

Control of Yellow Nutsedge (*Cyperus esculentus*) Affects Tuber Recruitment

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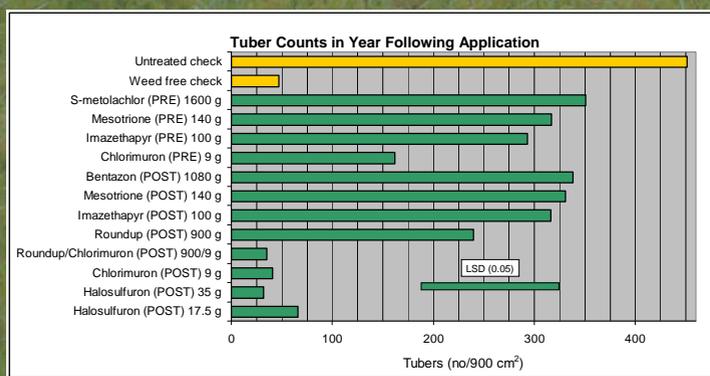
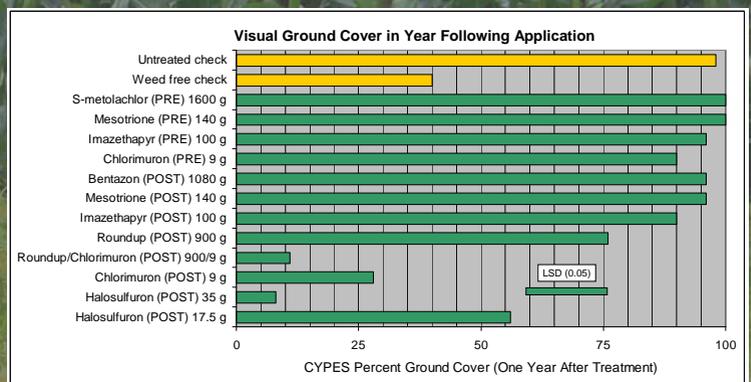
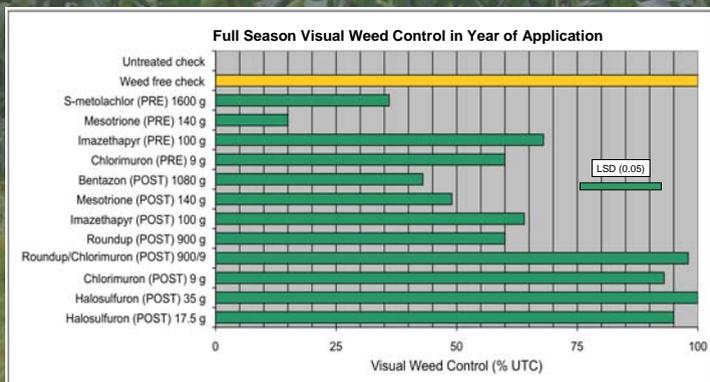
Background:

- Yellow nutsedge (*Cyperus esculentus* L.) is a persistent weed in Ontario with a limited number of effective herbicide options.
- A field experiment was conducted in 2008 at Elora, ON, Canada to evaluate visual weed control with selected herbicide options in the year of application as well as tuber counts and fresh weights in the year after treatment.



Materials and Methods:

- Herbicide treatments were included if nutsedge control has been documented and sprayed either preemergence to the weed (May 15, 2008) or post emergence (July 3, 2008: CYPES stage ranges from 2-14 leaf @ 50/m²). Visual control ratings were recorded and, prior to weed emergence in the year after application, four 15 cm x 15 cm x 15 cm soil samples were collected per plot and combined.
- Tubers greater than 3 mm were separated from the soil, cleaned, counted and weighed.
- Soil properties: London Loam, (31% sand, 50% silt, 19% clay), 4.2% OM, pH: 7.4
- Adequate moisture following PRE applications: 6.1 mm rain (May 15th), 14.5 mm rain (May 20th).



Results:

- In the year of application, halosulfuron at 17.5 and 35 g ai ha⁻¹, and chlorimuron-ethyl alone or mixed with glyphosate were the only treatments able to provide nutsedge control similar to that of the weed free check (93-100% control).
- In the year after treatment (YAT), these four treatments reduced tuber density to the same level, about 90% less than in the untreated plots.
- Ground cover 1 YAT was lowest with the high rate of halosulfuron and the mixture of chlorimuron and glyphosate.
- With the low rate of halosulfuron and chlorimuron alone, the higher ground cover was not indicative of low tuber numbers. However it likely indicates greater recruitment potential.

Conclusions:

- Of all the treatments currently registered for the control of nutsedge in Eastern Canada, only chlorimuron alone and chlorimuron mixed with glyphosate provided acceptable control.
- The addition of halosulfuron to the arsenal of products available to Canadian growers would be a desirable outcome.
- Thanks to OMAFRA for continued support.

