

General broadleaf control in wheat. Howatt, Kirk A., Neil R. Riveland, Paul Hendrickson, and Brian M. Jenks. Experiments were conducted to determine kochia and other broadleaf weed control in wheat at five locations throughout North Dakota in 2000. Treatments were applied with pressurized CO₂ sprayers through 8001 flat fan nozzles except for Carrington where 8002 flat fan nozzles were used. Treatment area was 7 ft wide and extended the length of 10 by 25 to 30ft plots. All experiments were in a randomized complete block design with four replicates per treatment. Wheat injury and weed control were visually estimated. Information for the various experiments follows:

Location	Fargo	Oriska	Williston	Carrington	Minot
Wheat					
variety	Oxen	Pioneer 2375	Maier	Montrail	Ben
leaf no.	5	3 to 5	5.5	6	4 to 5
Date					
seeding	Apr 26		May 22	Apr 25	May 24
treatment	Jun 7	Jun 2	June 22	Jun 2	Jun 23
harvest	Aug 8	--	Aug 29	--	--
Temperature (F)					
air	82	64	70	46	80
Sprayer					
gpa	8.5	8.5	8.6	8.5	10
psi	35	35	30	18	40
Weed size (inch)					
kochia	0.5 to 2	0.3 to 4	--	1	2 to 4
redroot pigweed	0.5 to 3	0.5 to 2	0.5 to 3	3	--
common lambsquarters	1 to 2	0.5 to 3	--	--	--
wild mustard	--	1-to-3	--	flowering	--
Russian thistle	--	--	1 to 2	--	--
wild buckwheat	--	--	--	1 to 2	--

No wheat injury was observed at Fargo or Oriska locations. Fluroxypyr was needed at 1.5 oz/A to adequately control kochia across all locations. Crop vigor was poor at Oriska, but crop competition aided weed control at other locations. Crop vigor was so aggressive at Fargo that weeds were shaded out of untreated plots by July 5. (Plant Sciences, North Dakota State University, Fargo).

Table 1. General broadleaf control in wheat (Howatt, Riveland, Hendrickson, and Jenks).

Treatment ^a	Rate	Fargo				Williston			
		6/27		8/08		7/21		8/29	
	(oz/A)	KCHSC (%)	AMARE (%)	CHEAL (%)	Yield (bu/A)	Wheat injury (%)	AMARE (%)	SASKR (%)	Yield (bu/A)
Fluroxypyr	0.25	10	0	3	59	0	30	18	28.
Fluroxypyr	0.5	15	0	3	57	0	26	18	24
Fluroxypyr	1.0	25	13	10	60	0	40	63	23
Fluroxypyr	1.5	81	21	18	59	0	50	34	23
Fluroxypyr	2.0	90	30	28	60	0	81	90	29
Thifensulfuron& trib+brox&MCPA	0.15& 0.07+4.0&4.0	96	95	94	59	7	99	99	19
Fluroxypyr&MCPA	1.6&6.4	93	93	95	62	0	94	85	20
CL 14788	2.0	97	96	95	59	9	96	94	21
CL 14788+MCPA	1.5+4.0	97	96	95	57	10	97	96	21
Bromoxynil&MCPA	6.0&6.0	95	96	94	60	2	96	97	20
Carfentrazone+ NIS+UAN	0.128+ 0.25%+4%	95	96	97	59	1	98	96	25
Carfentrazone+ CL 14788+NIS+UAN	0.128+ 1.5+0.25%+4%	98	98	97	58	6	94	92	20
Carf+flox& 2,4-D+NIS+UAN	0.128+1.5& 6.0+0.25%+4%	97	94	96	59	11	98	95	22
Carf+thif&tribenuron+ NIS+UAN	0.128+0.15&0.07 +0.25%+4%	98	97	97	58	9	97	97	21
Untreated	0	0	0	0	57	0	0	0	19
C.V. %		6	9	9	7	80	13	10	20
LSD 5%		6	8	8	NS	4	14	10	6
# OF REPS		4	4	4	4	4	4	4	4

^aNIS is Activator 90 a nonionic surfactant from Loveland Industries, Greeley CO; and UAN is urea ammonium nitrate as a 28% nitrogen fertilizer.

