ICDC

The Irrigator

Published by the Irrigation Crop Diversification Corporation (ICDC) and the Saskatchewan Ministry of Agriculture

www.irrigationsaskatchewan.com March 2013

ICDC 2012 Board Report

17th Annual Irrigation Conference held in Moose Jaw

The 2012 Annual General Meeting of the Irrigation Crop Diversification Corporation (ICDC) was held in Moose Jaw on Dec. 5, 2012.

Staff from the Ministry of Agriculture and ICDC presented reports on the projects implemented and funded by ICDC in 2012. For those unable to attend, the *ICDC Research and Demonstration Program Report* is available at www.irrigationsaskatchewan.com.

The Board reported that the major change faced during 2012 was the new memorandum of understanding (MOU) with the government, which took effect on April 1, 2012. Under the new MOU, ICDC will now receive additional annual funding of $50,000 through the Agriculture-Applied Research Management (Agri-ARM) program with the requirements that ICDC hire additional staff and carry out its own accounting functions. To that end, Garry Hnatowich was contracted as a research scientist with an office at the Canada-Saskatchewan Irrigation Diversification Centre (CSIDC), along with Harvey Joel, who was contracted as a research technician. Desseri Ackerman was contracted through her consulting firm, Office Anywhere, to provide ICDC's accounting needs. ICDC is now also required to pay its meeting expenses. During 2012, ICDC successfully handled the transition to the new way of delivering its research and demonstration program.

The board welcomed Colin Ahrens back to serve a second term as the non-district irrigators' representative. The meeting failed to elect a representative from either the South East Development Area or the Northern Development Area. The Board will endeavor to fill these positions by appointments in 2013 to ensure the Board continues to represent all irrigators in Saskatchewan.

Members at the meeting approved the 2013/2014 Work Plan Budget and moved to keep the acreage levy at $0.35/acre for 2013. This budget is detailed on page 14 of this newsletter.

The board is open to any suggestions from irrigators for new projects and invites irrigators to share their ideas with staff or with ICDC directors.

Kevin Plummer, Chairman, ICDC

In this Issue

Introducing ICDC's Board of Directors

ICDC directors are elected at its annual general meeting by delegates from Saskatchewan's various irrigation districts. Each irrigation district (ID) is entitled to send one ICDC delegate per 5,000 irrigated acres, or part thereof. By law, the majority of the board must be comprised of irrigators.

The four ICDC development areas defined by ICDC's bylaws are represented on ICDC's Board of Directors by two directors from the Lake Diefenbaker Development Area (LDDA), two directors from the South West Development Area (SWDA), one director from the Northern Development Area (NDA) and one director from the South East Development Area (SEDA). Non-district irrigators elect one director. In addition, two ICDC directors are appointed annually by the Saskatchewan Irrigation Projects Association (SIPA) and two by the Saskatchewan Ministry of Agriculture.

The current ICDC Board includes:

Name and Position	Irrigation District	Development Area	Year Term Concludes
Kevin Plummer, Chair	Moon Lake ID	NDA	2013 Appointed
Jay Anderson, Vice-Chair	SSRID #1	LDDA	2014
Greg Oldhaver, Alt Vice-Chair	Miry Creek ID	SWDA	2014
David Bagshaw, Director	Luck Lake ID	LDDA	2013
Russell Swihart, Director	Vidora WUA	SWDA	2013
VACANT		SEDA	
Colin Ahrens, Director	Individual	Non-district	2015
Larry Lee, Director	Macrorie ID	SIPA rep.	Appointed
Rob Oldhaver, Director	Miry Creek ID	SIPA rep.	Appointed
Jason Drury, Director	Sask. Ministry of Agriculture, Irrigation Branch		Appointed
Doug Billett, Director	Sask. Ministry of Agriculture, Crops Branch		Appointed

Staff

Support staff for ICDC is provided by the Saskatchewan Ministry of Agriculture, along with ICDC contract positions. Staff members who assist ICDC include:

Gerry Gross PAg
Provincial Senior Irrigation Agrologist
Research and Demonstration Unit
(306) 867-5523

Specialty Area: ICDC program and administration

Sarah Sommerfeld, PAg
Regional Forage Specialist
(306) 867-5559

Specialty Area: Forage crops

Rory Cranston, PAg
Regional Crops Specialist
(306) 867-5512

Specialty Areas: Cereals, pulses, horticulture and agro-forestry

Gary Kruger, PAg, CCA
Provincial Irrigation Agrologist
(306) 867-5524

Specialty Areas: South West program, soil fertility and crop rotations

Garry Hnatowich, PAg
ICDC Research Scientist
(306) 867-5400

Specialty Areas: Variety testing and agronomy

Seeding Rates of Soft White Spring (SWS) Wheat, Durum and Canola under Intensive Irrigation Production in Saskatchewan.

