



# THE IRRIGATOR

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## A Successful Conference on Irrigation

*Looking back to our ninth annual meeting*

### **ICDC Board Report**

*By Carl Siemens, ICDC Chair*

#### **Annual Conference**



The highlight of the 9<sup>th</sup> Annual Irrigation Conference in Swift Current last December was undoubtedly the positive message from Deputy Premier Clay Serby. The Deputy Premier

promised the 90 delegates to be back at the next Irrigation Conference with an irrigation strategy.

Other “hot topics” on the agenda included Saskatchewan Agrivision’s 50 Year Plan for Water in Saskatchewan (see last fall’s edition of *The Irrigator* or check [www.droughtproofing.com](http://www.droughtproofing.com)). This plan is aggressive in its development of Saskatchewan’s water infrastructure. Of particular interest to South West irrigators was the International Joint Commission’s Public Consultations on the St. Mary and Milk River systems. The Saskatchewan Watershed Authority and The Alberta Irrigation Projects Association both gave their perspectives on an issue which could impact water supply in the Missouri basin and affect irrigation in our South West.

#### **Strategic Plan**

“The times they are-a-changing,” and ICDC spent a couple of meetings reflecting on the R&D future for irrigation. The ICDC Directors are well aware that ICDC’s current agreement with SAF ends in 2007 and want to start negotiations on a new one. This agreement includes ICDC’s partnership at the Irrigation Centre too.



*Minister Clay Serby addresses delegates.*

The new ICDC Strategic Plan, endorsed at the Annual Conference, includes a shift in emphasis towards more “development” and less agronomics. For example: the website [www.irrigationsaskatchewan.com](http://www.irrigationsaskatchewan.com) will be upgraded in partnership with SIPA and a competitive analysis for the irrigated vegetable industry is underway.

#### **Joint Meeting with SIPA**

The Annual Conference had expressed the necessity of distinguishing the roles

*(Continued on page 2)*

## The Irrigator June 2005

of ICDC and SIPA. ICDC is clearly the agent for R&D and SIPA is the irrigation policy advocate, much the same as the Saskatchewan Canola Development Commission and the Saskatchewan Canola Growers Association. Both ICDC and SIPA, however, have an overlapping role in irrigation education and awareness. Both organizations are active in this area and the joint meeting helped to coordinate activities.

### Crop Production Show

This year's show (it attracts over 15,000 people annually) included Irrigation Alley for the first time. Both SIPA and ICDC had displays, along with irrigation companies and others. *The Irrigation Potential for Saskatchewan* was featured a couple of times at the Bayer Crop Science Theatre to over 100 people. Identifying an Irrigation Alley led to more "serious" irrigation inquiries from visitors. Next year, we'll get the centre pivot tower up for all to see (the roof wasn't quite high enough).

### ICDC's Irrigation Education Initiative adds CCA

#### Accredited Irrigation Events

The ICDC Board has been an advocate for improved irrigation education opportunities in Saskatchewan. *The Irrigator*, July 2002, documented the existing options for irrigation education and training:

- School system – Project WET, Ag in the Classroom's *Water for Life*.
- SIAST Moose Jaw – Irrigation curriculum and participation on the Program Advisory Committee.
- Green Certificate Farm Training Program – Irrigated Crop Production Technician course.
- ICDC and The Irrigation Centre – extension, field days, website,



ICDC Display at EnviroForum in Swift Current

newsletters, etc.

- University of Saskatchewan – Work Experience (Co-op Students), irrigation content.
- Certified Crop Advisor accreditation has been added to ICDC seminars.



**CERTIFIED  
CROP ADVISER**

ICDC has been active in the development of Ag in the Classroom irrigation material. ICDC is working through the Irrigation Centre to promote the Green Certificate Program. ICDC Director John Könst is on the SIAST Program Advisory Committee. Work by ICDC on the irrigation curriculum

at the U of S continues. ICDC has mentored eight co-op students over five years from the College of Agriculture, working on irrigation R&D projects.

ICDC has been involved in hosting SAF's Dutch consultant. Hopes are for an expanded exchange program between students from Holland and Canada on irrigated farms.

In 2004, ICDC added support for the Certified Crop Advisor Program (CCA). CCA has over 14,000 certified advisors in the U.S.A. and Canada.

To become a CCA, one must pass two exams, national and local. Once certified, a CCA must complete 40 hours of Continuing Education Units (CEUs) every two years in order to remain certified. Irrigation fits the soil and water management area of CCA competency. ICDC offered a total of 28 CEUs in 2004: eight for soil and water management, three for integrated pest management, 17 for crop management.

