
- Overall \$\$\$\$ Value

Trends (equipment)



- Fuel Efficiency
- Noise Reduction
- Cleaner Emissions
- Low maintenance
- Safety

New Chemistry ??

(Herbicides)



- **Sulfonyl-urea's (SU's)** - Provide excellent control of many important broadleaf and grassy weeds in turf
 - Very specific and/or selective
 - Very low use rates (0.25 ounce/acre)
 - Favorable toxicity safety factor
 - Warm-season turf
 - Mammals

SU's History



- Mid 70's for non-cropland, forestry, grain crops.
- Currently one or more of twenty plus active SU compounds labeled for crops (rice, corn, grains, tomatoes, cotton, blueberries, conifers, etc., etc., and turf).

SU's Profile



- Mode of action
 - Acts on single weed enzyme – acetolactate synthase (ALS)
 - Prevents biosynthesis of branched chain amino acids
- Resistance potential is high
 - 70 known weeds already resistant to one or more SU's

SU's Profile



- Activity occurs through shoot and root uptake
- Growth inhibited in only a few hours but necrosis may take several weeks.
- Injury symptoms
 - Growing points become chlorotic, foliar chlorosis
 - Plants exhibit reddish purple color with red to purple veins and yellow terminals
 - Root stunting and inhibition

Turf Labeled SU's



- Chlorsulfuron (Corsair) – NuFarm
- Flazasulfuron (Katana) – label pending
- Foramsulfuron (Revolver) – Bayer
- Halosulfuron (Manage, Sedge Hammer)
– Monsanto, Gowan

Turf Labeled SU's



- Metsulfuron (Blade, Manor) – PBI, NuFarm
- Rimsulfuron (Tranxit) – Griffin, Dupont
- Sulfosulfuron (Certainty) – Monsanto
- Trifloxysulfuron (Monument) - Syngenta

Key Weeds - *Dallisgrass*



- Revolver (foramsulfuron)
- Katana (flazasulfuron) – label pending
- Certainty (sulfosulfuron)
- Monument (trifloxysulfuron)

Key Weeds - Dallisgrass

- MSMA still ranked best by 50% of those responding.
- Other 50% listed MSMA plus a SU or Sencor
- Most common : MSMA at 2.0 lb. ai/A with repeat applications

Key Weeds - VA. Buttonweed



- Corsair (chlorsulfuron)
- Blade, Manor (metsulfuron)
- Certainty (sulfosulfuron)
- Monument (trifloxysulfuron)

Key Weeds - *Sedges*

- Monument (trifloxysulfuron)
- Certainty (sulfosufuron)
- Katana (flazasulfuron) – label pending
- Manage, Sedge Hammer (halosulfuron)

Key Weeds (cont'd)



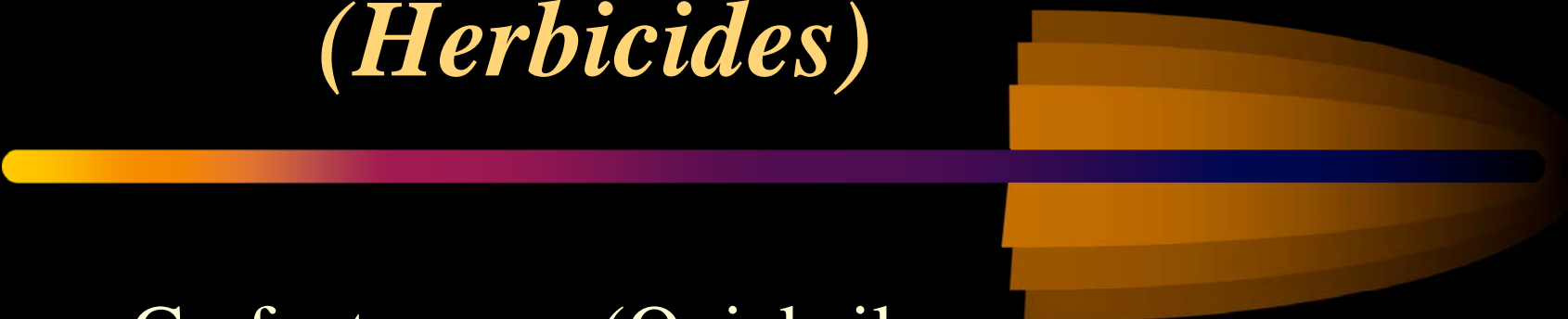
- Bahiagrass -- Manor, Blade (metsulfuron)
- Tall fescue - - Katana (flazasulfuron)
Corsair (chlorsulfuron)
- Goosegrass -- Revolver (foramsulfuron)
- Torpedograss -- Monument (trifloxysulfuron)

SU's Summary



- SU's have a nice fit in an overall (warm season) turf weed management program.
- Take time to study and understand their strengths and weaknesses.
- Use wisely to prevent resistance.

New Chemistry (Herbicides)



- Carfentrazone (Quicksilver)
- Sulfentrazone (Dismiss) - FMC
- Mesotrione (Tenacity) - Syngenta

New Chemistry ??

(Fungicides)



- Strobilurins -
Heritage, Insignia, Compass, etc.
- Phenylpyrrole - fluidioxonil (Medallion)
- ABC Combinations

New Chemistry ??