Table 2. General broadleaf control in wheat. (Howatt, Riveland, Hendrickson , and Jenks).

Treatment ^a	Rate (oz/A)	Carrington						Minot	
		Wheat injury (%)	6/16			7/19		6/20	8/21
			SINAR (%)	AMARE (%)	AMARE (%)	SINAR (%)	POLCO (%)	KCHSC (%)	KCHSC (%)
Fluroxypyr	0.25	0	28	0	8	5	5	74	78
Fluroxypyr	0.5	3	28	0	13	18	15	87	94
Fluroxypyr	1.0	0	43	0	21	31	23	96	100
Fluroxypyr	1.5	3	45	0	35	60	68	99	100
Fluroxypyr	2.0	5	55	0	54	69	78	100	100
Thifensulfuron& trib+brox&MCPA	0.15& 0.07+4.0&4.0	14	99	91	93	97	94	100	100
Fluroxypyr&MCPA	1.6&6.4	5	86	89	81	94	85	98	100
CL 14788	2.0	6	40	84	84	67	92	63	50
CL 14788+MCPA	1.5+4.0	13	88	86	86	97	84	98	100
Bromoxynil&MCPA	6.0&6.0	8	99	89	90	97	35	100	100
Carfentrazone+ NIS+UAN	0.128+ 0.25%+4%	8	91	95	85	84	45	98	93
Carfentrazone+ CL 14788+NIS+UAN	0.128+ 1.5+0.25%+4%	14	94	93	90	93	86	100	100
Carf+flox& 2,4-D+NIS+UAN	0.128+1.5& 6.0+0.25%+4%	13	99	93	94	99	94	100	100
Carf+thif&tribenuron+ NIS+UAN	0.128+0.15&0.07 +0.25%+4%	6	98	99	95	95	93	95	91
Untreated	0	0	0	0	0	0	0	0	0
C.V. %		97	12	8	12	13	16	4.82	7.33
LSD 5%		9	11	7	11	12	14	7	11
# OF REPS		4	4	4	4	4	4	3	3

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Table 3. General broadleaf control in wheat. (Howatt, Riveland, Hendrickson, and Jenks).

Treatment ^a	Rate (oz/A)	Oriska						
		6/19				7/07		
		KCHSC (%)	AMARE (%)	CHEAL (%)	SINAR (%)	KCHSC (%)	AMARE (%)	CHEAL (%)
Fluroxypyr	0.25	15	8	10	21	8	0	0
Fluroxypyr	0.5	25	5	5	23	29	10	3
Fluroxypyr	1.0	58	20	10	45	55	24	8
Fluroxypyr	1.5	83	13	8	61	90	25	10
Fluroxypyr	2.0	91	21	10	65	90	18	10
Thifensulfuron& trib+brox&MCPA	0.15& 0.07+4.0&4.0	96	98	99	99	95	97	94
Fluroxypyr&MCPA	1.6&6.4	85	91	85	98	90	90	90
CL 14788	2.0	88	96	86	94	89	93	92
CL 14788+MCPA	1.5+4.0	85	95	94	97	91	94	93
Bromoxynil&MCPA	6.0&6.0	97	98	97	99	90	84	84
Carfentrazone+ NIS+UAN	0.128+ 0.25%+4%	95	93	95	90	88	78	71
Carfentrazone+ CL 14788+NIS+UAN	0.128+ 1.5+0.25%+4%	98	99	99	99	94	90	86
Carf+flox& 2,4-D+NIS+UAN	0.128+1.5& 6.0+0.25%+4%	96	99	99	99	92	88	85
Carf+thif&tribenuron+ NIS+UAN	0.128+0.15&0.07 +0.25%+4%	97	99	99	99	87	95	92
Untreated	0	0	0	0	0	0	0	0
C.V. %		9	9	9	10	10	10	10
LSD 5%		9	8	8	10	11	9	7
# OF REPS		4	4	4	4	4	4	4

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