THE IRRIGATOR

February 2016

Research Director's Corner

Garry Hnatowich, Research Director
Irrigation Crop Diversification Corporation

As we enter 2016, I again take this opportunity to review 2015 and update ICDC members and irrigators on the changes, challenges, and opportunities that affect ICDC. The past several years have seen a number of structural changes that have changed the dynamics of how we operate, and we are continuing to evolve.

The 2015 ICDC Field Research Program continued to grow in both the number of trials conducted and in the diversity of crops evaluated. Approximately 70 research and demonstration trials were conducted at CSIDC and with producer co-operators—in excess of 5,500 plots were established.

In 2015, ICDC initiated a renewed emphasis in horticulture. In association with the Saskatchewan Vegetable Growers Association (SVGA), and overseen by Saskatchewan Ministry of Agriculture's (SMA) staff Connie Achtymichuk, Provincial Vegetable Specialist, and Joel Peru, we assessed such crops as Daikon radish, mustard and collard greens, Lo Bok, Bok Choy, Napa cabbage, okra, eggplant, cantaloupe, and watermelon. Joel Peru and Forrest Scharf, Provincial Fruit Specialist, began rejuvenating the fruit orchard at CSIDC, evaluating Saskatoon berry, dwarf sour cherry, and haskap. It is expected that these horticultural trials will continue and expand.

Demonstrations of tomato, cucumber, bunching and Spanish onion, fingerling potato, lettuce, pepper, and sweet potato will be undertaken in 2016. The fruit orchard restoration and assessment will also continue. We recognize that these programs are limited in acreage potential, but their high value (as indicated by the current high prices of California produce in our local grocery stores) and reliance on irrigation make them important to ICDC.

Traditional field crop variety evaluations continue as a mainstay of our program. In 2015, we evaluated in excess of 100 wheat, durum, barley, and oat varieties, 50 corn hybrids, 75 canola hybrids, as well as 13 flax, 38 pea, 40 dry bean, 35 soybean varieties, and advanced lines of faba bean and perennial forages. We have numerous on-going agronomic studies and were successful in obtaining Saskatchewan Pulse Grower funding for faba bean and soybean agronomic studies.

Garry Hnatowich at the ICDC evening field tour August 2015

In co-operation with Agriculture & Agri-Food Canada (AAFC) Swift Current, we were successful in obtaining Agriculture Development Funds (ADF) to evaluate AC Saltlander green wheatgrass agronomy. In this study, we will explore seeding rates, time of seeding, and compare direct with conventional seeding, all under differing soil salinity levels.

The University of Saskatchewan was recently awarded ADF funding for two additional studies that ICDC will assist with beginning this spring. The study will undertake improvement in *Fusarium* head blight management in durum.

In association with PAMI, ICDC will undertake a study to develop and/or refine seeding and fertility recommendations for corn silage production. This study will also involve an economic production and feed value comparison of silage corn to barley.

ICDC has also increased the number of agronomic projects in cooperation with our sister Agri-ARM sites. We will continue to explore opportunities for joint research with outside agencies when it coincides with our mandate. It should also be stressed that we continue to receive outstanding assistance and cooperation from SMA and AAFC. We have a strong affiliation with the staff at CSIDC who consistently extend their full cooperation to ICDC wherever possible.

Effective 2012, ICDC became one of eight Agri-ARM sites located in various locations across Saskatchewan. SMA supports these

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Save the Date!

Irrigation Agronomy Update

March 22 Outlook

March 23 Riverhurst

Call 306-867-5524 to register

CSIDC Field Day

July 14 at CSIDC in Outlook

In this Issue:

Irrigation Scheduling Assistance

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One objective of the Saskatchewan Ministry of Agriculture's irrigation strategy is to enhance returns from existing irrigation. One way to do this is to ensure that irrigation water is used efficiently. Applying insufficient water or too much water at the wrong time can induce crop stress or disease, thus reducing yield and profits.

Irrigation agrologists with the Ministry of Agriculture can provide technical assistance with irrigation scheduling and are happy to demonstrate on-farm practices.

