JOLIET JUNIOR COLLEGE
1901

J.F. Richards Land Laboratory Demonstration & Research Guide 2017

CONTENTS

ACKNOWLEDGMENTS

There were many who contributed to the J.F. Richards Land Lab Demonstration and Research Farm during the 2017 growing season. Some donations included equipment, seed, expertise and chemicals. On behalf of Joliet Junior College, I would like to thank our contributors and their companies for supporting the JJC Agricultural and Horticultural Sciences Department through their generous donations.

I would also like to give extra thanks to JJC President Dr. Judy Mitchell, Director of Business and Auxiliary Services Janice Reedus and the Agricultural and Horticultural Sciences Department staff for their input and continued support of the research conducted at JJC for the benefit of the students. The knowledge gained from the hands-on experience provided by the research farm is a huge asset to both the college and the agricultural community.

— Doug Larson, '74
JJC Land Laboratories Manager

INTRODUCTION

J.F. Richards Land Lab

The JJC demonstration and research farm began its operations in 1983 thanks to a generous land donation by the Richards family.

The objectives of the farm include: providing an instructional setting for students during their research and classes; demonstrating crop response to various farming practices (giving students a first-hand observation of crop growth and development); and providing unbiased, sound agronomic research information to crop producers and contributors.

Both faculty and students use the land lab for educational purposes. Students experience all aspects of production farming and apply it to what they are learning in the classroom. The students also assist instructors with farm management decisions. All agriculture classes use different parts of the farm to enhance their studies in the classroom. Students enrolled in JJC's soil and fertility class study soil types and fertility levels. Crops classes look at cropping systems, yield calculations and plant growth development. Crop protection classes look at disease, insect and weed pressure. Marketing students use crop yields and prices to market grain. Mechanics students learn how to properly operate and adjust machinery to maximize equipment use and efficiency.

In 2017, the demonstration and research farm covered 95 acres on the JJC Main Campus and 14 acres at the Weitendorf Agricultural Education Center, with 50 acres of corn and 45 acres of soybeans. The production from the Main Campus for this year's crop averaged 171.19 bu/ac for corn and 38.03 bu/ac on the harvested bean acreage. Yields on the Main Campus corn hybrid plot averaged 237.85 bu/ac, and the soybean variety plot averaged 50.99 bu/ac. The corn yield on the Main Campus was impacted by both water and deer damage, with the majority of the loss being too wet on about six acres. The deer population caused a massive amount of damage to the farm (as it did last year), particularly to the soybean crop.

CONTRIBUTORS 2017

Kurt Schobert, Wayne Walz	DuPont/Pioneer, Corn, Soybeans
Lance Brillon	Burrus Seed
George Blatnik	Cornelius Seed, Corn, Soybeans
Brandon Peters	Great Lakes Hybrids, Corn, Soybeans
John Cronin	Right-Hand Man, Transportation, Advice
Randy Winterland	Pfister Seed, Corn, Soybeans
Justin Engelking	Renk Seed Co., Corn, Soybeans
Matt Kellogg, Kyle Long	NK, Golden Harvest, Corn, Soybeans
Scott Lagger, Ken Funk	Elburn Coop, Fertilizer, Chemicals, Expertise
Jason Jordal	Channel Bio LLC, Corn, Soybeans
Jerry Longman	Agri-Gold, Corn
Nate Rink, Jayme Bochmann	Helena Chemical, Chemicals, Seed, Fertilizer
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Andy Rousonelos	Trucking and grain cart
Dan Schneider	LG Seed Co., Corn, Soybeans
Brittany Eubank	DeKalb/Asgrow, Corn, Soybeans, Chemicals
David Stipp/Jim Muhlstadt	Stroller Implement, Precision Farming
Chris Bertolson	Becks Hybrids Corn, Soybeans, Weigh wagon
Tom Walberg	Stone Seed, Corn, Soybeans

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2017 WEATHER AT JOLIET JUNIOR COLLEGE

The 2017 growing season got off to an early start at the JJC Main Campus. The early corn plots were in the ground from April 14 to April 17. The corn hybrid plot was planted on April 18. We applied most of the corn pre-weed control and a portion of the nitrogen near planting.

A lot of the no-till ground was cool with crop residue from the year before. Corn planting went well with excellent soil conditions. We were fortunate to have most of the corn in before the rains of April 26 and later took place, which delayed planting for another two weeks.

There were a total of 11 days that exceeded a temperature of 90 degrees this year, with many of them, oddly, in September. Although many weeks of high humidity made it uncomfortable to work, the crops were relatively disease-free and the stage was set for good yields at harvest. We received 22.81 inches of rain during the growing season, very similar to last year, with a total of more than 43 inches for the year. The biggest difference between 2016 and 2017 was when we received the moisture in the growing season. The dry later season conditions affected bean yields, but by having over 7 inches in July our corn crop greatly benefited.

Monthly Moisture Recorded for 2017			
January	2.49	July	7.46
February	1.34	August	3.59
March	6.47	September	.29
April	5.19	October	6.91
May	4.66	November	2.79
June	1.91	December	.2[est.]
Normal Year	**36 - 39”**	**Total 2016**	**41.44”**
		Total 2017	**43.12**

CORN HYBRIDS VARIETY PLOTS – 2017– Main Campus

We had 68 entries, including checks in the JJC Main Campus demonstration plot in 2017. The corn was planted at the rate of 34,500 seeds per acre with a no-till planter into soybean stubble on April 18. The high was 275 bu/ac and the low was 177 bu/ac. The check used was Pioneer 1197.