### EFP and BMPs for Irrigators

Yeah, more acronyms! EFP stands for Environmental Farm Plan, and BMP for Beneficial Management Practice. ICDC organized an EFP workshop for irrigators last winter, facilitated by Darren Steinley. Darren is son of Howard, a SIPA Director who irrigates in the Rush Lake ID. Irrigators prepared EFPs, had them reviewed and endorsed by the peer review committee and are now eligible for BMP funding. Irrigation BMPs include funding of 30 percent (up to \$10,000) for low pressure, low clearance sprinkler system components, trickle components and backflow prevention equipment. Dave Ollen (Northminster ID) and Murray Purcell (Pike Lake), both irrigators, are on the Provincial Council of ADD Boards (PCAB), the EFP delivery agency. ICDC Chair Carl Siemens is on Saskatchewan's National Farm Stewardship Advisory Board. Irrigators are involved. Be proactive: do an EFP for your farm.

### New ICDC Publications

- 2004 ICDC Demonstration Program Final Report
- The Saskatchewan Irrigator newsletter
- Crop Varieties for Irrigation 2005
- Irrigation Economics and Agronomics 2005
- Dry Bean Production Options

- Irrigation Kicks Out \$500/ acre, Dryland \$90
- Pocket Gopher Management Package
- Can Irrigation Support a 10,000 Head Feedlot in Saskatchewan?
- Using Irrigation to Feed a Large Dairy
- Haywatch Saskatchewan

### CSWSEP

Yes, we do have irrigation funding for "infill" and expansion under the Canada Saskatchewan Water Supply Expansion Program. Both ICDC and SIPA support expansion towards a "critical mass" of irrigation to support value-added processing. Check the article elsewhere in *The Irrigator*.

### Crop Insurance for Timothy



*ICDC Agrologist Korvin Olfert "Talking Timothy" on Farmgate with Bob Simpson.*

ICDC Agrologist Korvin Olfert acted as meeting convener and data gatherer to hammer out timothy coverage levels with Crop Insurance. The program is up and running for 2005.

## 2005 ICDC “Value for Money R&D” projects:

IRRIGATED FORAGE WORK		2005 Budget
Forage Centres		\$10,000
Timothy		\$ 7,000
Alfalfa varieties (dairy)		\$ 4,000
Corn		\$ 5,000
TOTAL		\$26,000
IRRIGATED CROP VARIETY TESTING		
Irrigated Crop Variety Testing (at CSIDC)		\$44,000
Soybean Variety Testing	“	\$ 2,500
Bean Seed Research	“	\$ 5,000
Crop Disease Control	“	in-kind
Potato Variety	“	\$5,000
TOTAL		\$56,500
NON CROP PROJECTS		
Communications (in partnership with SIPA)		\$ 5,000
Audit / Insurance		\$ 2,000
New Ideas		\$ 5,000
TOTAL		\$12,000
<b>TOTAL 2005 Proposed Budget</b>		<b>\$94,500</b>

For more information,  
contact ICDC at  
306-867-5527

## Celebrating 100 years of Agriculture in the Province: Red Fife and Marquis Wheat on Display at ICDC

*by Frances Thauberger, ICDC Coop Student,  
Swift Current*

To mark Saskatchewan’s 100<sup>th</sup> anniversary, ICDC has included Red Fife and Marquis hard red spring wheats in our demonstration plots this year.

The two varieties marked a turning point for North American grain production. Red Fife, also known as Halychanka, arrived in Canada in 1842 when it was shipped to a farmer in Ontario named David Fife. The shipment came via a friend in Scotland, who had received the grain from the German port of Danzig on the Baltic Sea (now Gdansk, Poland).



When David Fife planted the wheat in Canada, only one stalk ripened the first year. He sowed it again and in time, other farmers were growing it with success. Red Fife had extraordinary baking qualities and commanded a premium price at the mills. Over the course of several decades, it contributed to Canada’s reputation for growing high quality wheat. Eventually, researchers were able to trace the origin of



the superior variety to the Eastern European region of Galicia.

The only difficulty in growing Red Fife in Canada was its late maturity. At various Dominion Experimental Farms, many crosses of Red Fife with earlier maturing varieties were made, but most of these resulted in lower milling and baking qualities. In 1903, Charles Saunders and his brother Arthur finally isolated a variety with great potential. The cross was made at the Experimental Farm in Agassiz, B.C. between Red Fife and Hard Red Calcutta from India. The cross had only early maturity and great baking quality, it had surprisingly high yield. They named it Marquis.

