Sedge Control in Warm-Season Turf with Sulfonylurea Herbicides

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Yellow Nutsedge
*(Cyperus esculentus)*
Purple Nutsedge (*Cyperus rotundus*)
Green Kyllinga (*Kyllinga brevifolia*) & False Green Kyllinga (*K. gracillima*)
Objectives

Evaluate sulfonylurea herbicides for sedge control in bermudagrass
Objectives

Sulfonylurea herbicides included:
- Flazasulfuron (ISK)
- Halosulfuron (Manage®)
- Trifloxysulfuron (Monument®)
- Sulfosulfuron (Monsanto)
Research Trials

False green kyllinga (*Kyllinga gracillima*)
- Reedy Creek GC, Raleigh, NC, ‘Tifway 419’ bermudagrass rough, initiated May 7

Purple nutsedge (*Cyperus rotundus*)
- Plymouth CC, coastal plain, common bermudagrass fairway, initiated May 13

Yellow nutsedge (*Cyperus esculentus*)
- Sandhills Turf, Sandhills, NC, ‘Tifsport’ bermudagrass sod field, initiated May 13
Research Trials

- Plot size: 5’ x 10’
- Randomized complete block design with 4 replications
- Spray volume: 33 GPA
  - Hand-held boom w/ (4) VS8002XR nozzles on 10” spacings
  - Compressed CO$_2$ used as propellant
Purple Nutsedge (*Cyperus rotundus*) Control

- **triflox .35 oz**
- **triflox .47 oz**
- **triflox .59 oz**
- **triflox .35 oz + MSMA 1.33pt**
- **halo 1.27 oz**
- **imazaquin 2.67 pt**

Rates are per acre. Trial initiated 6-21. All treatments received sequential applied 8-2.
Purple Nutsedge (*Cyperus rotundus*) Control

Rates are per acre. Trial initiated 6-21. All treatments received sequential applied 8-2.
Purple Nutsedge (Cyperus rotundus) Control

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-8. Flaz seq. were applied 5-27, sulfo seq. were applied 7-21.
Purple Nutsedge (*Cyperus rotundus*) Control

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-8. Sequentialss were applied 6-19.
Purple Nutsedge (*Cyperus rotundus*) Control with Single Application

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 6-21.
Green Kyllinga (Kyllinga brevifolia) & False Green Kyllinga (K. gracillima)
False Green Kyllinga (*Kyllinga gracillima*) Control

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-7. MSMA seq applied 5-14, flaz seq applied 5-27, sulfo seq applied 7-22.
False Green Kyllinga (*Kyllinga gracillima*) Control

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-7. Sequentialss were applied 6-20.
False Green Kyllinga (*Kyllinga gracillima*) Control

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-7. MSMA seq applied 5-14, flaz seq applied 5-27, sulfo seq applied 7-22.
False Green Kyllinga (*Kyllinga gracillima*) Control

<table>
<thead>
<tr>
<th>% Control</th>
<th>triflox .47 oz</th>
<th>triflox .47 fb .47 oz</th>
<th>halo 1.33 oz</th>
<th>halo 1.33 fb 1.33 oz</th>
<th>imazaquin + MSMA .5 + 2 lb ai</th>
</tr>
</thead>
<tbody>
<tr>
<td>99 a</td>
<td>99 a</td>
<td>99 a</td>
<td>64 b</td>
<td>99 a</td>
<td>99 a</td>
</tr>
</tbody>
</table>

16 WAIT

Rates are per acre. All trts included 0.25% v/v NIS. Trial initiated 5-7. Sequentialss were applied 6-20.
False Green Kyllinga (*Kyllinga gracillima*) Control

% Control

18 WAT

- triflox .47 oz
- halo 1.33 oz
- imazaquin + MSMA .5 + 2 lb ai

97 a

56 b

87 ab
Conclusions

Trifloxysulfuron applied at 0.47 or 0.56 oz/a with a six week sequential provided good to excellent purple nutsedge control (85 & 94%, respectively) through 14 WAIT while halosulfuron or imazaquin provided only 60 – 70% control.

Trifloxysulfuron tank mixed with MSMA (0.35 oz + 1.33 pt) decreased purple nutsedge control (63%) compared to trifloxysulfuron applied alone (78%).
Conclusions

- Flazasulfuron (3 oz) provided 70% purple nutsedge control with single or sequential application

- Sulfosulfuron applied with sequential application (1.33 oz) provided excellent (91%) purple nutsedge control through 16 WAIT
Conclusions

With single applications only, trifloxsulfuron (0.47 oz) provided excellent (97%) false green kyllinga control through 18 WAT, while halosulfuron (1.33 oz) or imazaquin + MSMA (0.5 + 2 lb ai) provided 56 & 87% control, respectively.
Conclusions

- Flazasulfuron, halosulfuron (w/ sequential app), imazaquin + MSMA, MSMA alone, sulfosulfuron, or trifloxsulfuron provided excellent false green kyllinga control through 16 WAIT

- Unacceptable bermudagrass injury was not observed in trials