Irrigation agrologists can work with an irrigator throughout the growing season to ensure that irrigation operations are conducted in a timely manner, according to soil-water content and daily crop-water requirements specific to the soil of a given field. They can also provide instruction on how to use the Alberta Irrigation Management Model (AIMM), an effective tool to assist producers with irrigation scheduling. With this assistance, by the end of the growing season an irrigator will gain the technical knowledge and practical skills for successfully scheduling irrigation.

ICDCs ***Scheduling Manual*** guides irrigators through the scheduling process and supplies the data and technical information needed to make scheduling decisions.

Irrigators who would like to work on irrigation scheduling with an irrigation agrologist are invited to contact the Irrigation Branch office in Outlook, phone (306) 867-5500.

Research Directors Corner *continued from page 1*

Agri-ARM organizations with annual base funding and makes further funding available to support each group's demonstration programs. As an Agri-ARM site, ICDC is responsible for all levels of administration, a function once managed by SMA. The ICDC Board of Directors has had to take a much more active role in the daily management and administration of ICDC. Desseri Ackerman, our Administer, has been invaluable to the Board in all aspects of policy, administration, and finances.

Our field program continues to expand and opportunities are developing with private industry. This past year, we received funding support from the Canola Council, Saskatchewan Pulse Growers, Saskatchewan Wheat and Barley Commissions, the Western Grains Research Foundation, SeCan, Manitoba Pulse and Soybean Growers, and others. In turn, ICDC personnel have attended their extension activities when requested.

For our long-term viability, we continue to assess the need for permanent technical staff and a capitalization program. Presently, we expect to hire a full-time field crop technician in time for this crop year to assist with product procurement, trial set-up and equipment maintenance and modifications as needed. As we may not always be able to rely on the availability of AAFC equipment, ICDC is working to a position of self-reliance. To that end, ICDC made its first large-dollar capital investment in 2015 with the purchase of a high-clearance plot sprayer. This acquisition will allow ICDC to undertake small-plot replicated trials with pesticides, particularly foliar fungicides that irrigators are keenly interested in. This equipment purchase has already allowed ICDC to participate in a Saskatchewan Pulse Growers faba bean foliar fungicide disease study started in 2015 and the *Fusarium* head blight in durum study funded by ADF that will start this season.

Being responsible for conducting such a large research and demonstration program serves absolutely no purpose if the results generated from the studies are never disseminated. To that end, ICDC is adamant that the information generated from our work finds its way to irrigators. All varieties identified as suitable for irrigation production will ultimately be included in ICDCs annual ***Crop Varieties for Irrigation***. The ***Irrigation Economics and Agronomics*** publication and on-line calculator is always anticipated and well utilized. All results of the ICDC field program appear in the annual ***Research and Demonstration Report***. A preliminary copy is available at the Crop Production Show in January, and a completed final version is available on the ICDC website once all data analysis has been completed, usually by the end of February. Project highlights are presented at the annual ICDC AGM and Agronomy Update extension meetings, at other extension activities hosted by various research and commodity organizations, and in farm press publications.

In July 2015, ICDC hosted the SMA Crop Diagnostic School at CSIDC. This 3-day event saw more than 300 producers and agronomists participate in a variety of "hands-on and up-front" field plot activities and discussions with highly qualified coaches in a wide range of agronomic disciplines. The event was sold out and certainly increased the profile of ICDC and CSIDC.

I look forward to seeing you at the 2016 CSIDC/ICDC Annual Field Day July 14. Mark your calendars!

Stay up-to-date! If you are not already on our mailing or email lists, let us know!

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Irrigation Guidelines for Red and Green Lentil

Gary Kruger, PAg, **Irrigation Agrologist, Outlook**
Saskatchewan Ministry of Agriculture

Lentil has provided solid economic returns in dryland rotations in Saskatchewan. When the lentil market is strong, growers are tempted to sow their irrigated acres to lentil. When there is a limited history of lentils in a producer's rotation plan, growing lentils on irrigated land base becomes even more appealing because of the perception that disease pressures may be lower.

