

JOLIET JUNIOR COLLEGE

J.F. RICHARDS LAND LABORATORY

DEMONSTRATION & RESEARCH GUIDE

2012





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ACKNOWLEDGMENTS

Many people have contributed numerous resources to the J.F. Richards Land Lab Demonstation and Research Farm during the 2012 growing season. A few of those resources included equipment, pesticides, seed, cash, and chemicals to help the farm throughout the year. These people are listed below. On behalf of the Joliet Junior College, I would like to thank these people for supporting the Joliet Junior College Agricultural and Horticultural Sciences Department through their generous donations.

I would like to give extra thanks to Brad Angus and Doug Foss who took it upon themselves to get the farm planted this Spring with the absence of a Farm Manager. After planting, they saw that the demonstrations and trials were fully executed to give us the results printed in the following pages. The college and I extremely grateful for a job well done.



J.F. RICHARDS LAND LAB

INTRODUCTON

The Joliet Junior College Demonstration and Research Farm began operation in 1983 by the generous donation of the Richards Family. The Richards family previously owned the land that is now the main campus of the college. The main objective of the farm is to provide an instructional setting for students to utilize during their research and classes, demonstrate crop response to various farming practices giving students a first hand observation of crop growth and development, and to provide unbiased, sound agronomic research information to crop producers.

The land lab is used by both faculty and students for educational purposes. Students are able to experience all aspects of production farming and apply it to their classroom settings. The students are able to work with their instructors to assist in management decisions of the farm. All agriculture classes utilize different aspects of the farm to enhance their studies in the classroom. Students enrolled in Soil and Fertility will study soil types and fertility levels. Crops classes look at cropping systems, yield calculations and plant growth development. Crop Protection classes will look at disease, insect, and weed pressure. Marketing students will utilize crop yields and prices to market grain. Mechanics students will learn the proper operation and adjustment of machinery to maximize equipment use and efficiency.

The Demonstration and Research Farm consists of 94 acres here at the main campus with 59 acres of corn and 35 acres of soybeans in 2012. Despite the extreme drought effecting most of the farming area, we still had some corn yields above 130 bushels/acre, and soybean yields above 50 bushels/acre.



The following is a list of contributors that have donated their time, resources, and expertise to the Joliet Junior College Demonstration and Research Farm in 2012.

| | | |
|------------------|-----------------------------|----------------------------------|
| Andy Asbury | Northrup King | Soybeans |
| Fred Beane | Mark Seed | Corn, Soybeans, Expertise |
| Jeff Cole | Becks Hybrids | Corn, Wheat, Alfalfa |
| John Cronin | Right Hand Man | Transportation, Advise |
| Russ Higgins | University of Illinois Ext. | Expertise |
| Alan Hill | Golden Harvest | Corn, Soybeans |
| Andrew Johnston | Student Assistant | JJC |
| Scott Lager | Elburn Coop | Fertilizer, Chemicals, Expertise |
| Justin Laramie | Channel Bio LLC | Corn, Soybeans |
| Doug McHenry | Stine Seed | Corn, Soybeans |
| Eric Moon | Helena Corporation | Nitrogen Demo Expertise |
| Dennis Mueller | Burriss and Hughes Hybrids | Corn, Soybeans |
| Tom O'Connor | O'Connor Farms | Yield Monitor Expertise |
| Merrill Orns | Sun Prairie | Corn, Soybeans |
| Andy Rousonelous | Custom Harvest Operator | |
| Bill Skonetski | Dairyland Seed | Corn, Soybeans, Alfalfa |
| Wayne Walz | Pioneer Seed | Corn, Soybeans, Wheat |
| Adam Weber | Student Assistant | JJC |



AGRICULTURAL AND HORTICULTURAL SCIENCES FACULTY AND STAFF

Below is a complete list of faculty and staff in the Agriculture and Horticulture Sciences department at Joliet Junior College. The JJC Demonstration and Research Guide contact: Steve Brockman at 815-280-6636 or sbrockma@jjc.edu. To contact any of the staff members please call 815-280-2320.

| | |
|-----------------|---|
| Brad Angus | Argonomy/Business |
| David Bartz | Landscape Design |
| Steve Brockman | Farm/Hort. Lab./Greenhouse Manager |
| Doug Foss | Mechanics |
| Caryn Genes | Greenhouse Manager |
| Dale Hummel | Animal Science |
| Bill Johnson | Agriculture Economics/Marketing |
| Frederic Miller | Nursery Management |
| Tammy Miller | Soils/Fertilizers/Agriculture Business |
| Lisa Perkins | Turf Management |
| Nathan Ray | Animal Science |
| Donna Theimer | Floral Design/Interior Landscaping/Dept.Chair |
| Diane Vlva | Department Secretary |

