

Covercrop Screen.

Project Code: 06-CoverScreen-DATA Location: HRC

Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Carbondale IL 62901 USA
Trial Status: Final **Updated:** 10-2-06

Weed Code	Common Name	Scientific Name
1. TTTT	weeds, generally	
2. ALLVI	garlic, wild	Allium vineale L.
3. CERVU	chickweed, mouseear	Cerastium vulgatum L.
4. STEME	chickweed, common	Stellaria media (L.) Vill.
5. VERAR	speedwell, corn	Veronica arvensis L.
6. CAPBP	shepherdspurse	Capsella bursa-pastoris (L.) Medicus
7. GERCA	geranium, Carolina	Geranium carolinianum L.
8. ERICA	horseweed	Conyza canadensis (L.) Crong.
9. HORPU	barley, little	Hordeum pusillum Nutt.
10. POAAN	bluegrass, annual	Poa annua L.
11. DIGSA	crabgrass, large	Digitaria sanguinalis (L.) Scop.
12. DIGIS	crabgrass, smooth	Digitaria ischaemum (Schreb. ex Schweig)
13. SETFA	foxtail, giant	Setaria faberi Herrm.
14. CYPES	nutsedge, yellow	Cyperus esculentus L.
15. POLPY	smartweed, Pennsylvania	Polygonum pensylvanicum L.
16. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
17. OXAST	woodsorrel, yellow	Oxalis stricta L.
18. TRFRE	clover, white	Trifolium repens L.
19. JUNVI	redcedar, eastern	Juniperus virginiana L.
20. ACEPL	maple, Norway	Acer platanoides L.
21. BBBPE	broadleaves, perennial	

Crop 1: See treatment list

Plot Width, Unit: 4 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: No-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2005

NOTES:

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Weed Code
Crop Code
Rating Data Type
Rating Unit
Rating Date
Trt-Eval Interval

See note See note
Washout Plants Plants BARGRO BARGRO See note See note
Percent 1.0 m2 1.0 m2 Percent Percent STAND STAND
11-17-05 11-17-05 9-15-06 5-25-06 9-15-06 5-25-06 9-15-06

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code							
1	Little Barley	3		1000000	seeds/a	410	lb/a		FALL	2	0		2		96	
1	'collected at BRC'															
2	Winter Rye	78		2613600	seeds/a	134	lb/a		FALL	2	35		4		92	
2	'Elbon'															
3	Winter Wheat	85		1300000	seeds/a	133	lb/a		FALL	1	31		14		82	
3	'P25R78'															
4	Kale	93		2613600	seeds/a	19.8	lb/a		FALL	2	14	16	24	17	19	13
4	'Vates Blue Curled'															
5	Canola	91		2613600	seeds/a	22.8	lb/a		FALL	4	15	44	12	15	73	27
5	'Wichita'															
6	Tillage - No Cover								FALL	1	0		6		0	
7	Spring Oats	80		2613600	seeds/a	189	lb/a		SPRING			94		7		30
7	'Jerry'															
8	Mustard Mix	90		2613600	seeds/a	31.4	lb/a		SPRING			289		12		73
8	'Caliente Brand Mustard Blends'															
9	Sorghum x Sudan	85		1011716	seeds/a	60	lb/a		SPRING			64		8		97
10	Phacelia tanacetifolia	70		2613600	seeds/a	15.9	lb/a		SPRING			0				0
10	'Lacy'															
11	Wild Ageratum	92		2613600	seeds/a	0.846	lb/a		SPRING			13		13		13
12	Buckwheat	90		843097	seeds/a	60	lb/a		SPRING			80		5		95
13	Tillage - No Cover								SPRING							
14	No Tillage - No Cover												5		0	
15	Dwarf marigold	86		2613600	seeds/a	21	lb/a		SPRING			235		5		99
15	'Spanish Brocade'															
16	Phacelia campanularia	70		2613600	seeds/a	4.1	lb/a		SPRING			0				0
16	'Desert Bluebell'															
17	Tall marigold	79		2613600	seeds/a	20.7	lb/a		SPRING			150		8		93
17	'Crackerjack'															
18	Gomphrena	85		2613600	seeds/a	19.2	lb/a		SPRING			170		5		95
18	'Buddy Purple'															
LSD (P=.05)										4.5	20.7	65.0	11.4	5.0	13.8	9.8
Replicate F										0.445	0.082	1.944	1.089	0.889	0.066	0.711
Replicate Prob(F)										0.6531	0.9215	0.1693	0.3677	0.4305	0.9363	0.5030
Treatment F										0.597	4.988	18.832	4.510	6.815	93.749	162.023
Treatment Prob(F)										0.7037	0.0150	0.0001	0.0128	0.0005	0.0001	0.0001