Last year, the dry spring presented a perfect opportunity for lentil production on irrigated land. Lentil is well suited to sub-arid climates as its seasonal water requirements are relatively low. The crop is easier to manage when there are defined dry and rain periods. Growing this crop under variable moisture conditions, like those we experience on the Canadian prairies, increases the risk of excessive vegetative growth and disease.

Lentil seedlings develop lush leafy growth under moist spring conditions when there is abundant nitrogen (N) available in the soil. Irrigated land tends to have relatively high levels of residual N, which can lead to excessive vegetative growth that does not necessarily translate into yield.

Irrigated red lentil

In 2015, the lentil canopy remained open because early growth was restricted until rains began in early July when the crop started flowering. The crop was able to establish a high yield potential. Fungicide applications provided good returns, especially during the early flowering period. Reports from lentil growers on irrigated land indicated yield rates as high as 55 bu/ac in 2015. Most growers applied about 0.5 inch of water through irrigation during 2015.

The response of lentil to irrigation has been highly variable. The Canada Saskatchewan Irrigation Center (CSIDC) in Outlook has conducted several studies evaluating lentil production under irrigation. The results have varied from a large yield increase under dry conditions to an equally large yield decrease when conditions are moist and humid. The following guidelines were developed based on grower experience and research projects:

1) In Saskatchewan, there is always the possibility of heavy thunder showers during late June and July. Lentil suffers if its roots are exposed to saturated soils. So, a lighter-textured field with excellent drainage should be chosen.

2) Select an early maturing determinate variety, which is less likely to be affected by late season precipitation. Note: red lentil is less often subject to grade loss due to bleaching compared to green lentil.

3) Plant lentil as early as possible: aim for a late-April to early-May planting date.

4) Aim for 12 established plants per sq. ft. for both red and green lentil.

5) Limit application of N in the seed row to minimize vegetative growth.

6) Use 10- to 12-inch row spacing, if feasible, to keep the stand as open as possible. This will help morning dew evaporate by 10:00 a.m., which reduces the spread of disease.

7) Plan for two applications of fungicide during the growing season. The first timing is usually most beneficial at early flowering, with a second fungicide application about two weeks later. Apply the first fungicide just prior to canopy closure so excellent coverage of the foliage is achieved.

8) After seeding, irrigate to raise soil moisture in the soil profile to 2-foot depth to field capacity. A further irrigation of 0.5 inch just prior to canopy closure will carry the crop's water needs to maturity. Lentils require at least 4 inches total moisture over the growing season (i.e., precipitation + irrigation = 4 inches).

9) Consider herbicides that do not have residual carry over so you do not jeopardize your rotation, as certain crops like potatoes may be sensitive to some herbicide residue more than 5 years after use.

Fruit and Vegetable Opportunities in Saskatchewan

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Fruit and vegetable production in Saskatchewan is relatively low; however, opportunities for growth are presenting themselves. A recent study by Agmar International Marketing Inc. reported that Saskatchewan imports $26 million of vegetables alone. This study also noted that Saskatchewan was only 10% self-sufficient for in-season demand of vegetables in 2013. A reasonable short-term goal would be to double that, which would require 12,000 acres of irrigated land.

The Prairie Fresh Food Corporation was formed in 2012 to help provide assured marketing opportunities for vegetable producers in Saskatchewan. Prairie Fresh determines the seasonal demand and sells to The Grocery People so producers can be confident that the crop and volume they grow will be purchased. Prairie Fresh sales have increased from 0.7 million lbs of produce in 2013 to 2.1 million lbs in 2015. Consumers are demanding fresh, locally-grown product; demand is expected to increase and a more diverse selection of crops will be grown and sold in 2016. Value added products (for example, canned or frozen veggies) are another way to help increase demand for local produce in Saskatchewan. Currently, the two "hot" crops that consumers can't seem to get enough of are kale and Brussel sprouts, both of which we know we can successfully grow in Saskatchewan.

