

Highlights of Mesotrione Research at Purdue

Dan Weisenberger and Zac Reicher

Creeping bentgrass

- Mezo at 0.166 lbs ai/A * 3 apps at 7-14 day intervals is highly effective on creeping bentgrass
- > 14 day intervals lose efficacy
- Reducing the rate with more frequent intervals can also be very effective. Rates as low 0.025 or 0.05 lbs ai/A applied six times on a five day interval gave equivalent control to 3 apps of 0.166 lbs ai on two week interval
- Mesotrione loses effectiveness later in the fall, first app no later than the second week of October
- Easier to control creeping bentgrass at lower heights

Dallisgrass

- Mezo at 0.25+0.25+0.25 two weeks equally effective as MSMA 2.25+2.25 with much less phyto
- Mezo at 0.166+0.166+0.166 substantially less effective than MSMA.

Poa annua

- Fall timing timing is critical (Table 1)
- First of three apps app should be between 1st week and 3rd week of October (Table 2)
- 0.1 to 0.25 lbs ai/A * 3 on 7 to 14 day intervals is highly effective on annual bluegrass (Table 3)
- Has definite potential on sports fields where Velocity can not be used (K. bluegrass) and seedling safety is important.

Table 1. Percent *Poa annua* cover in plots treated with a single application of mesotrione in fall 2006. **Note applications made on Oct 25 and Nov. 1 were more effective than other timings.**

Treatment	Rate of application	Application date	11 Oct	3 Jan	31 Mar	20 Apr	17 May
	lb ai/A		-----% cover-----				
Check			63.3	56.7	81.7	81.7	85.0
Mesotrione 4SC	0.25	Oct. 11	68.3	53.3	81.7	75.0	78.3
Mesotrione 4SC	0.25	Oct. 18	66.7	43.3	71.7	70.0	80.0
Mesotrione 4SC	0.25	Oct. 25	66.7	40.0	65.0	58.3	60.0
Mesotrione 4SC	0.25	Nov. 1	66.7	45.0	56.7	50.0	56.7
Mesotrione 4SC	0.25	Nov. 8	66.7	68.3	85.0	85.0	88.3
Mesotrione 4SC	0.25	Nov. 15	63.3	63.3	81.7	76.7	81.7
Mesotrione 4SC	0.25	Nov. 22	66.7	61.7	80.0	76.7	81.7
Mesotrione 4SC	0.25	Nov. 29	66.7	56.7	83.3	83.3	80.0
Check			63.3	56.7	81.7	81.7	85.0
LSD (0.05)			NS	NS	8.7	9.5	11.4

All treatments included NIS at 0.25% v/v.

Table 2. Percent *Poa annua* cover in plots treated with three applications of mesotrione in fall 2006. **Note applications starting on Oct 11 or Oct 25 are most effective, especially at 0.1 or 0.15 lbs a.i./A/app.**

Treatment	Rate of application	Application date	11 Oct	3 Jan	31 Mar	20 Apr	17 May
	lb ai/A		-----% cover-----				
Mesotrione 4SC	0.05	Oct. 11	31.7	15.7	20.0	31.7	25.0
Mesotrione 4SC	0.05	Oct. 18					
Mesotrione 4SC	0.05	Oct. 25					
Mesotrione 4SC	0.05	Oct. 25	35.0	25.0	30.0	31.7	36.7
Mesotrione 4SC	0.05	Nov. 1					
Mesotrione 4SC	0.05	Nov. 8					
Mesotrione 4SC	0.05	Nov. 8	35.0	46.7	55.0	51.7	60.0
Mesotrione 4SC	0.05	Nov. 15					
Mesotrione 4SC	0.05	Nov. 22					
Mesotrione 4SC	0.1	Oct. 11	30.0	9.0	9.3	20.0	18.3
Mesotrione 4SC	0.1	Oct. 18					
Mesotrione 4SC	0.1	Oct. 25					
Mesotrione 4SC	0.1	Oct. 25	30.0	36.7	10.0	13.3	15.0
Mesotrione 4SC	0.1	Nov. 1					
Mesotrione 4SC	0.1	Nov. 8					
Mesotrione 4SC	0.1	Nov. 8	36.7	66.7	70.0	61.7	68.3
Mesotrione 4SC	0.1	Nov. 15					
Mesotrione 4SC	0.1	Nov. 22					
Mesotrione 4SC	0.15	Oct. 11	38.3	5.0	5.3	10.0	10.0
Mesotrione 4SC	0.15	Oct. 18					
Mesotrione 4SC	0.15	Oct. 25					
Mesotrione 4SC	0.15	Oct. 25	36.7	48.3	8.3	16.7	13.3
Mesotrione 4SC	0.15	Nov. 1					
Mesotrione 4SC	0.15	Nov. 8					
Mesotrione 4SC	0.15	Nov. 8	36.7	60.0	53.3	50.0	43.3
Mesotrione 4SC	0.15	Nov. 15					
Mesotrione 4SC	0.15	Nov. 22					
Check			61.7	48.3	66.7	75.0	75.0
LSD (0.05)			NS	20.4	18.9	13.2	15.5

All treatments included NIS at 0.25% v/v.

Table 3. Percent *Poa annua* cover in plots treated with three applications of mesotrione in fall 2006. **Note applications made on 7 to 14 day intervals are most effective.**

Treatment	Rate of application	Application date	11 Oct	3 Jan	31 Mar	20 Apr	17 May
	lb ai/A		-----% cover-----				
Mesotrione 4SC	0.15	Oct. 18	61.7	15.0	25.0	18.3	20.0
Mesotrione 4SC	0.15	Oct. 21					
Mesotrione 4SC	0.15	Oct. 24					
Mesotrione 4SC	0.15	Oct. 18	60.0	6.7	5.0	6.0	9.7
Mesotrione 4SC	0.15	Oct. 25					
Mesotrione 4SC	0.15	Nov. 1					
Mesotrione 4SC	0.15	Oct. 18	68.3	10.0	3.7	7.7	8.3
Mesotrione 4SC	0.15	Oct. 28					
Mesotrione 4SC	0.15	Nov. 7					
Mesotrione 4SC	0.15	Oct. 18	61.7	15.0	4.3	10.0	11.7
Mesotrione 4SC	0.15	Nov. 1					
Mesotrione 4SC	0.15	Nov. 15					
Mesotrione 4SC	0.15	Oct. 18	65.0	41.7	56.7	51.7	53.3
Mesotrione 4SC	0.15	Nov. 8					
Mesotrione 4SC	0.15	Nov. 29					
Mesotrione 4SC	0.05	Oct. 18	65.0	20.0	31.7	25.0	31.7
Mesotrione 4SC	0.05	Oct. 25					
Mesotrione 4SC	0.05	Nov. 1					
Mesotrione 4SC	0.25	Oct. 18	65.0	3.3	2.0	3.0	6.0
Mesotrione 4SC	0.25	Oct. 25					
Mesotrione 4SC	0.25	Nov. 1					
Mesotrione 4SC	0.35	Oct. 18	65.0	3.7	2.3	2.0	4.0
Mesotrione 4SC	0.35	Oct. 25					
Mesotrione 4SC	0.35	Nov. 1					
Check			61.7	48.3	66.7	75.0	75.0
LSD (0.05)			NS	16.1	21.4	15.8	20.2

All treatments included NIS at 0.25% v/v.

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