Garry Hnatowich, PAg
ICDC Research Agronomist

Ideal plant population is required to obtain maximum economic yield. Establishment of plant population can be influenced by numerous factors, such as soil conditions, seeding date, seeding depth and, most importantly, seeding rate. The seeding rate can be adjusted to compensate for other factors, like soil conditions. At present, the recommended irrigated plant population for wheat and durum is 250 plants per square metre (m^2). However, based on recent irrigation trials in Alberta, recommended seeding rates for SWS wheat and durum may be higher there then in Saskatchewan. Seeding trials at CSIDC were initiated in 2010 to determine whether the recommended irrigated seeding rates for SWS wheat and durum in Saskatchewan are still appropriate.

SWS wheat and durum were seeded at rates of 100, 200, 300, 400 and 500 seeds/m^2. Seeding rates were adjusted annually for seed size and germination. The actual weight of seed planted changed each year. Approximate seeding rates for SWS wheat and durum are outlined in Table 1.

Table 1. Seeding Rates of SWS Wheat and Durum

Seeding Rate (seeds/m^2)	SWS (lbs./ac.)	Durum (lbs./ac.)
100	45	57
200	90	114
300	135	172
400	179	229
500	224	287

Actual yield for each seeding rate is indicated by coloured triangles or squares on the graphs presented here. The black line connecting these points is a mathematically derived expression, or "trend" line, that best describes the effect of seeding rates on grain yield. The R^2 value indicates how well the trend line predicts the effect of seeding rates. An R^2 value of 1.0 would be a perfect fit; all R^2 values in the following figures are considered very high. The black vertical line represents the current recommended seeding rate for each crop.

A summary of the results for SWS wheat is illustrated in Figure 1. SWS wheat was not included in the study in 2011, so this figure represents results for only two site years and is deemed preliminary until results for additional site years can be obtained. However, results so far indicate that yields continue to increase at the highest seeding rate, with a 10 bushels per acre (bu./ac.) increase over yield obtained at the recommended seeding rate of 250 seeds/m^2. Ignoring any other agronomic considerations, these results suggest positive economic benefits when seeding rates for SWS wheat are higher than the current recommended rates. ICDC will continue this SWS wheat seeding-rate study in 2013.

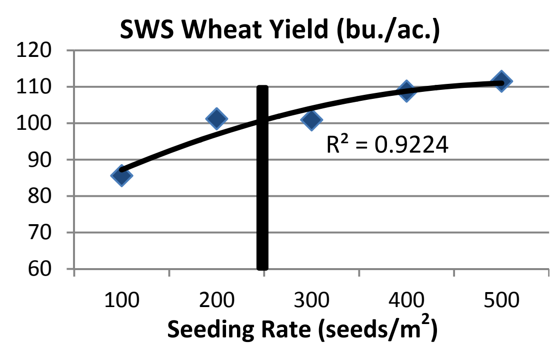

Figure 1. Effect of Increasing Seeding Rates on the Yield of SWS Wheat

The effect of seeding rates over three years on durum yields is illustrated in Figure 2. Similar to SWS wheat, yields of durum continued rising with increased seeding rates. However, yield gains were far more modest at each incremental seeding rate. Considering current durum seed price and only slight yield gains (2-5 bu./ac.) from higher-than-recommended seeding rates, these results suggest no strong incentive to increase durum seeding rates.

