



Nebraska On-Farm Research Network

Title: Cover Crop
Crop: Soybeans
Study ID: 108155201201
County: Saunders
Objective: Study effect of cover crop burndown timing on crop production.
Treatments: Early & late burndown

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Information: 2012

Soybeans

Wheat Cover Crop

Hybrid	Pioneer 93M11	Tillage	No-Till
Planted:	5/8/12	Harvested:	10/3/12
Practice	Rainfed	Prior Crop	Soybeans
Burndown	Roundup PowerMax 40oz & 2,4-D 6 .3pt & AMS 2lb		
Post Herbicide	6/17/12 - Roundup PowerMax 32oz & Arrow 8 oz & COC 19oz & AMS 2lb		
Post Herbicide	7/5/12 - Roundup PowerMax 32oz & AMS 2lb		

-5.5" Wheat ET for the period 3/28 to 4/18 (1st spray to 2nd spray) (40% higher than 2011)

-3.8" Soybean ET from emergence to 6/30

-9.3" Total Cover crop and Corn ET to 6/30

+7.9" Rain for the period 3/28 to 6/30 (66% of normal)

-1.4" Net Deficit due to late kill of cover crop.

Below normal rainfall and higher than normal cover crop ET for the period, resulted in less available soil moisture for the summer crop of soybeans with a corresponding reduction of yield.

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Results: 2012

	Soybeans	
	<u>Wheat Cover Crop</u>	
Burndown Date	3/28	4/18
Yield, bu/ac @13%	32.8	28.6
Prob>/T/ <0.0001***	A	B
Moisture, %	8.2	8.3
Prob>/T/ 0.2239 ns	A	A

Summary: The early burndown date of the wheat cover crop resulted in significantly higher soybean yields.

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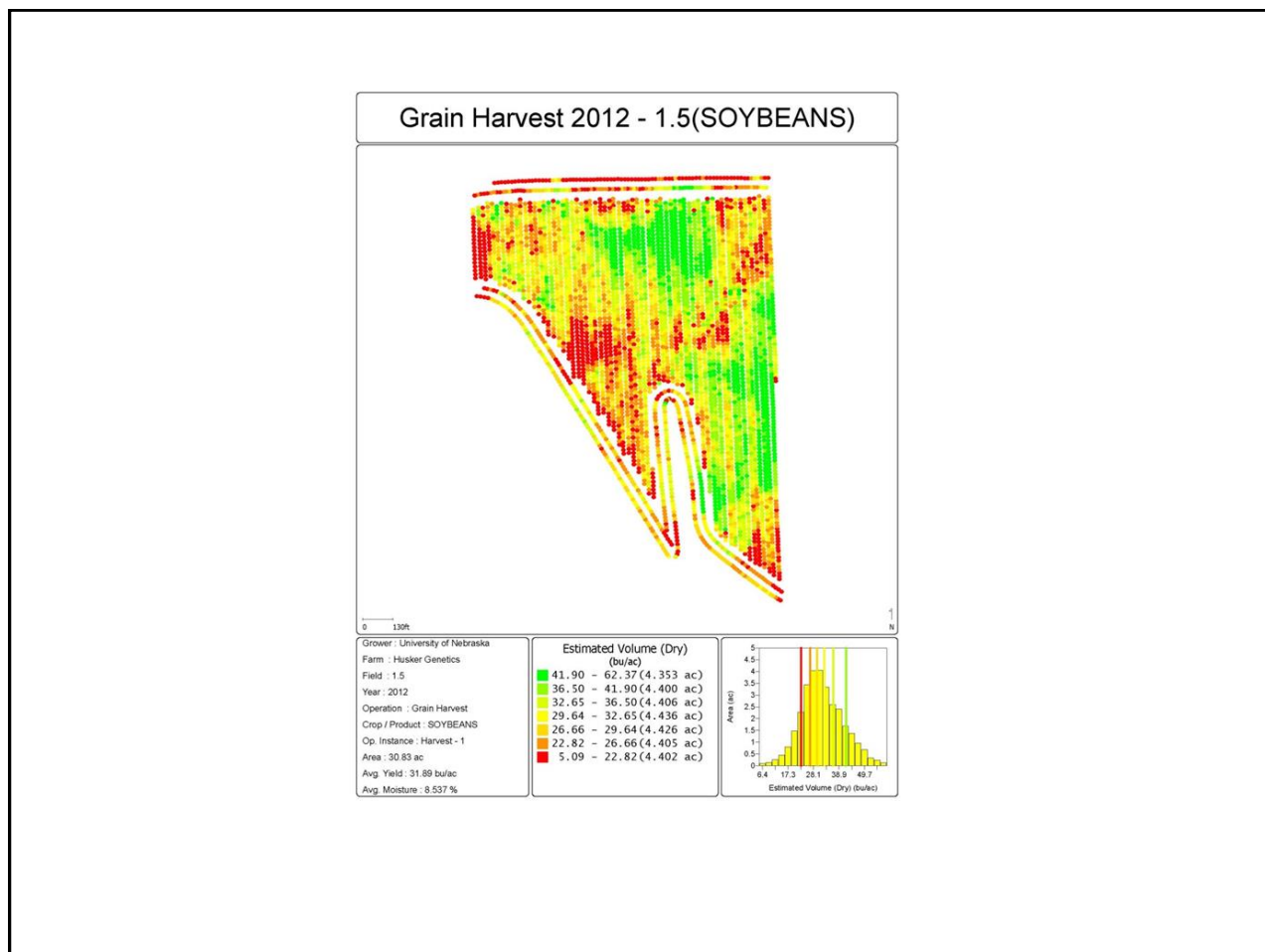