The combine monitor was calibrated several times during harvest with a weigh wagon provided by Kurt Schobert from CHS Elburn, Pioneer. The combine yield monitor once again indicated that the yields were less than 2% different from the final scale weights at DeLong, Minooka.

Nitrogen application: 85 pounds pre-plant with weed control, 56 pounds applied with the planter, 75 pounds side-dressed on June 8. Fall application of dry fertilizer was at the rate of 11-52-120.
The plot consisted of four to eight rows at 30-inch spacing at 410'-450' long. Harness Xtra, Roundup, 2, 4-D were applied at pre-plant. It was sprayed once in June with Roundup and AMS. The entire plot was virtually weed-free. Minimal lodged stalks and zero dropped ears were observed.

The harvest was on Sept. 28 and 30. Deer did not affect this section of the farm and fortunately left the corn plot alone.

Corn Plot Entries West					
	Area	Moisture	Weight (Wet)	Volume (Dry)	Yield (Dry)
	Acres	%	lb	Bushels	bu/ac
Check Pioneer 1197	0.089	21.62	1510.66	23.92	**268.75**
HG	0.087	21.91	1385.50	22.46	**256.87**
HG 7901	0.086	20.64	1213.90	20.00	**232.84**
HG 7809	0.093	18.33	986.78	16.73	**180.52**
Agrigold 6499	0.089	24.12	1325.90	20.89	**233.49**
Agrigold 6488	0.074	23.91	1178.60	18.62	**253.30**
Agrigold 6441	0.099	22.03	1345.20	21.78	**219.98**
Check Pioneer 1197	0.097	21.61	1389.22	23.74	**247.33**
Becks 5234 AMX	0.096	18.42	941.11	15.94	**166.37**
Dairyland 3605RA	0.089	20.42	1222.60	20.20	**226.21**
Dairyland 6106	0.096	19.70	1191.60	19.87	**206.43**
Cornelius 457	0.089	19.94	1224.20	20.35	**228.47**

GH G0F23	0.097	19.12	1257.50	21.12	**218.08**
Check Pioneer 1197	0.096	21.66	1310.25	22.57	**235.11**
Pioneer 0707	0.095	21.12	1195.60	19.58	**206.21**
Channel 207-27	0.089	21.22	1219.40	19.95	**225.05**
Burrus X6R25	0.098	23.56	1526.10	24.22	**246.49**
Sun Prairie 2488	0.059	21.67	847.76	13.79	**235.25**
Stone 5848	0.097	20.59	1307.00	21.55	**221.45**
Check Pioneer 1197	0.098	21.65	1395.56	23.25	**237.20**
Renk 792	0.098	20.21	1248.40	20.68	**210.84**
LG 5565	0.087	20.23	1246.20	20.64	**236.67**
DeKalb 5806	0.096	20.27	1184.30	19.61	**204.13**
Dairyland 9508	0.088	19.64	1151.00	19.21	**217.26**
Cornelius 576	0.090	20.65	1221.00	20.12	**223.95**
Check Pioneer 1197	0.090	21.63	1284.71	20.65	**229.41**
Becks 5883 SX	0.090	19.40	1073.10	17.96	**199.66**
Pfister 156137VH	0.098	20.83	1278.40	21.02	**213.73**
Check 1197	0.097	21.67	1411.62	22.70	**234.06**
Great Lakes 5935	0.097	19.76	1159.90	19.33	**200.04**
Burrus 3H85	0.091	19.43	1103.90	18.47	**203.14**
Check Pioneer 1197	0.090	21.67	1401.78	22.25	**247.18**
Great Lakes 6185	0.089	21.73	1299.40	21.12	**237.74**
Sun Prairie 2708	0.096	23.05	1307.70	20.90	**217.98**
GH G12W66	0.091	23.11	1344.30	21.46	**236.30**
Wyffels 7456	0.095	23.98	1319.60	20.83	**220.22**
Check Pioneer 1197	0.093	21.64	1456.29	23.40	**251.64**
Stone 6288	0.092	22.76	1394.60	22.37	**242.80**
Renk 842	0.098	22.15	1366.60	22.09	**226.58**
Pfister 14730	0.091	22.18	1360.00	21.98	**241.89**
LG 5618	0.095	23.73	1455.60	23.05	**243.58**
Great Lakes 6224	0.092	22.62	1273.30	20.46	**223.43**
Check Pioneer 1197	0.091	21.63	1455.29	22.63	**259.71**
Dairyland 9412	0.090	23.02	1495.20	23.90	**265.18**
Burrus 4J95	0.099	23.03	1344.70	21.49	**216.55**
Wyffels 7888	0.087	24.37	1426.70	22.41	**258.27**
Wyffels 7696	0.100	23.83	1370.50	21.68	**215.90**
Pioneer 1366	0.091	22.53	1387.00	22.31	**245.89**
Check Pioneer 1197	0.090	21.66	1454.09	23.37	**259.71**