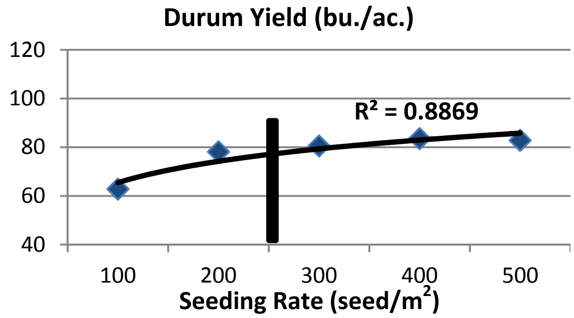

Figure 2. Effect of Increasing Seeding Rates on the Yield of Durum

For both SWS wheat and durum, the effect of increasing the seeding rate included reduced protein content, reduced days to maturity and increased plant height (data not shown). Another strong influence of seeding rates was on crop lodging (Figure 3). As the seeding rate increased, the degree of lodging also increased for both SWS wheat and durum. However, the degree of lodging with SWS wheat was far less than that observed for durum. Durum lodging increased significantly with each increase in the seeding rate. With little yield gain associated with seeding rate increases and given the required higher level of harvest management, seeding rates higher than present recommendations for durum are not warranted. However, higher seeding rates appear to provide higher SWS wheat yields and economic returns with no dramatic impact on harvestability.

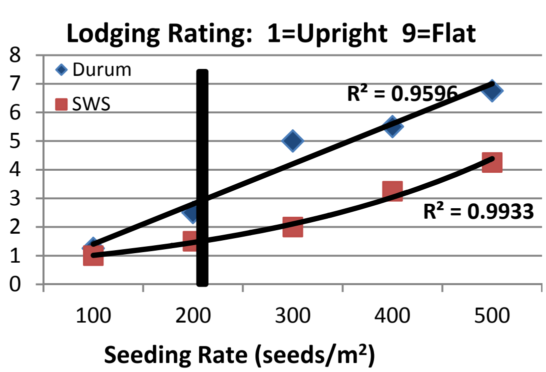

Figure 3. Effect of Seeding Rates on Lodging of SWS Wheat and Durum.

Seeding rate studies on a single canola hybrid were initiated at CSIDC in 2011; in 2012, two hybrids were evaluated. The results presented here are preliminary. Canola was seeded at 50, 75, 100, 150, 200, 250 and 300 seeds/m^2. The seeding rate was adjusted for seed size and germination. Presently, the recommended target irrigated canola plant population is 110 plants/m^2. While the actual weight of seed planted changed in each year of the study, approximate seeding rates for canola are noted in Table 2.

Table 2. Canola Seeding Rates	
Seeding Rate (seeds/m^2)	**Seeding Rate** (lbs./ac.)
50	2.75
75	4.13
100	5.50
150	8.25
200	11.00
250	13.75
300	16.50

Figure 4 shows the average yield to seeding rate. Preliminary results reveal that canola yields do increase, but the increase is at a diminishing rate when seeding is greater than 150 seeds/m^2. A yield gain of 4-5 bu./ac. was achieved when the canola seeding rate was increased to 150 seeds/m^2 from the recommended rate of 110 seeds/m^2. The evaluation of the impact of seeding rates on canola will be continued in 2013.

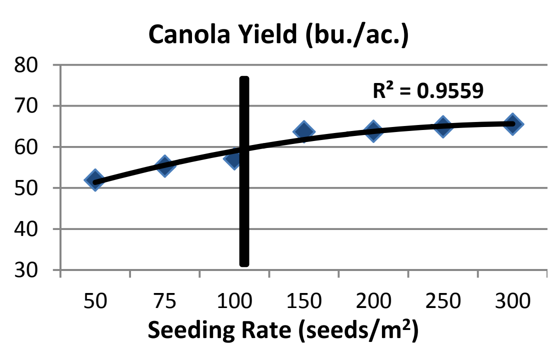

Figure 4. Effect of Seeding Rate on Yield of Canola.

Corn Varieties for Silage and Grazing – Variety Performance Testing

Sarah Sommerfeld, PAg
Regional Forage Specialist

Growing corn for silage or winter grazing has become popular as an alternative winter feeding strategy among Saskatchewan beef producers. The challenge with corn production in Saskatchewan is that it has not adapted to western Canadian growing conditions. Variety selection is therefore an integral component for ensuring success when growing corn. Cob development is important for feed quality and yield, for both silage and grazing purposes. Producers must understand how varieties perform under local growing conditions and whether tested varieties are available locally.