There is high demand in Saskatchewan for locally produced fruit and fruit products. For example, Wolf Willow Winery, an orchard and winery located north of Outlook, sold their complete inventory of Haskap wine in 2015, its first year of production. Wolf Willow grows its own supply of sour cherries and haskap and produces wine at their farm. Local distilleries that use fruit to add flavor to spirits and beer are popping up across Saskatchewan. Tierra Del Sol is a farm south of Saskatoon that distills its own Black Fox Spirits. They make many unique products using fruit and honey produced on the farm. Fruit commonly grown in Saskatchewan, such as Saskatoon berries and haskap, are highly sought after for their nutritional value. Attributes such as high levels of antioxidants and high fiber content make these berries ideal for increasingly health-conscience consumers. The success and consumer interest in these products will help increase demand for locally grown fruit and will help grow this Saskatchewan industry.

In 2015, ICDC was involved with three demonstrations that included 11 different fruit and vegetable crops. A project was conducted on an orchard of Saskatoon berries, sour cherries, and haskap with the objective of correcting iron chlorosis, which is common in high pH soil. Many growers have established orchards in high pH soils and look for solutions to improve plant health and productivity. Fruit crops are high iron users, but cannot easily utilize iron in high pH soils under cool conditions. This project looked at the effects of multiple iron fertilizer products applied to the orchard at Canada Saskatchewan Irrigation Diversification Centre (CSIDC).

Applying foliar iron fertilizer at the on Saskatoons at CSIDC

Watermelon and cantaloupe are two fruit crops that we are able to successfully grow in Saskatchewan. A project at CSIDC was conducted this year that compared different varieties of these two crops under irrigated high tunnel production.

A small portion of the watermelon yield that was taken from this high tunnel at CSIDC

Canada imports over $400M of ethnic vegetables annually to meet the demands of our diverse population. This presents an opportunity for Saskatchewan vegetable producers who can supply good quality produce to the western provincial markets. In 2015, a demonstration of viable ethnic veggie crops for Saskatchewan production was undertaken at CSIDC. For more details and results of these trials, see ICDCs ***2015 Research and Demonstration Report***.

In 2016, ICDC will initiate several new fruit and vegetable projects at CSIDC in collaboration with the Saskatchewan Fruit Growers Association and the Saskatchewan Vegetable Growers

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A portion of the ethnic vegetable trial at CSIDC in 2015

Association. The purpose of many of these projects is to explore opportunities for new crops with commercialization potential in Saskatchewan. Some will involve innovative agronomic practices, including photoselective netting and water management tools. The projects will include:

- Strawberry and raspberry water and fertilizer management demonstration
- Use of photoselective netting to improve productivity of dwarf sour cherry, haskap, and Saskatoon berry
- Demonstration of sweet potato production in high tunnels
- Demonstration of fingerling potatoes
- Demonstration of sequential plantings of lettuce for season-long supply
- Tomato and cucumber varieties for production in high tunnels
- Demonstration of field-grown Spanish onions
- Green and chili pepper trial
- Demonstration of field-grown bunching onion
- Demonstration of field-grown Spanish onions

For more information on these ICDC projects, contact Joel Peru at 306-867-5528 or joel.peru@gov.sk.ca

Does Marrowfat Pea Fit into Your 2016 Cropping Plan?

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Marrowfat pea is a niche-market pulse suited to production in the Lake Diefenbaker Development Area (LDDA). The pea is currently produced in Canada, United States, Europe, and New Zealand. This dry pea differs from traditional yellow pea—it has a slightly higher sugar and fat content, which gives it a unique pulse flavor. These properties make marrowfat peas a valued ingredient in the production of snack foods. One of the locally marketed snacks is Snap Pea Crisps made by Calbee North America. Interest in these snacks has increased in recent years and is truly a value-added success story for the pulse industry. Marrowfat pea is also prepared in Europe as a vegetable delicacy known as mushy peas.

Rudy Agro, a seed processing company based in Broderick, Saskatchewan, is coordinating production of this unique market opportunity for the 2016 growing season. They are offering premium-price contracts compared to conventional pea. Producers can choose between either pooled or fixed price options. Yellow and green pea prices are currently strong, aided by the weak Canadian dollar and low supply. Demand continues to be strong for marrowfat pea as we enter the 2016 production season. Prices are expected to be above average for 2016.