Dekalb 6321	0.089	23.69	1432.40	22.70	253.83
Channel 213-19	0.099	24.70	1328.60	20.77	209.49
Becks 6365	0.090	23.45	1533.50	24.38	270.68
Pioneer 1422	0.090	24.05	1507.50	23.77	262.82
Dekalb 6487	0.098	25.03	1571.70	24.47	249.71
Check Pioneer 1197	0.097	25.07	1549.70	24.11	249.15
Cornelius 765	0.090	25.08	1538.40	23.93	266.60
Becks 6418	0.094	25.44	1463.10	22.65	242.02
Great Lakes 6401	0.091	25.08	1521.60	23.67	261.31
Renk 961	0.098	24.68	1573.40	24.61	251.19
Check Pioneer 1197	0.098	21.65	1485.27	26.11	267.01
		22.00			233.91
		Average			Average

WEITENDORF SOYBEAN PLOT – 2017

Channel Bio LLC used the entire 14-acre farm for soybean variety trials this year. Due to weather delays, the plot was planted on June 5. Each trial contained 8 rows, 350' long in 30-inch spacing. The soybeans were harvested during extremely mild and unually favorable weather on November 20th, with the following results recorded:

Weitendorf Channel Bean Plot					
	Date	Area	Moisture	Weight (Wet)	Yield (Dry)
	Harvested	Acres	%	lb	bu/ac
CH 2416	11/28/2017	0.155	12.60	449.63	48.42
CH 2617	11/28/2017	0.157	12.62	423.44	44.92
CH 2218	11/28/2017	0.151	12.40	409.08	45.17
CH 2418	11/28/2017	0.165	12.58	507.35	51.35
CH 2416	11/28/2017	0.153	12.40	468.47	51.05
CH 2617	11/28/2017	0.153	12.67	414.46	45.15
CH 2871	11/28/2017	0.156	12.56	399.20	42.62
CH 2918	11/28/2017	0.157	12.47	389.11	42.65
Pioneer 33T19	11/28/2017	0.156	12.65	473.33	51.11
CH 3318	11/28/2017	0.157	12.46	388.72	41.34
CH 3417	11/28/2017	0.157	12.24	362.37	38.37
CH 2416	11/28/2017	0.153	12.00	371.61	40.37
Totals			12.47		45.21
			Average		Average

Thank you to Channel Seed and Jason Jordal for their continued support of JJC plotwork at the Weitendorf Agricultural Education Center.

Most importantly, each year all net proceeds from the Weitendorf land go to the JJC Foundation for agricultural scholarships.

CORN ROOTWORM CONTROL

Corn rootworms continue to be a pest in the Midwest. Left untreated, they can cause large yield loss and standability issues. For this reason, we continued a study to look at conventional and traited means of control. Below are the results:

Treatments and Trials	
Previous Crop:	Corn
Hybrid:	Renk791 RR {control} Renk791 SSTX {CRW}
Tillage:	Fall chiseled and Spring field cultivator
Insecticide:	Treatment Study
Herbicide:	Harness/Roundup
Planted:	
Harvest:	
Nitrogen: Insecticides:	85# pre-plant with Harness/Roundup, 56# as starter and 75# Side-Dressed Labelled rates comparing Aztec, Force on traited and conventional seed.

Summary

There was a positive response to the additional insecticide application. Again, there was extensive deer damage to the west half of the plot this year. Results from the east 300 feet of the 700-foot plot were recorded for comparison purposes this year. Thank you to Renk Seed for their seed donation for this study.

Corn Rootworm Insecticide Plot					
	Date	Area	Moisture	Weight (Wet)	Yield (Dry)
	Harvested	Acres	%	lb	bu/ac
791 RR no insect	10/17/2017	0.111	19.71	919.46	138.29
791 RR Lorsban	10/17/2017	0.348	19.74	4148.70	198.60
791 RR Force	10/17/2017	0.346	20.24	4343.80	207.85
791 SSTX no ins	10/17/2017	0.344	21.55	3967.70	188.09
791 SSTX Lorsban	10/17/2017	0.342	19.77	3773.00	183.84
791 SSTX Force	10/17/2017	0.341	19.86	3732.10	182.43
			20.15		183.18
			Average		Average

One of JJC's laboratory classes completed root digs and analyzed the performance of the treatments (an annual favorite for the students).

SOYBEAN VARIETIES

Soybeans were planted no-till on May 17 into corn stalks at 140,000 seeds/acre in 30-inch rows. Four tons of leaves were applied in fall 2016. Authority XL/Roundup, 2,4-D were used pre-plant and Roundup was sprayed twice post-emerge during mid-June and then again in early July. The entire field was walked for escaped weeds. As we enter the era of weed resistance and tougher-to-control weeds, we will continue to research the best methods of weed control. The soybeans were harvested on Oct. 14 at between 9.7% and 13.1% moisture. There were a number of soybean variety entries that I elected not to harvest for yield because of extreme deer feeding. Those recorded here were of sufficient stand and growth to offer a representative yield. Fertilizer application was 11-52-120 in fall 2017. Eight rows were used for the plot. The combine monitor was calibrated twice during harvest with a weigh wagon to ensure accuracy.