Twenty-three pounds of Marquis wheat were sent to the Indian Head Experimental Farm in Saskatchewan for a full-scale trial in 1907. Distribution began in 1909. In 1911, Seager Wheeler of Rosthern won a prize of U.S. \$1000 in gold for the best wheat grown in North America. He had harvested 250 pounds from five pounds of seed on 1/19<sup>th</sup> of an acre. Many international awards for Marquis wheat followed, including one from the International Dry-Farming Congress for Mr. Holmes of Raymond, Alberta and a similar award for Paul Garlach of Allan.

Marquis wheat soon became the primary variety grown on the Canadian Prairies and the American mid-west and was responsible for a steep climb in total Canadian wheat production. By 1915, 80 percent of the 9.8 million tons harvested in Canada was Marquis. Before 1920, however, certain leaf and stem rust strains began to infect both Marquis and Red Fife.

“As wheat became more common on the prairies, wheat rust became more of a problem,” says Ron DePauw, Senior Wheat

Breeder and Rust Pathologist at the Semi-arid Prairie Agricultural Research Centre in Swift Current. “Wheat rust is the kind of organism that can mutate very quickly.”

The major rust epidemics to Marquis wheat stimulated the development of the Cereal Rust Lab, which is now the Winnipeg Research Centre.

We invite visitors to observe both Red Fife and Marquis wheat at irrigated demonstration plots near Osler and Baildon during our irrigation field days this summer. Other varieties on display at these sites include Superb HRSW, AC Lillian HRSW, Andrew and Meena Soft White Spring wheats, several feed and malt barleys, Strongfield Durum, AC Morgan and CDC Baler oats, Viking Triticale, and Bethune and Prairie Flax. We will also display Raxil and Gemini seed treatments in the durum and malt barley plots. We look forward to seeing you there.

### 2005 ICDC Field Day Schedule:

**Osler:** Monday, July 18, 2005 - 6:30 p.m.

**Baildon:** Tuesday, July 26, 2005 - 1:30 p.m.

**SPARC, Swift Current:** TBA

For more information on field days, contact Korvin Olfert at 306-778-5041, or e-mail [kolfert@gov.sk.ca](mailto:kolfert@gov.sk.ca)



## Questions about Irrigated Forage???

*By Korvin Olfert PAg, ICDC Agrologist, Swift Current*

### When is the best time to cut my irrigated alfalfa?

The answer to this question really depends on what type of animal will be consuming the feed.

- **Dairy**

Intensive dairy producers will be looking for alfalfa with a Relative Feed Value (RFV) of 150 or higher. To get the quality this high, alfalfa would need to be cut about when you see the first flower. In Saskatchewan, this means cutting around the middle of June. Many of the dairy producers north of Saskatoon take three cuts of irrigated alfalfa. In order to get three good cuts, the first has to be off the field certainly by the end of June, with second cut in the beginning of August and third cut after a hard frost. This type of cutting schedule will achieve RFVs in that 150 range with proteins up over 20 percent. It is possible to achieve yields of five tons/acre of alfalfa hay (11 tons/acre of silage) under intensive irrigation.

- **Beef**

A beef cow on maintenance over winter will not require the same level of quality. Taking two cuts at the more traditional 10 percent bloom will certainly meet the protein needs of beef cow even in late gestation. Alfalfa cut around the 10 percent bloom will have protein levels closer to 15 percent. Protein levels are fairly difficult to predict in the field. They depend more on the harvest conditions and how many leaves are included in the bale. The fiber content can be predicted based on the height and stage of maturity.

### When is the best time to cut my cereal silage?

This answer depends more on the specific type of cereal rather than the animal consuming it. Cereal silage is grown as an energy rich source of fiber. As such, it is already useful for either dairy or feedlot rations.

- **Barley**

According to research done at the University of Saskatchewan by Dr. Dave Christensen, the optimum stage to cut barley silage is at the late dough stage. Barley quality increases slightly maturing through the dough stage. Oats quality, in contrast, slightly decreases.

- **Oats**

The optimum stage to cut oats is at the early dough stage. Wheat, although not usually grown for silage, is intermediate between oats and barley. The precise firmness of the dough is often difficult to judge and can change quite quickly. Nevertheless, when it is time to cut your silage, cut the oat field first before moving on to the barley field.

- **Rye and Triticale**

Rye and Triticale have awns that become hard and indigestible. They should be cut in late flowering while the awns are still soft.