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									TTTTT	TTTTT	ALLVI	CERVU	STEME	VERAR	CAPBP	GERCA	
									Control Percent 6-2-06	Control Percent 9-15-06	Plants 1.0 m2 5-25-06	Plants 1.0 m2 5-25-06	Plants 1.0 m2 5-25-06	Plants 1.0 m2 5-25-06	Plants 1.0 m2 5-25-06	Plants 1.0 m2 5-25-06	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	Little Barley	3		1000000	seeds/a	410	lb/a		FALL	88	12	1	1	5	4	0	0
1	'collected at BRC'																
2	Winter Rye	78		2613600	seeds/a	134	lb/a		FALL	91	10	1	0	2	3	0	0
2	'Elbon'																
3	Winter Wheat	85		1300000	seeds/a	133	lb/a		FALL	72	8	0	1	5	3	0	0
3	'P25R78'																
4	Kale	93		2613600	seeds/a	19.8	lb/a		FALL	18	8	3	0	15	6	0	0
4	'Vates Blue Curled'																
5	Canola	91		2613600	seeds/a	22.8	lb/a		FALL	73	23	6	0	18	1	0	1
5	'Wichita'																
6	Tillage - No Cover								FALL	3	0	7	1	15	12	0	0
7	Spring Oats	80		2613600	seeds/a	189	lb/a		SPRING		15						
7	'Jerry'																
8	Mustard Mix	90		2613600	seeds/a	31.4	lb/a		SPRING		25						
8	'Caliente Brand Mustard Blends'																
9	Sorghum x Sudan	85		1011716	seeds/a	60	lb/a		SPRING		95						
10	Phacelia tanacetifolia	70		2613600	seeds/a	15.9	lb/a		SPRING		0						
10	'Lacy'																
11	Wild Ageratum	92		2613600	seeds/a	0.846	lb/a		SPRING		7						
12	Buckwheat	90		843097	seeds/a	60	lb/a		SPRING		88						
13	Tillage - No Cover								SPRING		0						
14	No Tillage - No Cover									0	0	9	7	6	9	2	1
15	Dwarf marigold	86		2613600	seeds/a	21	lb/a		SPRING		96						
15	'Spanish Brocade'																
16	Phacelia campanularia	70		2613600	seeds/a	4.1	lb/a		SPRING		0						
16	'Desert Bluebell'																
17	Tall marigold	79		2613600	seeds/a	20.7	lb/a		SPRING		92						
17	'Crackerjack'																
18	Gomphrena	85		2613600	seeds/a	19.2	lb/a		SPRING		91						
18	'Buddy Purple'																
LSD (P=.05)										12.0	7.9	5.8	8.8	11.0	9.6	1.9	0.9
Replicate F										0.114	1.761	3.393	0.926	0.173	4.298	1.000	3.600
Replicate Prob(F)										0.8931	0.1881	0.0679	0.4227	0.8433	0.0391	0.3966	0.0596
Treatment F										107.932	211.212	3.697	0.810	3.252	1.529	1.000	2.286
Treatment Prob(F)										0.0001	0.0001	0.0257	0.5814	0.0389	0.2500	0.4682	0.1051

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		ERICA	HORPU	POANN	DIGSA	DIGIS	SETFA	CYPES	POLPY
												Plants	Plants	Plants	Plants	Plants	Plants	Plants	Plants
												1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2
												5-25-06	5-25-06	5-25-06	5-25-06	5-25-06	5-25-06	5-25-06	5-25-06
Trt	Treatment	Form	Form	Rate	Rate	Prod	Prod	Grow	Appl										
No.	Name	Conc	Type		Unit	Rate	Unit	Stg	Code										
1	Little Barley	3		1000000	seeds/a	410	lb/a		FALL	2	0	4	0	0	1	0	1		
1	'collected at BRC'																		
2	Winter Rye	78		2613600	seeds/a	134	lb/a		FALL	2	0	1	0	0	1	0	0		
2	'Elbon'																		
3	Winter Wheat	85		1300000	seeds/a	133	lb/a		FALL	1	0	3	0	0	1	5	1		
3	'P25R78'																		
4	Kale	93		2613600	seeds/a	19.8	lb/a		FALL	2	0	44	0	0	2	33	1		
4	'Vates Blue Curled'																		
5	Canola	91		2613600	seeds/a	22.8	lb/a		FALL	2	1	30	1	0	1	10	2		
5	'Wichita'																		
6	Tillage - No Cover								FALL	3	0	30	4	0	1	5	0		
7	Spring Oats	80		2613600	seeds/a	189	lb/a		SPRING										
7	'Jerry'																		
8	Mustard Mix	90		2613600	seeds/a	31.4	lb/a		SPRING										
8	'Caliente Brand Mustard Blends'																		
9	Sorghum x Sudan	85		1011716	seeds/a	60	lb/a		SPRING										
10	Phacelia tanacetifolia	70		2613600	seeds/a	15.9	lb/a		SPRING										
10	'Lacy'																		
11	Wild Ageratum	92		2613600	seeds/a	0.846	lb/a		SPRING										
12	Buckwheat	90		843097	seeds/a	60	lb/a		SPRING										
13	Tillage - No Cover								SPRING										
14	No Tillage - No Cover									5	0	0	0	0	2	3	0		
15	Dwarf marigold	86		2613600	seeds/a	21	lb/a		SPRING										
15	'Spanish Brocade'																		
16	Phacelia campanularia	70		2613600	seeds/a	4.1	lb/a		SPRING										
16	'Desert Bluebell'																		
17	Tall marigold	79		2613600	seeds/a	20.7	lb/a		SPRING										
17	'Crackerjack'																		
18	Gomphrena	85		2613600	seeds/a	19.2	lb/a		SPRING										
18	'Buddy Purple'																		
LSD (P=.05)												4.5	1.5	28.7	3.8	0.4	2.8	19.2	2.5
Replicate F												1.965	1.596	1.180	1.535	1.000	1.783	2.169	0.667
Replicate Prob(F)												0.1828	0.2429	0.3405	0.2550	0.3966	0.2099	0.1570	0.5314
Treatment F												0.882	1.000	3.756	1.229	1.000	0.511	3.349	0.690
Treatment Prob(F)												0.5362	0.4682	0.0244	0.3571	0.4682	0.7890	0.0355	0.6619