2017 JJC Bean Variety Plot						
Dataset	Date	Area	Moisture	Weight (Wet)	Volume (Dry)	Yield (Dry)
	Logged	ac	%	lb	bu	bu/ac
Check DL 2909	11/1/2017	1.129	13.55	2480.30	41.31	36.6
Pf 24R201	11/1/2017	0.074	14.15	120.95	20.12	**27.3**
Stone 2607	11/1/2017	0.073	14.2	153.62	2.554	**34.87**
Cnls 24X64	11/1/2017	0.079	14.28	105.56	1.754	**22.26**
LG 2441	11/1/2017	0.084	14.31	151.31	2.513	**29.85**
Asgrow 24X7	11/1/2017	0.085	14.09	136.27	2.269	**26.65**
P 24T84	11/1/2017	0.089	14.24	128.8	2.141	**23.99**
LG 2520	11/1/2017	0.093	14.38	188.03	3.12	**33.47**
Renk 265NR2	11/1/2017	0.096	14.34	194.16	3.223	**33.65**
HG 2590	11/1/2017	0.105	14.1	165.16	2.749	**26.22**
Renk 265NR2	11/1/2017	0.103	13.24	152.5	2.542	**24.67**
GL 2870	11/1/2017	0.101	14.19	207.21	3.446	**34.13**
Burrus 25G8	11/1/2017	0.108	13.17	205.13	3.419	**31.65**
Crnls 24X64	11/1/2017	0.114	12.96	218.73	3.645	**31.92**
CH 2418	11/1/2017	0.112	12.95	218.27	3.638	**32.4**
DS 2616	11/1/2017	0.108	13.15	262.3	4.372	**40.33**
P 28T7	11/1/2017	0.114	13.19	261.23	4.354	**38.32**
Asgrow 27X7	11/1/2017	0.114	13.18	261.47	4.358	**38.32**
LG 2766	11/1/2017	0.101	12.32	247.32	4.122	**40.66**
LG 2890	11/1/2017	0.106	12.93	263.2	4.387	**41.23**
AgiGold 2900	11/1/2017	0.111	12.7	263.02	4.384	**39.4**
Renk 288 NX	11/1/2017	0.103	13.01	239.58	3.993	**38.67**
HG 2994	11/1/2017	0.106	13.01	282.31	4.705	**44.33**
Burrus 28Q8	11/1/2017	0.108	12.92	274.17	4.57	**42.34**
Becks 2899	11/1/2017	0.105	13.04	255.33	4.255	**40.67**
Crnls 28X73	11/1/2017	0.093	13.08	264.74	4.412	**47.29**
S P 28RX6	11/1/2017	0.104	12.93	231.79	3.863	**37.31**
G L 3267	11/1/2017	0.1	12.57	247.9	4.132	**41.4**

P 31A22X	11/1/2017	0.1	13.34	265.07	4.418	**44.27**
Asgrow 3324	11/1/2017	0.1	13.62	244.57	4.076	**40.97**
G L 3460	11/1/2017	0.1	13.47	224.06	3.734	**37.26**
CH 2918	11/1/2017	0.101	13.64	238.63	3.977	**39.52**
Burrus 32D5	11/1/2017	0.097	13.55	237.05	3.951	**40.94**
Becks 315R4	11/1/2017	0.096	13.41	236.99	3.95	**40.94**
Stone 2RX3116	11/1/2017	0.093	13.58	222.58	3.71	**39.8**
Crnls 31X13	11/1/2017	0.098	13.78	225.32	3.755	**38.49**
Asgrow 34X6	11/1/2017	0.094	13.83	212.2	3.537	**37.47**
P 33T19X	11/1/2017	0.098	14	241.14	4.019	**41.15**
P 35T75X	11/1/2017	0.093	13.98	235.59	3.926	**42.1**
DS 3250	11/1/2017	0.095	14.01	204.03	3.4	**35.7**
CH 3417	11/1/2017	0.096	14	178.72	2.979	**30.96**
Totals	11/1/2017	5.299	**13.5**	11427	190.35	**35.92**
			Average			Average

SOYBEANS: HERBICIDE STUDY

Helena Chemical Company

The soybean herbicide plot was sponsored by Helena Chemical Company. The plot compared 12 soil applied herbicide products and also 12 adjuvant treatments. The base product supplied by Helena was Antares (sulfentrazone). Various rates of Antares and a number of common tank mixes were compared for activity in a high weed pressure environment. Liberty was used post and compared 12 different adjuvants.

Planting date: 5/22/17
Harvest date: 10/26/17
Previous crop: Corn
Herbicides: Pre-emerg plot, followed by Liberty adjuvant plot post applied
Planting type: 30" Rows

Some standouts as far as weed control by the end of the season included Boundary, Matador and the tank mix of Antares/Zidua. The two check areas where no residual herbicides were applied showed the high level of weed pressure. Although Liberty when sprayed post in the check areas controlled the weeds; the harvest time level of control was much lower when compared to most of the soil applied products, followed by Liberty.