(Insecticides)



- New Generation Pyrethroids.
- New Fipronil Formulations
- Neonicotinoid Combinations
- IGR's
- Biologicals

Finding Help?



- Product Labels & MSDS Sheets
- NTEP - Turfgrass evaluation trials
 - www.ntep.org
- University Research & Extension
 - Publications
 - Field Days
 - Workshops
 - Short Courses

Finding Help?



- Professional Organizations
 - Membership – newsletters, meetings, etc.
 - Trade Magazines
 - Web Pages
- Industry
 - Manufacturers, Dealerships
 - Sales, Technical, and R&D Reps
 - Shows

Helpful Web Pages



- www.CDMS.net
 - Labels & MSDS sheets
 - Links to Manufacturers
 - Free access

- Search Engines
 - Google, etc.

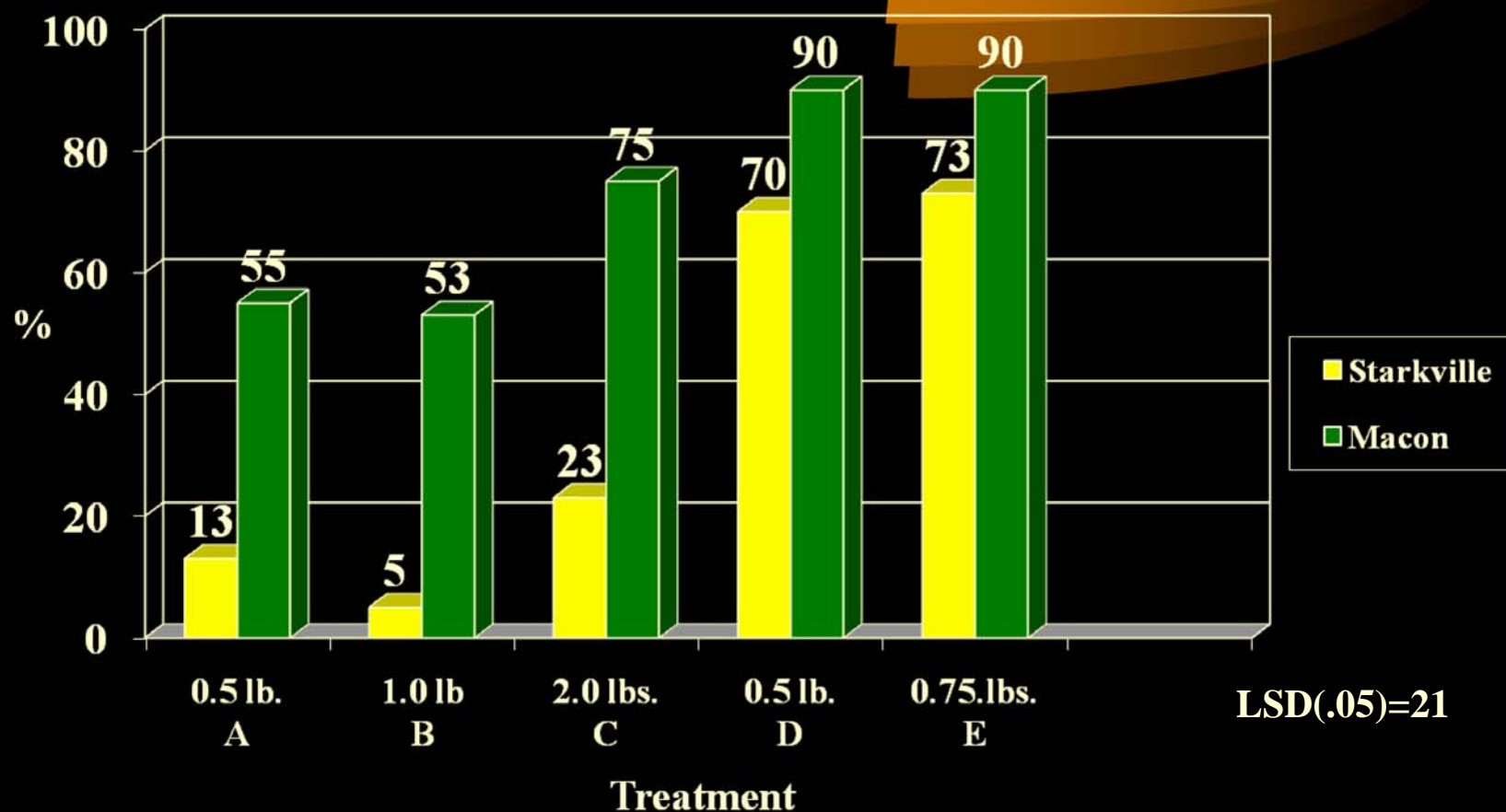
Analyzing and Interpreting Data



- Reputable Sources
- Complete
- Statistical Significance

POST Control of Poa annua

4 MAT



Bottomline

A decorative graphic consisting of a horizontal bar with a color gradient from yellow to purple. To the right of the bar is a stylized arrow shape made of overlapping, semi-transparent brown and orange layers, pointing to the right.

- What works best for your business.....???
- Rests with **YOU!**

End With a KISS

Keep It Simple Sam

- ID your target pests
- Review and select products
- Determine operational capabilities
- Develop strategies and options
- Become proficient with products
- Keep abreast and informed