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Weed Code	AMBEL	OXAST	TRFRE	JURVI	ACEPL	BBBPE
Crop Code						
Rating Data Type	Plants	Plants	Plants	Plants	Plants	Plants
Rating Unit	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2
Rating Date	5-25-06	5-25-06	5-25-06	5-25-06	5-25-06	5-25-06
Trt-Eval Interval						

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	Little Barley	3		1000000	seeds/a	410	lb/a		FALL	0	6	4	0	2	0
1	'collected at BRC'														
2	Winter Rye	78		2613600	seeds/a	134	lb/a		FALL	0	1	2	2	1	0
2	'Elbon'														
3	Winter Wheat	85		1300000	seeds/a	133	lb/a		FALL	0	7	4	1	0	0
3	'P25R78'														
4	Kale	93		2613600	seeds/a	19.8	lb/a		FALL	0	7	3	0	7	0
4	'Vates Blue Curled'														
5	Canola	91		2613600	seeds/a	22.8	lb/a		FALL	0	5	6	0	3	0
5	'Wichita'														
6	Tillage - No Cover								FALL	0	8	3	0	1	1
7	Spring Oats	80		2613600	seeds/a	189	lb/a		SPRING						
7	'Jerry'														
8	Mustard Mix	90		2613600	seeds/a	31.4	lb/a		SPRING						
8	'Caliente Brand Mustard Blends'														
9	Sorghum x Sudan	85		1011716	seeds/a	60	lb/a		SPRING						
10	Phacelia tanacetifolia	70		2613600	seeds/a	15.9	lb/a		SPRING						
10	'Lacy'														
11	Wild Ageratum	92		2613600	seeds/a	0.846	lb/a		SPRING						
12	Buckwheat	90		843097	seeds/a	60	lb/a		SPRING						
13	Tillage - No Cover								SPRING						
14	No Tillage - No Cover									0	10	2	0	2	0
15	Dwarf marigold	86		2613600	seeds/a	21	lb/a		SPRING						
15	'Spanish Brocade'														
16	Phacelia campanularia	70		2613600	seeds/a	4.1	lb/a		SPRING						
16	'Desert Bluebell'														
17	Tall marigold	79		2613600	seeds/a	20.7	lb/a		SPRING						
17	'Crackerjack'														
18	Gomphrena	85		2613600	seeds/a	19.2	lb/a		SPRING						
18	'Buddy Purple'														
LSD (P=.05)										0.4	8.8	6.2	0.9	4.0	0.9
Replicate F										1.000	0.293	0.074	1.200	3.791	1.200
Replicate Prob(F)										0.3966	0.7515	0.9295	0.3349	0.0529	0.3349
Treatment F										1.000	0.904	0.483	4.171	2.592	0.743
Treatment Prob(F)										0.4682	0.5231	0.8089	0.0170	0.0756	0.6261

Trial Comments

1. Protocol SIU - Taylor and Young.
2. Ratings: WC as percent of weediast non-covercrop plots.
Weed counts by species in spring and summer.
Evaluate covercrop for percent stand and percent bare ground.
3. Plots are 25 ft long with a 5 ft non-disturbed weedy border in front of all plots.
Tillage equipment can use a 10 ft alley on the far sides and across the back.
Plots are 5 ft wide, with covercrop planted to the center 4 ft.
4. Tillage depth is 1 inch or less with minimal disturbance.
5. Covercrop seeded by hand, incorporated lightly, then rolled.
6. For spring tillage timing, remove any large weeds prior to tillage and otherwise insure weed removal for a proper seedbed preparation.
7. Wheat and rye covercrops were cut with a string trimmer to 6 inches prior to maturation and residue was left on the plots. The sorghum x sudan covercrop received multiple applications of a reduced rate of Select herbicide to slow the rate of growth.
8. See note: Covercrop counts and stand were for the covercrops specified in the treatment list.
9. BARGRO = Bare ground. STAND = Percent of plot occupied by the planted covercrop.
1.0 m2 = Plants per one square meter, taken as (2) one-half square meter counts per plot.
BBBPE = Other broadleaf perennials consisting of bane, wild carrot, and blackeyed-susan.
10. For the fall seeded covercrops, only the little barley successfully re-seeded itself the following fall providing 100% cover with very few weeds emerging through the covercrop as of December 2006.