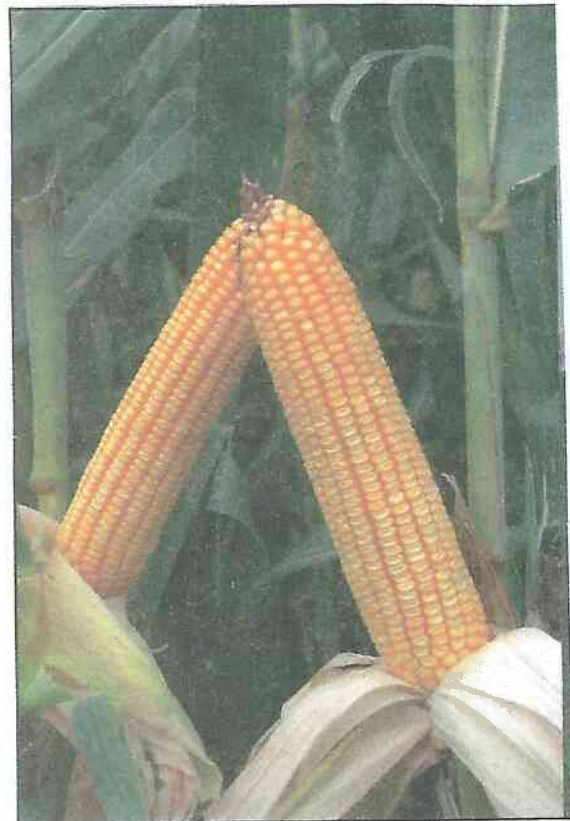


CONTINUOUS CORN WITH VARIOUS TILLAGE TRIAL

Continuous Corn has become more popular in the Midwest in recent years with many tillage options available for the producer to choose from. The following results were observed on the Continuous Corn plot at JJC planted very early and suffering through the drought of 2012 which produced the following very disappointing yields. Planted with Burris 4B32 on 4/3/2012 and harvested on 10/27/2012 with six different tillage practices tried. 40 # nitrogen was applied at planting and side-dressed with 110# on 6/18/2012. The plot has averaged over 150 bu./ac. the last 5 years.

RESULTS

| | |
|-----------------|-------------|
| FALL PLOWED | 5.75BU./AC. |
| CHISEL PLOWED | 5.5BU./AC. |
| SPRING DISC | .75BU./AC. |
| FIELD CULTIVATE | 4.1BU./AC. |
| STRIP TILL | 8.75BU./AC. |
| NO-TILL | 5.5BU./AC. |





Corn Hybrids Variety Plot at Joliet Junior College 2012



We had 32 entries in the Joliet Junior College demonstration plot in 2012. The corn was planted at the rate of 34,000 seeds per acre with a Kinze 3000 No-Till planter into Soybean stubble in early May with 40# of Nitrogen as a starter. Total nitrogen applied as a side-dress was 110 pounds/acre in early June. The high was 132 bu./ac and the low was 27 bu./ac.

| Variety | Yield Bu./Ac. |
|-----------------------------|---------------|
| Golden Harvest 8577 {Check} | 132 |
| Dairyland 9212 | 129 |
| Dairyland 9210 | 118 |
| Dairyland 9206 | 105 |
| Dairyland 9111 | 117 |
| Check | 99 |
| Sun Prairie 2705 | 88 |
| Sun Prairie 2689 | 121 |
| Hughes 6132 | 131 |
| Stine 9523 | 95 |
| Check | 106 |
| Stine 9733 | 96 |
| Stine 9731 | 51 |
| Burris 6136 | 97 |
| Burris 6A25 | 62 |
| Check | 102 |
| Golden Harvest 8928 3H1 | 96 |
| Golden Harvest 8969 3111 | 62 |
| Golden Harvest 8672 300GT | 102 |
| Golden Harvest 7774 300GT | 75 |
| Check | 71 |
| Channel 214-14 | 112 |
| Channel 213-40 | 108 |
| Channel 211-99VT3 | 98 |
| Channel 210-57STX | 110 |
| Check | 74 |
| Pioneer PO 832 AMX-R | 63 |
| Pioneer PI 8 AM1 | 68 |
| Pioneer PI 339 XR | 69 |
| Pioneer PO 636 AM1 | 51 |
| Check | 73 |
| Mark Seed RR 12110 | 27 |
| Mark Seed RR 08138BT | 57 |
| Mark Seed EXP. 111T | 64 |
| Mark Seed 10115 | 76 |
| Check | 62 |
| Mark Seed EXP. 109M | 61 |
| Mark Seed EXP. 1141T | 72 |
| Mark Seed 1121T | 62 |
| Check | 56 |
| Plot Average | 85 |
| Check Average | 76 |



Nitrogen Rates

Optimizing the amount of nitrogen is always a goal of the corn producer especially with the increased cost we are seeing year after year.