Agronomy practices for marrowfat pea are similar to yellow pea. Harvesting requirements are specific. The crop may be desiccated with diquat, followed by straight cutting when the seed is dry. Or, the field may be swathed green into windrows and threshed using a pick-up header. Rolling the swath is recommended to reduce the risk of wind-blown swaths. The crop is considered dry at 16% moisture.

Marrowfat pea is not recognized by the Canadian Grain Commission, so the grading standards will be specific to Rudy Agro. The grading factors are the same as green pea in terms of bleach, stain, and cracked seed coat, yet bleach tolerance is more relaxed than for green pea. Rudy Agro's seed program allows the grower to purchase "in house" certified seed for the first crop and thereafter trade seed at a cost of $2.00/bu. Please contact Wes or Russ for further details at 306-867-8667.

Field pea at CSIDC

ICDC plans to evaluate marrowfat pea for the impact of phosphate placement and water management on yield performance. The phosphate will be mid-row banded at three rates: 0, 20, and 40 lbs P_2O_5/ac as 11-52-0 to determine the response of marrowfat pea to phosphate. Two irrigation regimes will be observed to evaluate the effect of moisture management on the yield of marrowfat pea.

Contact Gary at 306-867-5524 if you would like to attend a field day event that features this project.

Irrigated Grain Corn: A Fit for Saskatchewan?

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Grain corn is becoming more viable and realistic for irrigated production in Saskatchewan. This is mostly thanks to the development of corn varieties that require low amounts of corn heat units (CHUs) to mature. There are now varieties that may require a minimum of 2050 CHUs to mature, which allows them to grow in our climate. In the Outlook area, the average CHU is 2390 and every 9 out of 10 years it will be at least 2100 CHUs. After Weyburn, this is the second highest average in Saskatchewan. Combined with accessible irrigation, this makes the Lake Diefenbaker area one of the best-suited locations for grain corn production in Saskatchewan.

Corn has a relatively high water requirement. Therefore, most corn production in western Canada is concentrated in humid regions such as southern Manitoba and irrigated regions such as southern Alberta. Corn requires 11.8–19.7 inches of water to achieve optimum yields. The average annual precipitation in the Outlook area since 2004 has been 10.6 inches; therefore irrigation is required to maximize yields in our climate. Corn's root zone is around 40 inches, although corn takes 70% of its required water from the top 20 inches. Irrigation scheduling is very important for corn, as it can utilize almost 0.3 inch of water per day during peak growth stages, including silking, tasseling, and seed formation. It is important to ensure the soil contains at least 65% plant-available water at these stages and that it does not drop below 60%, which would negatively impact yield.

To date, there has been a limited amount of agronomic work done on corn production in Saskatchewan. However, there are general recommendations we can use as guidelines. The table below displays general recommendations based on agronomic information from Alberta and Manitoba. It is recommended that corn should ***not*** be seeded into canola stubble. Canola is not a host for mycorrhizae, which is a beneficial fungus that helps corn utilize P in the soil. A field lacks mycorrhizae following a canola crop; it takes time for sufficient levels of mycorrhizae to regrow. Corn is also a host to *Fusarium*, which is a major factor if considering adding this crop into your rotation plan.

Agronomic Recommendations for Grain Corn Production

Seeding rate	32,000 plants/acre
Seeding date	May 1–15
Seeding soil temperature	7° C
Seeding depth	1.5–2 inches
Row spacing	20 inches
Actual N fertilizer	150–180 lb/acre
P_2O_5 fertilizer	35–40 lb/acre
Potash (K_2O)	10–15 lb/acre

It is important to note that corn is a high input crop. Seed costs on average are around $80/ac. Corn also requires high fertility: a 100 bu/ac crop requires over 150 lb/ac of actual N, up to 60 lb/ac of P_2O_5 and 125 lbs K_20/ac. Although yields of 150 bu/ac have been achieved in varietal trials at CSIDC, first-time growers may want to target yields closer to the 100 to 120 bu/ac range.

Another important consideration for grain corn production is the need for specialized machinery. Grain corn requires a planter for seeding and a corn header for harvesting. In our climate, a grain dryer is also needed, as harvest will likely be over 23% grain moisture, which is not safe to store. According to ICDCs 2016 ***Irrigation Economics and Agronomics*** publication, a 122 bu/ac crop is needed to cover all costs when the price for corn is $4.00/bu. This indicates that grain corn is presently not economically attractive. A field scale project that ICDC will conduct in 2016 will help determine whether new varieties can achieve economically viable yields in our growing conditions.