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Monitor Year Physical Field Operation Physical Product													2007220543 2012 F234:1.5 Grain Harvest Soybeans
Dataset	Area	Avg. Moisture	Est. Weight (Wet)	Est. Volume (Dry)	Avg. Yield (Dry)	Actual Weight (Wet)	Error	GPS Count	Date Logged	Cal File	GPS File	Monitor Name	Length
L1:	4.119 ac	8.826 %	6,060.7 lb	105.86 bu	25.70 bu/ac	N/A	N/A	602	10/3/2012	12100400.iff	12100300.iff	2007220543	8,645.7 ft
L2:	9.169 ac	8.210 %	17,443 lb	306.73 bu	33.45 bu/ac	N/A	N/A	1279	10/3/2012	12100400.iff	12100300.iff	2007220543	19,186 ft
L3:L	0.731 ac	8.412 %	1,210.6 lb	21.24 bu	29.07 bu/ac	N/A	N/A	102	10/3/2012	12100400.iff	12100300.iff	2007220543	1,555.4 ft
L4:E	0.721 ac	8.190 %	1,441.2 lb	25.35 bu	35.14 bu/ac	N/A	N/A	98	10/3/2012	12100400.iff	12100300.iff	2007220543	1,548.8 ft
L5:E	0.707 ac	8.148 %	1,439.4 lb	25.33 bu	35.82 bu/ac	N/A	N/A	99	10/3/2012	12100400.iff	12100300.iff	2007220543	1,508.2 ft
L6:L	0.695 ac	8.556 %	1,209.7 lb	21.19 bu	30.48 bu/ac	N/A	N/A	98	10/3/2012	12100400.iff	12100300.iff	2007220543	1,483.5 ft
L7:L	0.690 ac	7.873 %	1,173.4 lb	20.71 bu	30.01 bu/ac	N/A	N/A	102	10/3/2012	12100400.iff	12100300.iff	2007220543	1,468.9 ft
L8:E	0.687 ac	8.001 %	1,384.9 lb	24.41 bu	35.52 bu/ac	N/A	N/A	96	10/3/2012	12100400.iff	12100300.iff	2007220543	1,464.9 ft
L9:E	0.667 ac	7.868 %	1,487.3 lb	26.25 bu	39.35 bu/ac	N/A	N/A	92	10/3/2012	12100400.iff	12100300.iff	2007220543	1,405.4 ft
L10:L	0.585 ac	7.878 %	1,203.6 lb	21.24 bu	36.33 bu/ac	N/A	N/A	81	10/3/2012	12100400.iff	12100300.iff	2007220543	1,248.9 ft
L11:L	0.542 ac	8.007 %	932.46 lb	16.43 bu	30.31 bu/ac	N/A	N/A	72	10/3/2012	12100400.iff	12100300.iff	2007220543	1,140.1 ft
L12:E	0.450 ac	7.733 %	987.34 lb	17.45 bu	38.81 bu/ac	N/A	N/A	60	10/3/2012	12100400.iff	12100300.iff	2007220543	944.42 ft
L13:E	0.398 ac	7.916 %	899.32 lb	15.06 bu	39.90 bu/ac	N/A	N/A	55	10/3/2012	12100400.iff	12100300.iff	2007220543	833.86 ft
L14:L	0.384 ac	7.768 %	823.59 lb	14.55 bu	37.93 bu/ac	N/A	N/A	52	10/3/2012	12100400.iff	12100300.iff	2007220543	800.89 ft
L15:L	0.378 ac	7.892 %	791.40 lb	13.96 bu	36.99 bu/ac	N/A	N/A	53	10/3/2012	12100400.iff	12100300.iff	2007220543	797.15 ft
L16:E	0.374 ac	7.404 %	865.08 lb	15.35 bu	41.07 bu/ac	N/A	N/A	52	10/3/2012	12100400.iff	12100300.iff	2007220543	773.00 ft
L17:E	0.373 ac	7.275 %	805.48 lb	14.31 bu	38.32 bu/ac	N/A	N/A	51	10/3/2012	12100400.iff	12100300.iff	2007220543	775.56 ft
L18:L	0.378 ac	7.615 %	676.55 lb	11.97 bu	31.70 bu/ac	N/A	N/A	50	10/3/2012	12100400.iff	12100300.iff	2007220543	788.88 ft