Helena Bean Herb Plot						
Dataset	Date Logged	Area	Average Moisture	Estimated Weight (Wet)	Estimated Volume (Dry)	Average Yield (Dry)
		ac	%	lb	bu	bu/ac
Zidua 6 oz	10/31/2017	0.287	11.82	409.85	6.807	**23.71**
Antares 5 oz	10/31/2017	0.246	10.53	440.99	7.35	**29.86**
Antares 7.5 oz	10/31/2017	0.247	10.16	452.98	7.55	**30.62**
Antares 5 Zid	10/31/2017	0.165	9.418	321.75	5.363	**32.57**
Antares 5 MTZ 5	10/31/2017	0.329	9.1	666.65	11.11	**33.75**
Antares 5 FR.33	10/31/2017	0.236	8.322	539.57	8.993	**38.07**
Antares 5 C DF	10/31/2017	0.242	8.925	489.12	8.152	**33.63**
Antares 5 Eng	10/31/2017	0.247	10.99	494.62	8.244	**33.4**
Antares 5 Bndry	10/31/2017	0.248	10.83	544.85	9.081	**36.65**
Antares 5 Prowl	10/31/2017	0.246	12.84	506.06	8.434	**34.23**
Matador 2pt	10/31/2017	0.225	16.16	382.96	6.223	**27.6**
Totals		2.719	**10.8**	5,249.40	87.31	**32.11**
			Average			Average

CORN: PREVIOUS CROP, HYBRID AND FERTILITY COMPARISON PLOT

Helena Chemical Company

With this plot we examined three different DeKalb hybrids which were planted following both corn and soybeans. We also split the plot in half and looked at two different fertility programs designed by Helena. In previous years, this area was our 16x16 plot, meaning 16 rows of corn were planted next to 16 rows of soybeans, providing a unique setting to examine performances of the selected hybrids in a corn-on-corn and corn-after-soybeans envirionment.

The three DeKalb hybrids selected were DK 56-45 (106 day), DK 58-06 (108 day) and DK 64-87 (114 day). Each hybrid was planted in the previous year's 16-row configuration. The planting date for the plot was April 21, 2017.

For the fertility comparison, the plot was divided into the north half, which received a nitrogen application of 180-0-0 as 32% solution, and the south half, which received 140-0-0-30S with two gallons of HydraHume and was then followed with a post nitrogen application of 3.2 gallons of CoRoN. The plot was treated with herbicides Acuron @ 1.5 qt / ac soil applied and also Roundup Powermax post applied.

The following chart provides the details on the results of the Helena Corn Study:

Helena Corn Maturity/Previous Crop Study					
	Date	Area	Moisture	Weight (Wet)	Yield (Dry)
	Harvested	Acres	%	lb	bu/ac
North Pioneer 1197	10/2/2017	0.157	20.58	2587.70	271.26
North 6487 CB	10/2/2017	0.403	22.23	6575.50	263.35
North 6487 CC	10/2/2017	0.409	22.47	6491.00	255.72
North 5806 CB	10/3/2017	0.409	18.85	5401.60	222.74
North 5806 CC	10/3/2017	0.409	18.71	5096.50	210.49
North 5645 CB	10/3/2017	0.417	19.51	5901.00	236.68
North 5645 CC	10/3/2017	0.379	18.93	5011.00	222.60
South 5645 CC	10/3/2017	0.409	18.42	5240.60	217.16
South 5645 CS	10/3/2017	0.403	18.34	5334.70	224.65
South 5806 CC	10/3/2017	0.400	17.99	4737.70	201.88
South 5806 CB	10/3/2017	0.398	17.49	4747.90	204.31
South 6487 CC	10/3/2017	0.403	20.06	4722.80	194.66
South 6487 CB	10/3/2017	0.407	21.38	6146.20	246.29
South Pioneer 1997	10/3/2017	0.097	21.64	1771.90	296.60
			19.76		233.46
			Average		Average

BECKS SEED TRAITED HYBRID STUDY:

Coorperating with Becks Seed, there was a new study that compared the performance of various corn hybirds with and without the traits. This is similar work that Becks studies in their PFR (Practical Farm Research) across the Midwest. The purpose of the study was to see the type of a reponse and return to investment from the different hybirds supplied by Becks.

The following chart depicts the results:

Becks Traited Plot					
	Date	Area	Moisture	Weight (Wet)	Yield (Dry)
	Harvested	Acres	%	lb	bu/ac
6365 AM	10/3/2017	0.090	20.43	958.48	176.72
6365 AMX	10/3/2017	0.100	21.05	1183.60	194.19
6175 AM	10/3/2017	0.100	21.70	1072.60	174.08
6175 AMX	10/3/2017	0.101	20.54	982.81	160.73
6165 AM	10/3/2017	0.100	19.50	980.58	163.91
6165 AMX	10/3/2017	0.099	18.51	1065.22	172.66
6076 V2P	10/3/2017	0.101	19.30	940.13	156.07
6076 SX	10/3/2017	0.097	19.93	1061.40	181.05
5828 AM	10/3/2017	0.100	20.22	987.27	163.40
5828 AMX	10/3/2017	0.094	19.82	1020.30	179.93
5883 V29	10/3/2017	0.088	18.16	873.85	168.91
5883 SX	10/3/2017	0.086	18.40	855.86	168.75
			19.80		171.70
			Average		Average

CORN SILAGE PLOT

Dairyland Seed

The corn silage plot received high rates of fall application of leaves. Up to 20 tons of municipal leaves were applied and continued to increase the organic matter of the soil, as well as supplying additional N-P-K. The analysis in a ton of leaves is approximately .5 -.1 -.5. The plot also received an application of 11-52-120 commercial fertilizer in fall 2016. The plot had another 85# of nitrogen with Harness applied pre-plant, along with 56# starter and 75# of sidedress nitrogen.