ICDC will be conducting two projects in 2016 that involve grain corn production under irrigation. The 2016 program will also include an extensive project involving silage corn. This project will be located at 6 different sites across Saskatchewan, including CSIDC, and will look at seeding rate and nitrogen fertility.

Corn co-op variety trial at CSIDC (2015)

For more information on the silage corn project, contact Garry Hnatowich at (306)867-5405 or garry.icdc@sasktel.net.

Irrigation Economics … Boom or Bust in 2016?

Jeff Ewen, AAg Provincial Irrigation Agrologist, Outlook Saskatchewan Ministry of Agriculture

Evaluating economics is a critical aspect of agriculture production. Predicting potential returns for a growing season is important when making management decisions. The number of variables in input costs, yield potential, and grain markets makes predicting returns very difficult, but emphasizes why a grower must understand the economics of their operations before the growing season.

The profitability of cropping options under irrigation for 2016 are very similar to past years. Red lentils, dry beans, and malt barley are the top three net earning crops for 2016. Red lentils have risen to the top due to strong new crop contract prices. Because red lentils are not a traditional irrigation crop, producers should grow lentil with caution, as they tolerate a lower moisture supply. Dry bean, on the other hand, is an irrigation crop that has been grown very successfully in Saskatchewan and has been one of the top crops for solid economic returns over the past several years. Dry beans do carry a higher risk of frost injury and require specialized equipment to achieve the highest yield potential. Malt barley is the stand-alone cereal that rounds out the top three crops for high returns in 2016. It takes good management to produce malt-grade barley. There are significant price risks compared to other cereals because failure to meet malt specifications means the crop would be graded as feed barley, which carries a substantially lower price than malt barley.

In 2016, yellow peas, canola, and durum are three other irrigation crops that show promise of a good economic return to producers. These three crops are commonly grown under irrigation in Saskatchewan. Yellow peas, like lentils, look very favorable in 2016 due to demand by India for pulses. Pea acres under irrigation have diminished the last few years due to root rot issues and are still considered higher risk in wet conditions. Canola has been a staple under irrigation for many years, comprising close to one third of all acres under irrigation in Saskatchewan. Canola is popular because the economics and yield are steady in most years. Durum is a higher-risk cereal that almost always brings a premium price and higher yield than spring wheat. Durum is a higher-risk crop under irrigation because of its high susceptibility to *Fusarium* head blight compared to other cereals. Varietal selection, proper management, and good timing in the application of foliar fungicide is very important to achieve higher grades, which equates to higher returns.

Other crop options under irrigation are not as promising for returns. Soybeans and grain corn are pushing their way into western Canada. These crops still struggle to demonstrate high economic returns, mostly due to the high input costs required for successful production, as well as low yields due to the shorter growing season here.

As an irrigator, it is important to consider the economics of cropping options for your operations, but sustainable agronomics (good crop rotation to manage weeds, disease, and other agronomic considerations) is equally important for success.

ICDC produces an economic outlook each January. A hard copy is available from the Ministry of Agriculture Crops and Irrigation Branch in Outlook. You can also find an electronic copy on the ICDC publications web page: www.irrigationsaskatchewan.com/icdc/publications/c-irrigation-economics-agronomics. A spreadsheet version is available on the website that allows producers to input their own numbers and evaluate different scenarios for their operations. We encourage you to take the time to input your own numbers, as individual operations vary and the examples used may not accurately reflect your production.