During the 2012 growing season, a silage corn hybrid performance trial was initiated by ICDC in co-operation with the Canada-Saskatchewan Irrigation Diversification Centre (CSIDC). The objective of this project was to evaluate corn varieties suitable for growing conditions in the Lake Diefenbaker development area for silage yield potential under dry land and irrigation management. Eight corn varieties were planted (Table 1).

Table 1 Corn varieties in dry land and irrigation

Variety	Company	Corn Heat Unit (CHU) Rating	Purpose
P7443R RR	Pioneer	2100	Silage
39m26 RR	Pioneer	2100	Grazing
Silex BtRR	Pickseed	2200	Silage/Grain
Baxxos RR	Hyland	2300	Grain
2501 RR	Pickseed	2300	Silage/Grain
HL R219 RR	Hyland	2375	Silage/Grain
HL SR 22 RR	Hyland	2400	Silage
HL 3085 RR	Hyland	2400	Grain

The 2012 data shows that the irrigation treatment produced an average of 2.2 tonne per acre more dry matter (DM) silage than the dry land treatment (Figure 1). However, both treatments yielded less than expected. Lower yields were attributed to lower-than-average temperatures during June, which caused slow seedling growth. Additionally, two hail events occurred (June 26 and August 4). These storms resulted in significant damage to plant leaves, causing shredding along the plant leaf length.

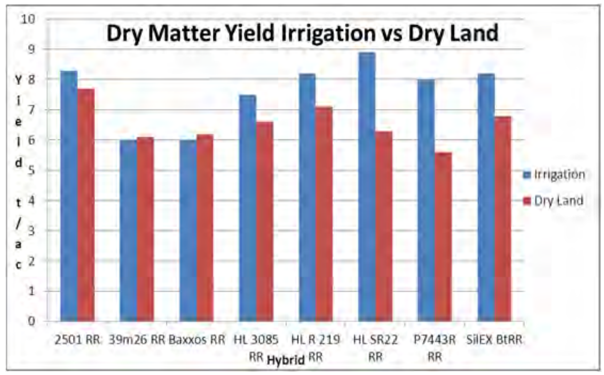

Figure 1. Dry matter yield of hybrids; irrigated vs. dry

From the yield data shown in Figure 1, the variety that performed the best for silage production under irrigated conditions was Hyland variety HL SR22. Under dry land conditions, the variety that performed best for silage production was

Pickseed variety 2501 RR. Caution is warranted when considering these yield numbers as they reflect only one year of data collection. Further variety performance testing will continue in 2013 at CSIDC to determine hybrid suitability for silage production within the Lake Diefenbaker area.

Is Your Irrigated Field Looking for Zinc?

Gary Kruger, PAg, CCA
Provincial Irrigation Agrologist

Tisdale, Nelson and Beaton, authors of the textbook *Soil Fertility and Fertilizers*, outline the soil conditions most often associated with zinc deficiency in crops. These include: 1) acid sandy soils low in total zinc; 2) neutral or basic soils, especially calcareous soils; 3) soils with a high content of fine clay and silt; 4) soils high in available phosphorus; 5) some organic soils; and 6) subsoil exposed by land-levelling operations or wind and water erosion. Most early irrigation areas are represented in this list of potentially zinc-deficient soils.

Irrigated areas developed during the infancy of irrigation in Saskatchewan required land levelling. This landscape alteration was essential for uniformly distributing water over the fields. Soil disturbance imposed by natural events (erosion) or human activity (land levelling) changes soil and as a result, it may no longer be able to supply sufficient zinc for crop growth. Crops such as beans, corn, flax, soybeans, alfalfa, barley, potatoes and wheat are more sensitive to a low supply of zinc from the soil and as such, may benefit from zinc application.

In 2010, ICDC established a phosphorus potassium and zinc (PKZn) fertilizer demonstration at Miry Creek on alfalfa sown on a land-levelled clay soil. The field had been struggling to produce economically viable yields since the field had been developed in the late 1970s. In 2012, the highest yielding treatment was the one with PKZn and it produced 0.5 tonnes per acre more alfalfa forage than the unfertilized check. This treatment promoted a greater number of alfalfa shoots and had a deeper green colour during the growing season. Most of the yield increase occurred during the first cut forage production.

