Weed Control in Pastures and Forages

Spring-applied treatments in pasture. Bedford, IN, 2004. Dewell, Reece A., William G. Johnson, J. Earl Creech, and Vince Davis. A study was conducted to evaluate various spring-applied herbicide combinations for weed control in fescue/clover pasture. The study was conducted at the Feldun-Purdue Agricultural Center (FPAC) near Bedford, IN on established fescue/clover pasture. Treatments were arranged in a randomized complete block with four replications. Individual plot dimensions were 10 by 30 feet. Spring herbicide treatments were applied with a CO_2 backpack sprayer delivering 15 gpa and equipped with XR8002 flat fan nozzles. Fall applications of each treatment are also planned. Cattle had been removed and the pasture area was clipped 4 to 5 days prior to application. Weeds present were: western ironweed (1 to 4 / m^2, 8 to 12 inch), horsenettle (widely scattered, 8 to 12 inch), and curly dock (1 to 4 / m^2, 8 to 10 inch). Application date and weather data are listed below:

Date	May 26, 2004
Treatment	SPRING
Temperature	
Air (F)	73
Soil (F)	72
Soil moisture	wet
Wind (mph)	0 to 3
Cloud cover (%)	100
Relative humidity (%)	78
Precipitation	
Prior week (inch)	1.30
Week 1 (inch)	5.17
Week 2 (inch)	0.00
Fescue	established
Clover	established
height (inch)	6 to 10
density	40 / m^2
Western ironweed	
height (inch)	8 to 12
density	1 to 4 / m^2
Horsenettle	
height (inch)	8 to 12
density	scattered
Curly Dock	
height (inch)	8 to 10
density	1 to 4 / m^2

Fescue injury on June 24 was minimal with all treatments except metsulfuron + chlorsulrufon; however, by July 26 the grass had recovered and no injury was noted at this date. Clover injury was substantial will all treatments except 2,4-D at both rating dates. Western ironweed infestations were sporadic and no significant differences were noted between treatments, although treatments containing 2,4-D, picloram, and higher rates of clopyralid tended to provide the highest control numerically. Horsenettle control was generally poor with all treatments except picloram + 2,4-D. Curly dock control was greater than 80% with all treatments except the low rate of clopyralid + 2,4-D, 2,4-D alone, the low rate of metsulfuron, and dicamba + diflufenzopyr. Picloram + 2,4-D provided the best overall control of the weed species in this trial, but resulted in significant stand reductions of the clover. (Dept. Botany and Plant Pathology, Purdue University, West Lafayette, IN).

Table. Spring-applied treatments in pasture. Bedford, IN, 2004[a]. (Dewell, Johnson, Creech, and Davis).

Treatment[b]	Rate	Appl. Time	-- FESSS[c] Injury -- 6/24	7/26	-- TRFSS[d] Injury -- 6/24	7/26	------ VENBA ------ 6/24	7/26	------ SOLCA ------ 6/24	7/26	------- RUMCR ------- 7/26
	(lb/A)		%								
Clopyralid&2,4-D + NIS	0.142&0.75+0.25%	SPRING	0	0	98	99	81	58	37	44	75
Clopyralid&2,4-D + NIS	0.19&1.0+0.25%	SPRING	1	0	100	99	55	80	48	48	100
Clopyralid&2,4-D + NIS	0.238&1.25+0.25%	SPRING	0	0	100	100	89	94	55	24	88
Dicamba + 2,4-D(EH) + NIS	0.5+1.0+0.25%	SPRING	5	0	100	99	78	83	83	58	93
2,4-D(EH) + NIS	1.0+0.25%	SPRING	0	0	0	13	90	93	56	58	79
Picloram&2,4-D + NIS	0.238&1.25+0.25%	SPRING	1	0	98	100	95	93	83	75	98
Metsulfuron + NIS	0.00375+0.125%	SPRING	4	0	100	100	46	63	18	14	73
Metsulfuron + NIS	0.0075+0.125%	SPRING	6	0	100	100	61	55	23	18	100
Metsulfuron + chlorsulfuron + NIS	0.00375+0.0117+0.125%	SPRING	18	0	100	100	46	43	8	0	100
Metsulfuron + 2,4-D(EH) + NIS	0.00375+0.25+0.125%	SPRING	5	0	100	100	68	73	30	29	90
Dicamba&diflufenzopyr + NIS	0.25&0.1+0.25%	SPRING	6	0	99	96	35	40	28	0	55
LSD (0.05)			7	ns	3	11	ns	ns	36	42	ns

[a] Rating dates: 6/24 = 29 DAT (days after treatment) and 7/26 = 61 DAT
[b] Treatments: NIS = Preference nonionic surfactant from Agriliance, LLC. (90% NIS blend containing soybean based fatty acid and alcohol ethoxylates); 2,4-D(EH) = ethylhexyl ester; Picloram&2,4-D = Grazon P+D from Dow AgroSciences
[c] FESSS = fescue species (pasture grass)
[d] TRFSS = trifolium species (pasture)