The 13 hybrid silage plot was planted on April 25. The plan was to take the corn out as silage and weigh the entries, but we were unable to do so because of some logistic and weather problems during that time period. Dairyland supplied the seed and we will continue with the silage plot work in 2018. Organic matter has risen from 2.7% to 3.4% in most areas. The field was harvested on Oct. 4 with most of the corn at 21.0% moisture.

Dairyland Silage Plot					
	Date Harvested	Area Acres	Moisture %	Weight (Wet) lb	Yield (Dry) bu/ac
6106	10/4/2017	0.103	19.69	1092.60	176.32
EXP	10/4/2017	0.101	21.45	1299.00	210.70
3605 RA	10/4/2017	0.100	21.48	1248.30	204.22
3407 RA	10/4/2017	0.098	25.01	1286.50	204.13
3808 RA	10/4/2017	0.098	24.59	1502.60	240.52
9508 RA	10/4/2017	0.098	20.62	1064.30	178.43
EXP 1011	10/4/2017	0.099	22.76	1550.90	250.52
Becks 5828	10/4/2017	0.100	21.99	1126.30	183.26
EXP 157144	10/4/2017	0.099	24.85	1560.30	245.05
9513 RA	10/4/2017	0.101	23.18	1377.20	218.36
9713 RA	10/4/2017	0.101	23.52	1310.50	206.74
3915 SSX	10/4/2017	0.078	23.83	1087.50	219.38
			22.75	15506	211.47
			Average Moisture		Average Yield

UNIVERSITY of ILLINOIS CORN PLANTING DATE and CROP MATURITY STUDY

This plot was designed with protocol provided by Russ Higgins from the University of Illinois. U of I is conducting a number of similar plots around the state that looks at two hybrids, an early and late season, that are planted on four different dates. The plot is replicated 4 times with 4 planting dates using two different maturing Pioneer hybrids. Early maturing P0157AMX and the later maturing P1197AMXT.

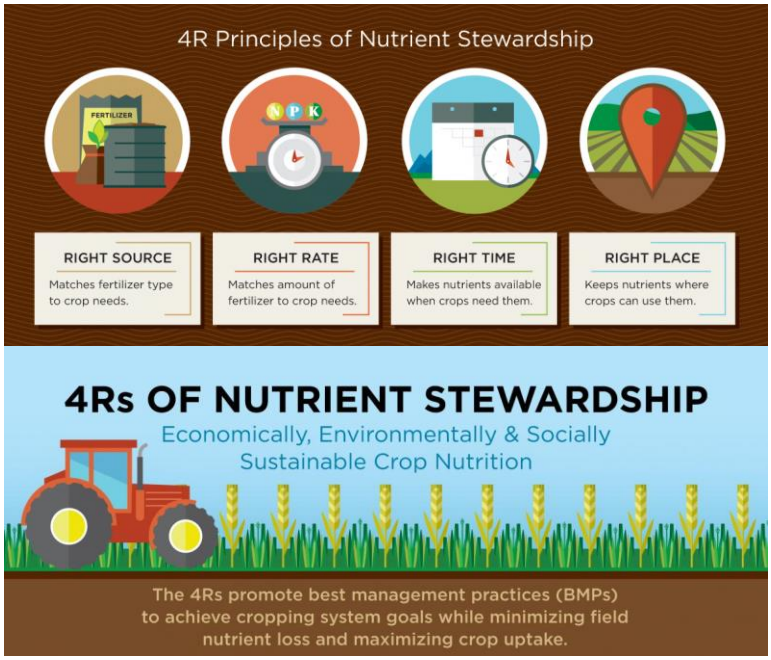
Results:

U of I Hybrid Maturity/Planting Date Study					
	Date	Area	Moisture	Weight (Wet)	Yield (Dry)
	Harvested	Acres	%	lb	bu/ac
Late 4	10/5/2017	0.118	27.81	1452.40	**184.37**
Early 4	10/5/2017	0.125	28.58	1672.90	**197.77**
Early 1	10/5/2017	0.114	18.71	1274.50	**189.46**
Late 1	10/5/2017	0.122	21.18	1997.80	**267.62**
Early 2	10/5/2017	0.122	22.78	2167.10	**284.45**
Late 2	10/5/2017	0.123	25.28	2000.50	**252.28**
Early 3	10/5/2017	0.123	26.88	2321.40	**287.69**
Late 3	10/5/2017	0.125	23.78	2364.20	**299.02**
Late 2	10/5/2017	0.122	23.22	2305.30	**300.93**
Early 2	10/5/2017	0.125	21.09	1963.00	**257.02**
Early 1	10/5/2017	0.127	18.34	1486.00	**198.69**
Late 1	10/5/2017	0.127	20.77	1961.10	**254.63**
Late 4	10/5/2017	0.125	29.42	2106.40	**247.86**
Early 4	10/5/2017	0.125	28.88	1876.10	**221.01**
Late 3	10/5/2017	0.124	25.22	2292.20	**286.77**
Early 3	10/5/2017	0.251	22.33	3900.70	**250.98**
Early 1	10/5/2017	0.119	21.53	1399.90	**191.03**
Late 2	10/5/2017	0.127	21.46	2210.40	**284.92**
Early 2	10/5/2017	0.124	20.76	1827.70	**243.00**
Early 3	10/5/2017	0.128	23.32	1987.90	**247.74**
Late 3	10/5/2017	0.128	24.67	2448.30	**299.86**
Early 4	10/5/2017	0.117	27.19	1763.90	**226.98**
Late 4	10/5/2017	0.122	28.45	1996.50	**243.59**
Late 4.2	10/5/2017	0.124	28.22	2050.20	**246.48**
Early 4	10/5/2017	0.127	27.31	1708.50	**203.65**
Late 2	10/5/2017	0.126	21.38	2175.10	**282.79**
Early 2	10/5/2017	0.124	19.84	1826.60	**245.58**
Early 1	10/5/2017	0.125	18.06	1510.60	**206.24**
Late 1	10/5/2017	0.123	20.83	2067.80	**275.32**
Early 3	10/5/2017	0.122	23.33	1971.70	**257.65**
Late 3	10/5/2017	0.124	23.65	2202.20	**282.31**
			23.69		**248.96**
			Average		Average