If your field was levelled, zinc-deficient levels are likely to exist for sensitive crops. Zinc applied to soils attaches to soil particles and is agronomically effective for many years. A single application administered at an adequate rate may be all that is required to correct the deficiency for your farming career. Zinc is easily blended or impregnated on fertilizer, which can be broadcast or banded. Conducting a soil or tissue test for zinc will provide you with the information needed to guide application decisions. Please contact your local Ministry of Agriculture Irrigation Agrologist for more information on evaluating your irrigated fields for potential benefits of a zinc application.

Pasture Blends for Irrigation – Which blend should I choose?

Sarah Sommerfeld, PAg
Regional Forage Specialist

Selecting the right forage species is important when establishing and managing grazing systems. The forage species need to be adapted to the pasture site to allow for optimal forage production and to meet the goals of the management system. For example, grass species, such as orchardgrass and meadow brome, only require a short rest period and provide rapid regrowth of plant material. Whereas other species, such as crested wheatgrass, smooth brome and cicer milkvetch, require a longer rest period and are slow to regrow. Other plant characteristics should also be considered. Winter hardiness, tolerance to flooding and salinity, ease of establishment, plant longevity and palatability all deserve consideration when selecting forage species for a pasture management system under irrigated or dry land conditions.

During the 2012 growing season, ICDC, in co-operation with the Canada-Saskatchewan Irrigation Diversification Centre and the University of Saskatchewan, completed a three-year evaluation of commercial pasture blends for suitability in irrigated pasture. Four commercially available blends were selected and provided by industry along with two custom forage blends were evaluated under a replicated small-plot simulated grazing management system (Table 1).

Forage species in the different pasture blends being discussed at ICDC Irrigated Forage Tour – August 2009

Table 1. Pasture blend description and composition

Species	Variety	%*
Custom Blend #1		
Alfalfa	AC Grazeland BR	20%
Meadow bromegrass	Fleet	80%
Custom Blend #2		
Cicer milkvetch	Oxley II	30%
Meadow bromegrass	Fleet	70%
Brett-Young Super Pasture Blend		
Meadow bromegrass	Fleet	50%
Crested wheatgrass	Fairway	25%
Tall fescue	Kokanee	15%
Alfalfa	Survivor	10%
Pickseed HayGraze Blend		
Alfalfa	AC Grazeland Br	60%
Meadow bromegrass	Fleet	30%
Orchardgrass	OKAY	10%
Northstar Custom Blend #1		
Meadow bromegrass	Fleet	40%
Smooth bromegrass	Carlton	10%
Tall fescue	Courtenay	15%
Orchardgrass	Early Arctic	15%
Alfalfa	Stealth	20%
Proven-Viterra Ranchmaster		
Meadow bromegrass	hps brand	50%
Intermediate wheatgrass		15%
Pubescent wheatgrass		15%
Tall fescue	hps brand	15%
Alfalfa	Spredor	5%

*** Proportion in blend by seed weight**

The objectives of the project were to:

- Evaluate each blend for overall yield, persistence and species composition; and
- Monitor changes in yield, species composition and individual species persistence within each blend over time.

Analysis of yield data from 2010 to 2012 (Table 2) shows that Custom Blend #2 had a significantly lower yield than the Northstar, Brett Young and

Table 2. 2010-2012 dry matter yield summary				
	Total Yield (ton DM/acre)			Total Mean Yield
Blend	**2010**	**2011**	**2012**	
Custom #1	3.97	3.77	4.07	11.8 ab
Northstar Custom	4.58	4.83	4.00	13.4 a
Custom #2	4.37	3.19	3.08	10.6 b
Brett Young Super Pasture	4.64	4.82	3.63	13.1 a
Viterra Ranchmaster	4.17	3.88	3.80	11.9 ab
Pickseed Haygraze	4.97	3.89	4.00	12.9 a
Mean	4.45	4.06	3.76	12.27
CV (%)	17.41	14.09	11.19	9.99
LSD	1.17	0.86	0.63	1.85
p-value	0.5377	0.0065	0.0379	0.0524

Pickseed blends. This lower performance may be due to the fact that the cicer milkvetch component of this blend did not establish well and thus did not significantly contribute to plot yield.