Directors of ICDC

Producer Board Members	Irrigation District	Development Area	Term Ends
Jay Anderson, Chairperson	South Saskatchewan River	LDDA	2017
David Bagshaw, Vice-Chairperson	Luck Lake	LDDA	2016
Greg Oldhaver, Alt Vice-Chairperson	Miry Creek	SWDA	2017
Paul Heglund	Consul-Nashlyn	SWDA	2017
Ryan Miner	Riverhurst	SEDA	2016
Nigel Oram	Grainland	NDA	2016
Anthony Eliason	Non-District		2018

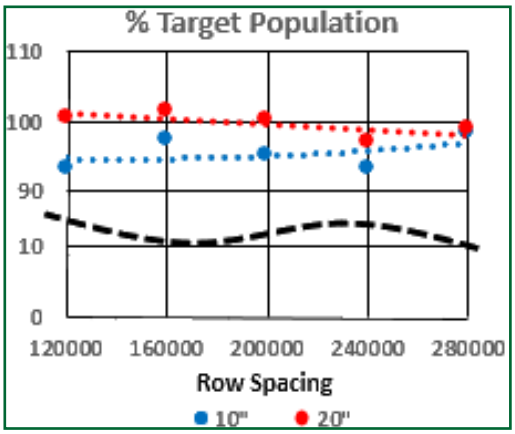
Appointed Board Members	Organization	Term Ends
Aaron Gray	Saskatchewan Irrigation Projects Association	December 2016
Joel Vanderschaaf	Saskatchewan Irrigation Projects Association	December 2016
Kelly Farden	Manager, Agronomy Services, Crops & Irrigation Branch, Ministry of Agriculture	December 2017
Penny McCall	Executive Director, Crops and Irrigation, Ministry of Agriculture	December 2017

Soybean Seeding Rate and Row Spacing – Preliminary Results

Garry Hnatowich, Research Director
Irrigation Crop Diversification Corporation

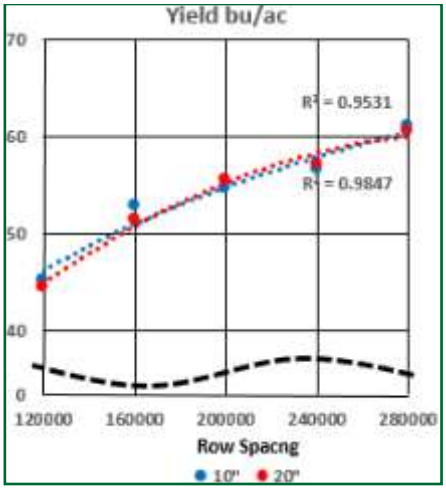
For the past two years, ICDC has been evaluating the impact of plant populations and row spacing on yield of irrigated soybean. Funding for this project is being provided by the Agriculture Development Fund and the Western Grains Research Foundation.

Soybean, variety 23-10RY, was seeded at plant population rates of 40,000 plants/ac, with the lowest target plant population being 120,000 plants/ac and the highest at 280,000 plants/ac. Each of the 5 tested plant populations were established as both a solid seeded system (10 inch row spacing) and as a row crop system (20 inch spacing), for a total of 10 plots.



The charts show a summary of the data collected over the last two years.

Plant counts indicate that intended plant populations were achieved, or close to being achieved. Final plant populations were slightly lower with the solid seeded production, although the population difference between the two systems was not statistically significant.



The two year combined results indicate that, on average, row spacing has little impact on soybean yield. However, yield differences between row spacing systems did occur within each year: in 2014 the wide row system produced higher yield than the narrow row system, and in 2015 the reverse occurred. Yields increased as plant population increased to the maximum target plant population of 280,000 plants/ac.

For details on this project, refer to ICDCs ***2015 Research and Demonstration Report***.

Highlights from 2015 Field Days

2015 was declared by the UN as the International Year of Soils. To celebrate this event, Les Henry was invited to speak at the 2015 CSIDC Field Day. Les Henry, widely known for his innovative approach to dealing with saline soils, shared the history of work in soils and irrigation in Saskatchewan. Les has authored and co-authored more than 100 papers on soil science, providing advice on sound agronomic practices. His book, *Henry's Handbook of Soil and Water*, is a useful resource for producers concerned with soils management and irrigation.

If you have an older orchard stand, there are things you can do to revive it. An iron treatment may be one option. These photos compare iron deficient leaves to leaves from bushes that had been treated with an iron supplement. Watch for further information about this project in our 2016 report. This 2015 project included established haskap, Saskatoon berry, and sour cherry.

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