NITROGEN RATE / SIDEDRESS STUDY

This year's nitrogen study was conducted in association with the N-Rec program, coordinated by Dan Schaefer, Director of Nutrient Stewardship from the Illinois Fertilizer and Chemical Association.

Nitrogen applications in this plot work focused on the 4R's of Nitrogen Stewardship.



The seed was provided by Golden Harvest, GH 10T63 (110 day), and planted on April 21, 2017, with no-till into bean stubble at 34,500 plants per acre. The base rate of 85 # of N was applied near planting with the herbicide. With the planter, another 56 # N was applied as starter in a 2x2 placement. Alternating patterns of sidedressing an additional 75 # of N was applied using the Y-DROP system developed by the 360 Yield Center. This system allows for placement of the liquid nitrogen directly at the base of the corn plant and according to the manufacturer the location of the N closer to the root mass results in higher efficiency and utilization of the fertilizer. A comparison, placing N in the center of the row versus the Y-DROP location is provided in the chart below. The plot was sidedressed on June 15, 2017 with corn at the V5 stage of development.

Corn Sidedress Nitrogen Study with Y Drops					
	Date Harvested	Area Acres	Moisture %	Weight (Wet) lb	Yield (Dry) bu/ac
East Side	10/17/2017	0.189	21.19	2,765.60	240.00
No Sidedress	10/17/2017	0.184	22.01	2,741.20	241.34
Sidedress 1	10/17/2017	0.181	21.66	2,818.30	253.82
No Sidedress 2	10/17/2017	0.179	21.29	2,272.50	207.08
Sidedress 2	10/17/2017	0.178	21.86	2,874.50	262.70
No Sidedress 3	10/17/2017	0.185	21.45	2370.30	209.22
Sidedress 3	10/17/2017	0.181	22.38	2777.70	247.72
No Sidedress 4	10/17/2017	0.079	20.75	1071.20	222.01
Sidedress 4	10/17/2017	0.185	21.73	2726.40	238.99
No Sidedress 5	10/17/2017	0.182	20.78	2137.80	192.75
Sidedress 5	10/17/2017	0.182	21.79	2616.80	233.59
No Sidedress 6	10/17/2017	0.100	20.67	1280.50	210.60
Sidedress 6	10/17/2017	0.185	21.28	2544.70	224.48
No Sidedress 7	10/17/2017	0.183	20.85	2141.50	192.50
Sidedress 7	10/17/2017	0.181	21.91	2646.60	236.61
No Sidedress 8	10/17/2017	0.183	20.98	2084.60	187.31
Sidedress middle of row	10/17/2017	0.181	21.83	2565.40	230.38
No SD west	10/17/2017	0.190	21.86	2451.70	209.45
West side	10/17/2017	0.074	19.92	1015.30	228.98
			21.38		224.71
			Average		Average

J.F. Richards Land Lab Field Day

Sept. 6, 2017

Speakers:

Dan Schaefer, Director of Nutrient Stewardship for Illinois Fertilizer & Chemical Association
Managing Corn Nitrogen to Improve Efficiency

Russ Higgins, Commercial Agriculture Educator, University of Illinois
Overview of the 2017 Growing Season

Doug Maxwell, Principal Research Specialist, University of Illinois
Weed Control in 2017 and Options for Next Year


TRACKING SOIL NITROGEN
WATCH

LAND LABORATORY CLASSES 2017

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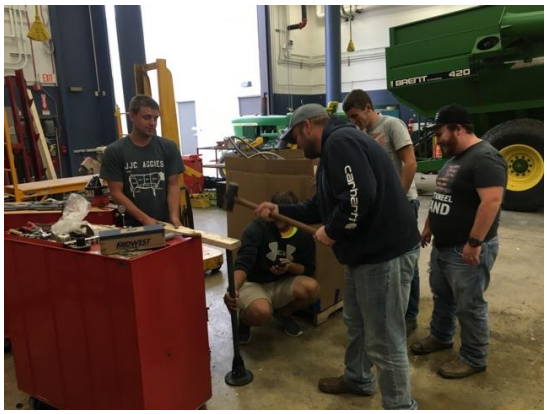