The Proven-Viterra Ranchmaster blend performed somewhat as expected. Production was decreased by two factors: the alfalfa component of the blend was less than in other blends and the alfalfa variety used in the blend. The alfalfa variety, Spredor, is a creeping-rooted variety that is long lived, slow to regrow and suited for grazing use. The Ranchmaster blend may be a suitable option if the management goal is to establish and maintain a pasture for long-term use.

In summary, based on this project's results, selection of the Northstar Custom Blend, Brett Young Super Pasture Blend or the Pickseed Haygraze Blend for an intensive rotational grazing operation under irrigation would be suitable. The influences of animal impact and grazing pressure are missing from this project and therefore, the results may not truly reflect the performance of these forage species when subjected to grazing. Also, it is important to note that alfalfa contributed to more than half of the yield produced by these blends; a concern for bloat incidence is therefore warranted. A producer may wish to consider a blend with a non-bloat legume, such as cicer milkvetch or sainfoin, or the use of an anti-bloat agent, such as poloxalene.

Irrigated Crop Rotations: A Risk Management Strategy

Gary Kruger, PAg, CCA
Provincial Irrigation Agrologist

Gerry Gross, PAg
Senior Irrigation Agrologist

The Merriam Webster dictionary defines crop rotation as “the practice of growing different crops in succession on the same land, chiefly to preserve the productive capacity of the soil.” Crop rotation research has identified key factors that a grower can attempt to manage through crop rotation, including weed populations, perennial weeds, herbicide rotation, herbicide residues, the economics of rotations, insect issues, disease issues and soil fertility impacts. With intensive irrigated cropping systems, there is no need to allow for fallow in the rotation. Additionally, diseases and insects often thrive in irrigated cropping systems because the environment created is favourable for these organisms every year.

The question is: what can irrigators do to lessen their risks by developing good crop rotations? The general agronomic principle is to implement cropping sequences that keep disease, insects and weeds off-guard by alternating the crop type from a cereal to a broadleaf from year to year. Including a second cereal and broadleaf crop in the alternating cycle develops a simple four-year rotation. Another variation is to incorporate short- and long-duration crop types or varieties as well. Choosing one earlier maturing cereal and broadleaf crop, such as barley and field pea to complement wheat and canola, provides a diverse four-year rotation. Fall or winter cereals are an excellent rotational choice, but they add some constraints to your workload and are often difficult to include in an annual cropping rotation under irrigation. The variation in weather patterns from year to year may limit the opportunity to easily include a winter crop in the rotation.

Crop rotation will lessen disease risk only for those infections spread by plant residue or soil contamination. Diseases differ in the range of crops they affect. Some diseases are limited to one or two crops, while others affect all crops of one type, such as sclerotinia in broadleaf crops. Adequate soil fertility gives plants the opportunity for healthier growth, which will reduce the likelihood of disease. The incidence of root rot in alfalfa affected by manganese deficiency at Chesterfield in one 2012 ICDC project, was such an example.

There are things you cannot control by rotation, such as disease and insects that blow into the area on the trade winds. Examples include leaf hoppers that spread aster yellows, leaf, stem and stripe rusts and the diamondback moth.

However, there are things you can positively affect by rotations: reduced development of sclerotinia in oilseeds and pulse crops, blackleg in canola, root rot, ergot, leaf diseases and fusarium head blight in cereals and leaf diseases in pulse crops. Other positive benefits of rotations include synergistic factors, such as increasing beneficial mycorrhizae fungal populations with proper crop sequencing and the reduction of herbicide-resistant weeds when herbicide usage is planned.

Let's not forget the benefits of forages in dealing with the challenges of disease. We believe that a bird in the hand is better than two in the bush. Some of the benefits of crop rotation are difficult to express in dollars and cents because the main benefit is risk reduction.

So what can you, the farmer, do to develop a good rotation?

1) Learn the life cycles of the diseases and insects that are affected by your rotation. Doing so will help you fight these pests.

2) Learn about the crop agronomy benefits and issues for the crops you intend to grow. This will help you develop agronomically sound sequences. For example, flax grows better when it follows cereals compared to when it follows canola because of the elevated mycorrhizae fungi populations in the soil that occur under cereal growth.