L19:L	0.388 ac	7.862 %	651.73 lb	11.50 bu	29.61 bu/ac	N/A	N/A	52	10/3/2012	12100400.iff	12100300.iff	2007220543	812.40 ft
L20:E	0.474 ac	7.477 %	903.01 lb	16.01 bu	33.77 bu/ac	N/A	N/A	58	10/3/2012	12100400.iff	12100300.iff	2007220543	961.61 ft
L21:E	0.576 ac	8.648 %	1,046.7 lb	18.32 bu	31.81 bu/ac	N/A	N/A	79	10/3/2012	12100400.iff	12100300.iff	2007220543	1,224.1 ft
L22:L	0.549 ac	8.402 %	866.44 lb	15.20 bu	27.71 bu/ac	N/A	N/A	73	10/3/2012	12100400.iff	12100300.iff	2007220543	1,164.4 ft
L23:L	0.544 ac	9.275 %	774.12 lb	13.45 bu	24.72 bu/ac	N/A	N/A	71	10/3/2012	12100400.iff	12100300.iff	2007220543	1,130.6 ft
L24:E	0.519 ac	8.081 %	924.63 lb	16.28 bu	31.36 bu/ac	N/A	N/A	68	10/3/2012	12100400.iff	12100300.iff	2007220543	1,082.0 ft
L25:E	0.497 ac	8.620 %	859.63 lb	15.05 bu	30.25 bu/ac	N/A	N/A	67	10/3/2012	12100400.iff	12100300.iff	2007220543	1,055.9 ft
L26:L	0.473 ac	8.313 %	740.39 lb	13.00 bu	27.52 bu/ac	N/A	N/A	62	10/3/2012	12100400.iff	12100300.iff	2007220543	983.69 ft
L27:L	0.468 ac	9.209 %	682.54 lb	11.87 bu	25.36 bu/ac	N/A	N/A	60	10/3/2012	12100400.iff	12100300.iff	2007220543	975.82 ft
L28:E	0.440 ac	8.134 %	753.66 lb	13.26 bu	30.14 bu/ac	N/A	N/A	60	10/3/2012	12100400.iff	12100300.iff	2007220543	907.81 ft
L29:E	0.419 ac	8.960 %	661.67 lb	11.54 bu	27.56 bu/ac	N/A	N/A	57	10/3/2012	12100400.iff	12100300.iff	2007220543	863.09 ft
L30:L	0.392 ac	8.810 %	575.28 lb	10.05 bu	25.61 bu/ac	N/A	N/A	52	10/3/2012	12100400.iff	12100300.iff	2007220543	822.08 ft
L31:L	0.389 ac	8.941 %	538.92 lb	9.401 bu	24.17 bu/ac	N/A	N/A	51	10/3/2012	12100400.iff	12100300.iff	2007220543	796.42 ft
L32:E	0.360 ac	8.152 %	542.22 lb	9.541 bu	26.47 bu/ac	N/A	N/A	48	10/3/2012	12100400.iff	12100300.iff	2007220543	758.96 ft
L33:E	0.338 ac	9.326 %	586.09 lb	10.18 bu	30.12 bu/ac	N/A	N/A	43	10/3/2012	12100400.iff	12100300.iff	2007220543	687.37 ft
L34:L	0.314 ac	8.020 %	521.16 lb	9.183 bu	29.29 bu/ac	N/A	N/A	40	10/3/2012	12100400.iff	12100300.iff	2007220543	647.80 ft
L35:L	0.307 ac	8.624 %	505.45 lb	8.848 bu	28.87 bu/ac	N/A	N/A	39	10/3/2012	12100400.iff	12100300.iff	2007220543	631.53 ft
L36:E	0.282 ac	8.173 %	539.54 lb	9.491 bu	33.68 bu/ac	N/A	N/A	37	10/3/2012	12100400.iff	12100300.iff	2007220543	585.37 ft
L37:E	0.260 ac	9.044 %	453.94 lb	7.910 bu	30.38 bu/ac	N/A	N/A	33	10/3/2012	12100400.iff	12100300.iff	2007220543	522.31 ft
L38:L	0.240 ac	8.224 %	367.77 lb	6.466 bu	26.97 bu/ac	N/A	N/A	30	10/3/2012	12100400.iff	12100300.iff	2007220543	487.57 ft

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