

Spring dandelion control with mesotrione and paraquat combinations. West Lafayette, IN, 2003.

Dewell, Reece A., J. Earl Creech, William G. Johnson, Jeff W. Barnes, Vince Davis, and Eric Ott. A field study was conducted to evaluate mesotrione and paraquat combinations for spring dandelion control. The study was conducted at the Purdue University Agronomy Center for Research and Education, on a Chalmers silty clay loam soil with 4% organic matter. Treatments were arranged in a randomized complete block with four replications. Individual plot dimensions were 5 by 12.5 feet with no crop planted. Herbicides were applied to a no-till seedbed with a CO₂ backback sprayer delivering 20 gpa and equipped with XR8003 flat fan nozzles. Application date, weed growth stage, and weather data are listed below:

Date	May 22
Treatment	Burndown
Temperature	
Air (F)	68
Soil (C)	21
Soil moisture	moist
Wind (mph)	6
Sky cover (%)	0
Relative humidity (%)	61
Precipitation	
Prior week (inch)	0.93
Week 1 (inch)	0.76
Week 2 (inch)	0.85
Dandelion (rosettes)	4 to 8 inch

The addition of atrazine to mesotrione did not improve dandelion control over mesotrione alone in this study. Treatments containing paraquat resulted in greater dandelion control at 11 DAT due to rapid burndown activity. At 25 and 35 DAT, treatments containing mesotrione provided the highest dandelion control, with mesotrione alone at 0.1875 lb/A being equivalent to any of the combination treatments. Although there were still some treatment differences, all treatments provided less than 30% control at 55 DAT. (Dept. Botany and Plant Pathology, Purdue University, West Lafayette, IN).

Table. Spring dandelion control with mesotrione and paraquat combinations. West Lafayette, IN, 2003. (Dewell, Creech, Johnson, Barnes, Davis, and Ott).

Treatment ^a	Rate (lb/A)	Application	June 2	June 16	June 26	July 16
			(11 DAT)	(25 DAT)	(35 DAT)	(55 DAT)
			----- TAROF (% Control) -----			
Mesotrione	0.1875	burndown	22	92	80	28
Mesotrione	0.09375	burndown	26	87	68	24
Atrazine	0.5	burndown	8	18	10	9
Mesotrione + atrazine	0.1875 + 0.5	burndown	26	95	79	22
Mesotrione + atrazine	0.09375 + 0.5	burndown	18	85	68	21
Paraquat	1.0	burndown	73	55	26	8
Paraquat	0.5	burndown	60	35	16	6
Mesotrione + paraquat	0.1875 + 1.0	burndown	86	90	66	19
Mesotrione + paraquat	0.1875 + 0.5	burndown	81	92	65	16
Mesotrione + paraquat	0.09375 + 1.0	burndown	83	82	60	12
Mesotrione + paraquat	0.09375 + 0.5	burndown	78	82	52	13
S-metolachlor & mesotrione & atrazine ^b	2.0 & 0.2 & 0.75	burndown	24	91	78	14
S-metolachlor & mesotrione & atrazine ^b + Paraquat	2.0 & 0.2 & 0.75 + 1.0	burndown	85	95	86	29
S-metolachlor & mesotrione & atrazine ^b + Paraquat	2.0 & 0.2 & 0.75 + 0.5	burndown	66	92	80	21
Untreated Check			0	0	0	0
LSD (0.05)			11	7	15	14

^a All treatments included COC (1% v/v) and AMS (8.3 lb/A).

^b Premix: Lumax from Syngenta