3) Learn about herbicide and fungicide resistance and the factors that increase the risks of developing resistant weeds and diseases that can be associated with tight crop rotations and continued use of the same active ingredients. Follow up by integrating strategies in your rotation to lessen these risks.

In our haste to satisfy the banker and maximize our returns, many of us have neglected some basic principles for preserving our cropping systems, thus exposing our operations to unnecessary risk. An irrigator told me this summer that paying attention to agronomy and the principles of crop rotation had cost him money. Yes – in periods of high grain prices, the long-term benefits of rotation are often diminished in our minds, leaving us with the temptation to aim for higher short-term returns. Let's not forget that with greater risk comes the possibility of significant yield loss or even loss of cropping options for the future.

Fungicide Application in Cereals

Rory Cranston, PAg
Regional Crop Specialist

Cereal production accounts for approximately 39 per cent of the irrigated acres in the Lake Diefenbaker Development Area. Profit margins in the production of cereals are lower than for oilseeds and pulses. For cereals to be profitable, yields must be high. Unfortunately, diseases that negatively impact cereal yields under irrigation have been increasing steadily for several years. Controlling disease in irrigated cereal crops will be critical if high yields are to be achieved.

Major diseases that affect irrigated cereals include: tan spot, spot blotch, septoria and Fusarium Head Blight (FHB). These diseases are caused by persistent fungi that can over-winter in soil and crop residue. Fungal diseases thrive in moist environments.

Disease can infect cereals after seedling emergence through leaves and the spikelet. Leaf diseases, such as tan spot, spot blotch and septoria, will reduce the photosynthetic area of leaves and remove nutrients from the plant, preventing the crop from reaching its maximum yield potential.

FHB is becoming a common disease in cereals produced in the Lake Diefenbaker area. The disease affects the kernels in the spikelet and cause reduced yield and quality. Several fungicide options are available to combat these diseases and protect yields. ICDC recently implemented nine demonstrations for preventing diseases in three wheat types. The demonstrations focused mainly on preventing FHB with fungicides, but also compared fungicide applications at the flag leaf stage to control leaf diseases combined with an application at flowering to control FHB.

When a fungicide was applied to control leaf diseases in irrigated hard wheat, there was an average yield increase of five bushels per acre. In all cases where a fungicide was applied to control FHB, there was a positive yield benefit (Table 1).

Table 2 Average yield benefit when a fungicide was used to control FHB

	Durum	Soft White Wheat	Hard Wheat
Average increased yield (bu./ac.)	19.6	11.0	9.6

Visual observations of the treatments in late July confirmed that the fungicides had been effective. A fungicide application to control leaf disease demonstrated the lowest presence of disease in the entire canopy. A fungicide application to control FHB had lower disease incidence than in the untreated crop, but failed to protect against early leaf disease infection (Figures 1 to 3).

Figure 1. Wheat canopy on which fungicide had been applied at the flag leaf stage to prevent leaf disease. Low disease presence was observed.

Figure 2. Wheat canopy to which fungicide was applied at the flowering stage to control FHB. Low disease presence was observed on the upper and flag leaves.

Figure 3. Untreated plant canopy.

Flag leaf samples were taken from each of the areas in late August (Figures 4 to 6). The flag leaves taken from the area sprayed for FHB at flowering time had the lowest disease presence, followed by the leaves sprayed at the flag leaf stage and untreated leaves. The timing of a fungicide application to control FHB is later than the timing to control leaf disease. As a result, there is no protection for late-season leaf disease infection in the area treated earlier to control leaf disease.

Figure 4. Flag leaves from the area that had been sprayed to control FHB.

Figure 5. Flag leaves from the area that had been sprayed to control leaf disease.

Figure 6. Untreated flag leaves.

In the demonstrations, the highest return on investment occurred when a fungicide was applied to control FHB. Applying fungicide to control leaf disease and the combination of an application to control leaf disease and another to control FHB also resulted in an increased return on investment.

An application of fungicide to control leaf disease and a second fungicide application to control FHB has the potential to provide a high return on investment in those years during which disease pressure is high in late June. In most years, the greatest agronomic and economic benefit will occur when there is a single application of fungicide at flowering to control FHB.

Growers have indicated an interest in evaluating the use of a half rate of fungicide applied at the herbicide application stage. This practice has not been evaluated by ICDC to date.