Treatment:

Previous Crop: Soybeans

Hybrid: Great Lakes

Insecticide: None

Tillage: None

34,000 Seeds/Acre

Results

Applied on June 23rd
side-dress application

| # of Nitrogen | Yield |
|---------------|-------|
| 0#/Ac. | 66.1 |
| 40#/Ac. | 85.3 |
| 80#/Ac. | 93.7 |
| 120#/Ac. | 99.9 |
| 160#/Ac. | 107.6 |
| 200#/Ac. | 117.1 |

Summary

A very distinctive difference in yields with an increase of side-dressed 32% nitrogen despite the effects of the 2012 drought. Very little if any Deer damage on this part of the farm this year.

Corn Rootworm

Corn rootworms are one of the biggest pests to corn producers in the Midwest today and for the foreseeable future.



Treatments and Trials

Previous Crop: Corn

Hybrid: Burriss 7U17 {control}

Burriss 7A18 {crw}

Burriss 4B32 {non}

Tillage: Fall Plowed

Results

| Treatment: | Yield Bu./Ac. |
|-----------------------|---------------|
| Burriss 7U17 | 132 |
| Burriss 7U17+Force | 119 |
| Burriss 7U17+Fortress | 109 |
| Burriss 7A18 | 108 |
| Burriss 7A18+Fortress | 87 |
| Burriss 7A18+Force | 87 |
| Burriss 7A18 | 83 |
| Burriss 7U17+Fortress | 80 |
| Burriss 4B32+Force | 77 |

Summary

Very hard this year to tell any difference since we had drought, low insect population, and a considerable amount of Deer damage to the plot the further we harvested from South to North. Most if not all the roots appeared to have little damage.



Various Tillage and Various Planting Dates

There are a lot of different types of tillage operations that can be performed on Midwest Soils. This combined with various planting dates were tried in this demonstration plot each year.



Treatments

Previous Crop: Soybeans

Hybrid: Golden Harvest 8577

3 Tillage and 3 Planting Dates

40# Nitrogen at Planting

110# Nitrogen on June 22nd

Results

| Planting Date | No-till | Chisel | Strip-till |
|---------------|---------|--------|------------|
| Early | 16.7 | 3.5 | 13.0 |
| Normal | 58.5 | 38.9 | 55.5 |
| Late | 78.4 | 77.5 | 77.1 |

Summary

This was one of those very odd years that early planted corn, no matter what tillage was used, did not pay off. Historically, early to normal planted corn will always out yield anything planted very late here in the Midwest. The ones who procrastinated this year got a very good surprise, but would not count on it in the future.



Corn Population Study

With the cost of seed a very big factor in the overall cost to farm, a very small demonstration plot was set up varying populations.



Treatments

Previous Crop: Soybeans

Insecticide: None

Tillage: None

160# of Nitrogen Side-dressed on June 23rd.

Results

| Seeds/Acre | Yeild/Acre |
|------------|------------|
| 32,000 | 133 |
| 36,000 | 125 |
| 42,000 | 145 |
| 48,000 | 134 |

Summary

The results came out as expected in a year with limited amounts of water. Pushing the population came with a price as anything over 42,000 appeared to have negative effects on the yields and the added cost of seed proved to be of no added benefit. Will try this experiment again next year using 15 inch rows instead of 30 inch rows.



Soybean Varieties



Always a highlight of any demonstration farm is the variety plots. This year there was a total of 19 soybean varieties. All planted in 15 inch rows, all planted as no-till into corn stalks. All were harvested on November 1 at 11% moisture and had paid hail damage of 15% about two weeks before harvest. All soybeans were harvested by a John Deere 6600 combine and a 13 foot grain platform.

Results

| Variety | Yield |
|----------------------|-------|
| Asgrow 2232 | 41.75 |
| Northrup King 527-H6 | 43.11 |
| Channel 2605-R2 | 37.92 |
| Burriss 28V2 | 40.39 |
| DSR 2995 | 41.77 |
| Stine 29RD22 | 41.49 |
| Northrup King 524-K2 | 43.53 |
| Sun Prairie 28R20 | 41.49 |
| DSR 3029 | 36.35 |
| Burriss 32RO | 36.22 |
| Channel 2903R2 | 40.22 |
| Stine 30RD22 | 39.63 |
| Northrup King 523P8 | 38.61 |
| Sun Prairie 27R21 | 43.28 |
| Burriss 28J0 | 45.92 |
| DSR 2880 | 54.33 |
| Stine 2420-4 | 59.35 |
| Channel 2800R2 | 50.59 |
| Northrup King 525T8 | 54.17 |



Soil Fertility

Properly applying very expensive fertilizer based on soil samples is the best way to ensure proper nutrients for your crop. How much to put on is always the big question.