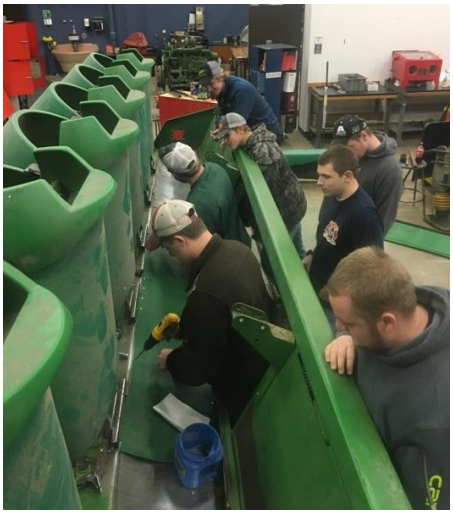

LAND LABORATORY CLASSES 2017

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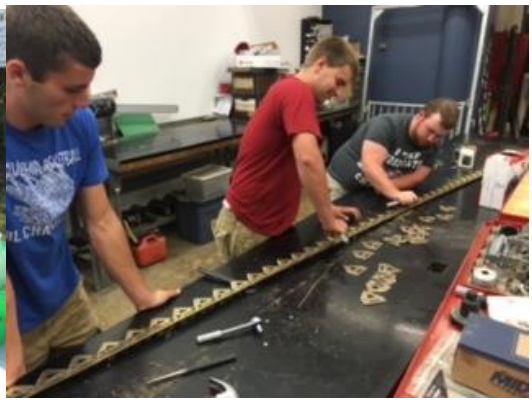
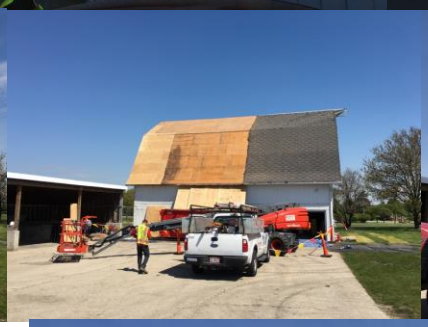


BARN RESTORATION PROJECT






SUMMARY CROP YEAR: 2017

J.F. Richards Land Lab

As a graduate of the JJC Ag program, it's an honor to once again contribute to the learning experiences of the students through our demonstration and research plots. Having this on-campus lab provides a unique opportunity for students and it contributes to their educational progress. Over the years in this business, I have met and worked with many JJC graduates. As evidenced by the continued awards in teaching excellence, I consider JJC's Ag program to be the best in the state. I believe students are well-prepared through classroom instruction, Land Lab experience and also on-the-job internships in preparation for the future success in their careers once they graduate.

JJC's Land Lab gives ag students high-quality, hands-on experience, which complements and supports what they are learning in the classroom. My thanks to the ag faculty and staff, especially Jeff Landers, Tammy Miller and Patrick Kelly for their efforts in accomplishing this.

Thank you to all the cooperators who contribute seed, crop protection products, time and expertise to make our demonstration and research plots at the college possible. As we make our plans and prepare for next year, I want to continue to build our relationships by developing quality, unbiased third party research data for the students and our farming community.

The 2017 corn hybrid plot yielded from a high of 270.68 bu/ac to a low of 166.37 bu/ac. This area of the farm had little effect from the deer. The farm average was a respectable 173.6 bu/ac, despite significant deer and water damage in other areas of the farm. There were a total of 11 days that exceeded a temperature of 90 degrees this year, with many of them, oddly, in September. Although many weeks of high humidity made it uncomfortable to work, the crops were relatively disease-free and the stage was set for good yields at harvest. We received 22.81 inches of rain during the growing season, very similar to last year and with a total of more than 43 inches for the year. The biggest difference between 2016 and 2017 was when we received the moisture in the growing season. The dry later season conditions affected bean yields, but by receiving more than 7 inches in July, our corn crop greatly benefited.

The soybean yields in the variety plot went from a high of 47.29 bu/ac to a low 22.26 bu/ac. The soybean variety plot was only slightly affected by deer damage and we were able to harvest the plot for comparisons. This plot was located on the south end of the farm, and was not as damaged by deer as the north end. Going forward we are planning on using the north end for continuous corn research.

I want to thank Dan Schaefer from the Illinois Fertilizer and Chemical Association, Doug Maxwell from the University of Illinois and Russ Higgins, University of Illinois Commercial Educator who all made this year's annual Fall Field Day successful, sharing their expertise and research with us. We had a lot of positive feedback about all of the speakers. Also, I want to thank the JJC culinary team for preparing a wonderful meal after the tour ended. Thank you to Friestad Farms for supplying two large hay racks to assist in farm transportation to the demonstration sites. We had more than 130 students, staff and area farmers attend this annual event!

As 2017 comes to a close, we look forward to the 2018 crop year. We are in the planning process now, trying to meet the expectations of the college, the students and the farming community as a whole in providing unbiased results with the many different experiments going on at JJC for the crop year 2018.

Thank you again to the students and the Agricultural and Horticultural Sciences Department faculty and staff. Special thanks to all the contributors that have been so generous and supportive to make 2017 another success for JJC.

— Doug Larson, ’74
JJC Land Laboratories Manager

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