2013/14 Work Plan Budget

Projected Income:

Member Levies	$ 35,000.00	
Operating Grant	$ 35,000.00	
Interest	$ 1,200.00	
Project Funding	$ 20,000.00	
Agri-ARM Funding	$ 50,000.00	
TOTAL Projected Income		**$ 141,200.00**

Projected Expenditures:

Research and Development Projects Projected Expenses		
R&D Projects	$ 30,000.00	
Field Supplies/Soil Testing	$ 1,500.00	
Contract Staff (Researcher and Technician)	$ 115,000.00	
TOTAL R&D Projects Projected Expenses		$ 146,500.00
Administration Projected Expenses:		
Communications	$ 6,000.00	
Audit/Insurance/Legal	$ 10,000.00	
Accounting Services	$ 9,000.00	
Website	$ 500.00	
Advertising	$ 2,000.00	
Meeting Expenses	$ 10,000.00	
TOTAL Administration Projected Expenses		$ 37,500.00
TOTAL Projected Expenditures		**$ 184,000.00**
Projected Surplus (Deficit)		**$ (42,800.00)**

Notes:

1. Reallocations within budget categories are allowable with Board approval.
2. Budget proposal is based on the ICDC charge remaining at 35 cents per acre for 2013 and reserves being utilized as required.

ICDC Project Ideas for 2013

Gerry Gross
Senior Irrigation Agrologist

ICDC is encouraging irrigators to contribute ideas and thoughts on projects to be pursued in 2013.

In the Lake Diefenbaker area, potential demonstration projects include disease management in cereals and oilseeds, methods of phosphate application to cereal crops and demonstration of the Alberta Irrigation Management Model under Saskatchewan conditions.

In southwest Saskatchewan, projects will look at potentially limiting nutrients under perennial forage production, including phosphorus, potassium, manganese and zinc.

At the Canada-Saskatchewan Irrigation Diversification Corporation, ICDC intends to continue corn variety testing adapted to the Lake Diefenbaker area, perennial forage and annual forage variety demonstrations and a fertility demonstration on a newly established alfalfa stand. Additionally, ICDC will maintain its core program of irrigated crop variety evaluations and agronomic investigations.

Irrigators who have suggestions for projects or questions regarding specific crops or production practices are asked to contact us and to become involved with the ICDC program. Contact information for the agrologists involved in the ICDC program is found on page 3.

Events:

- CSIDC Field Day July 11, 2013; and
- SIPA/ICDC Annual Conference Dec. 3 and 4, 2013.

ICDC Publications

ICDC Research and Demonstration Program Report 2012 Detailed descriptions of the projects undertaken and funded by ICDC.

Irrigation Economics and Agronomics An annual ICDC budget workbook designed to assist irrigators with their crop selection process. Irrigators can compare their on-farm costs and productivity relative to current industry prices, costs and yields.

Crop Varieties for Irrigation A compilation of yield comparison data from irrigated yield trials managed by CSIDC. It is useful as a guide for selecting crop varieties suitable for irrigation.

Irrigation Scheduling Manual Provides technical information required by an irrigator to effectively schedule irrigation operations for crops grown under irrigation in Saskatchewan.

Irrigated Alfalfa Production in Saskatchewan Provides technical information regarding the production practices and recommendations for irrigated alfalfa forage production.

Management of Irrigated Dry Beans A factsheet that provides a comprehensive overview of agronomic management requirements for producing dry beans under irrigation.

Corn Production A factsheet that provides information on corn heat units, variety selection and an overview of agronomic management requirements for producing grain, silage and grazing corn under irrigation in Saskatchewan.

Copies of these publications are available from the Ministry of Agriculture's Irrigation Branch office in Outlook, SK, or from the ICDC website at www.irrigationsaskatchewan.com

2013 Events

July 11, 2013
CSIDC Irrigation Field Day
Outlook Research Station

December 3 & 4, 2013
SIPA/ICDC Annual Conference

Contact the Irrigation Branch for details about all upcoming events

Phone: (306) 867-5500

Website: www.irrigationsaskatchewan.com

THE IRRIGATOR

Published once a year by the Irrigation Crop Diversification Corporation (ICDC), and the Irrigation Branch of the Saskatchewan Ministry of Agriculture

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