Previous Crop: Soybeans

Hybrid Planted: Dairyland

Tillage: None

Various amounts of Dry

Fertilizer Applied in the Fall

Results

| Fertility | Yield/Acre |
|-------------------------|------------|
| Normal | 143 |
| No Phosphorus | 126 |
| No Potassium | 120 |
| No P or K | 106 |
| Normal | 153 |
| Acidic | 163 |
| Basic | 165 |
| No Phosphorus | 106 |
| No P or K | 91 |
| Normal | 166 |
| No Potassium | 109 |
| Acidic | 141 |
| Basic | 113 |
| Normal {Deer Damage} | 53 |



NITROGEN RATE AND ENHANCEMENT PRODUCT FROM HELENA CHEMICAL



Treatment:

Previous Crop: Soybeans

Hybrid: Dekalb 6188

Votivo and Poncho 250

Planted on April 26, 2012

All corn was 15.4% at

Harvest on 10/23/2012

RESULTS

| Treatment | Yield |
|------------------|-------|
| Control | 18.14 |
| Coron | 23.15 |
| Teprosyn | 24.44 |
| Nucleus+TrfxZnXL | 27.56 |
| Coron+Utilize | 17.29 |
| Nucleus | 35.09 |

Coron controls the release of nitrogen throughout the season. Teprosyn usually combines with a fungicide to increase plant health. Nucleus is a superior form of Potash. Utilize is a foliar feeding product. TrfxZnXL is a fertilizer additive that improves efficiency and adds Zinc. The plot showed large amount of stress from the 2012 drought and being planted early.



2012 WEITENDORF CORN VARIETY PLOT

This year, the Channel Bio LLC used the entire 14 acre farm for Corn Variety trials. The plot was planted no-till into soybean stubble on May 25, and did respond to late season rains. Harvest took place on November 2, with all varieties at 15%-16% moisture. Standability was excellent. Zero ear drop.

RESULTS

| Variety | Maturity/Days | Yield Bu./ac. |
|--------------------|---------------|---------------|
| Channel 203-43VT3P | 103 | 116.2 |
| Channel 202-32STX | 104 | 165.4 |
| Channel 207-13VT3P | 107 | 142.2 |
| Pioneer PO832AMX-R | 108 | 157.2 |
| Channel 209-69VT3P | 109 | 159.5 |
| Channel 209-85VT3P | 109 | 181.6 |
| Channel 210-57STX | 110 | 166.5 |
| Pioneer P1184AM1 | 111 | 149.1 |
| Channel 211-99VT3P | 111 | 149.0 |
| Channel 212-86STX | 112 | 146.7 |
| Channel 213-40VT3P | 113 | 145.0 |
| Channel 214-14VT3P | 114 | 113.5 |



SUMMARY 2012

Thankfully, 2012 is over. Between all the heat, the lack of rainfall, some very inviting crop prices, escalating input costs, thankfully the crop year known as 2012 is over. I became the Joliet Junior Collage Farm Manager the day after Labor Day, realistically after most of the damage had already occurred to the corn and soybean crop. Still, because of my farm background, there was plenty of suffering to go around and could feel for all of the producers nationwide.

Because of the optimism always held by most producers, we are all looking forward to 2013 with great expectations. As the new Farm Manager here at Joliet Junior College, I look forward to meeting all the existing contributors that have supplied so many inputs to the demonstration farm for many years. I am also looking forward to meeting many new contributors that will want to be a part of the Land Lab in the future. The J.F. Richards Land Lab relies very heavily from the ever increasing cost of inputs year after year by all of the contributors as a way to educate the student's "hands on", and to provide a lot of solid data on the many different trials going on here at the farm to the crop producer in the Midwest.

The tradition will continue not only with a new farm manager on board, but with a new year facing us head on. As one old timer once told me years ago, you can farm 80 years and never see the same year repeat itself. The Spring will be different, the summer hotter or colder, wetter or dryer, and the Fall is never predictable even by the best forecaster. One thing is for sure, we will farm to the best of our ability, and the rest is left to a higher power. Respectfully.

Steve Brockman

Farm Manager J.F. Richards Land Lab @ Joliet Junior College