- **Corn**

Corn silage should be cut once the whole plant has dried down to the appropriate moisture (68 percent), whatever the stage of maturity, sufficient kernel development will have occurred to meet your energy and yield requirements.

The irrigated silage yields are similar between the different cereal species (about 13 tons/acre. Corn will, however, yield 16-20 tons/acre).

In the cereal variety trials last year at CSIDC in Outlook, the oats out-yielded both the barley and triticale, although this has been different in other years and other locations. In spite of similar yields, barley consistently has more energy. Corn has a higher yield potential than any of these and more energy than even barley.

In a cool year, like 2004, corn yields and quality drop to approximately that of barley. With the higher production costs of growing

### How long should you chop silage?

A lot of silage harvesters have 12 knives on the cutting head with rollers feeding the silage into the knives. The roller speed can be adjusted to feed more or less silage. A faster roller speed will result in a longer chop length. Also, the number of knives can be adjusted. Most of the time, this theoretical cut can be adjusted from 3/16" to 7/8".

Although 3/8" is one of the most common settings, the problem is that no one knows what theoretical cut gives the correct amount

of effective fiber for optimum milk production. There are a number of different methods of measuring effective fiber. The most common is the Penn State Forage Particle Separator. This is a set of three (or four) black boxes with different sized holes. The top box has 3/4" (19mm) holes, and the second has 5/16" (8mm) holes. By placing the silage

on the top and shaking 40 times (10 times in each direction) this separates the silage into the three boxes. The top one contains the

*cont'd on page 10*



*Chopping Silage*

corn, there are some years, like 2004, where it would be better to grow barley than corn.

Table 1. Recommended distribution of particles (Penn State)

	> 3/4"	5/16"-3/4"	5/16"-1/8"	< 1/8"
Total Mixed Ration	2-8%	30-50%	30-50%	< 20%
Corn Silage	3-8%	45-65%	30-40%	< 5%

Table 2. Percentage of forage particle sizes by weight at three theoretical cut lengths.

Theoretical Cut	> 3/4"	5/16"-3/4"	< 5/16"
3 / 16"	5%	23%	72%
3 / 8"	11%	43%	46%
3 / 4"	23%	46%	31%

## Canada-Saskatchewan Irrigation Diversification Centre (CSIDC)

# Theme: “Wealth from Water:

*Saskatchewan Minister of Agriculture and Food, Mark Wartman will address the crowd. Federal government representatives, and Hon. Lynne Yelich, MP Blackstrap, will also be in attendance.*

**9:30 a.m. - Registration**

### *Wealth from Water: Past*

It's the Prairie Farm Rehabilitation Administration's 70<sup>th</sup> and Saskatchewan's 100<sup>th</sup> anniversary. CSIDC, the Gardiner Dam, Lake Diefenbaker and 26 irrigation reservoirs in southwest Saskatchewan are part of 70 years of progress which have created *Wealth from Water*. Bob Kohlert, CSIDC manager during the 1960s, will discuss the many highlights of this storied period for PFRA.

### *Wealth from Water: Present*

Today, CSIDC demonstrates high-value irrigated cropping practices which continue to create *Wealth from Water*. On the tour, you will see:

#### **Trade Show “under the tent”**

- Agri-businesses, industry and public sector support organizations

#### **Irrigation Technology:**

- State-of-the-art irrigation systems
- Solar-powered centre-pivot
- Trickle irrigation

#### **Potato:**

- New and improved varieties
- Agronomic refinements for seed, processing, and table potato production

#### **Vegetable:**

- High-value vegetables
- Season extension to grow warm season veggies in the Prairie climate

#### **Fruit:**

- Native fruit orchard
- Strawberry crown production





Annual Field Day and Trade Show, Thursday, July 14, 2005 – 9:30 a.m.

# *Past, Present, and Future”*

## **Medicinal and aromatic plants:**

- Agronomic refinements for commercial production

## **Corn:**

- Grain, silage

## **Pulse:**

- Dry bean, field pea, soybean

## **Forage:**

- Timothy improvement and management
- Best management practices for forage production
- Mixed forages
- Annual cereal forages (barley, oat, Triticale)

## **Industry Sponsored Irrigated Crop Variety Evaluations**

## **Oilseed:**

- Canola, flax, sunflower

## **Cereal:**

- Wheat (various market classes)

## ***Wealth from Water: Future***

Dr. Graham Parsons will outline the Saskatchewan Agrivision Corporation's 50-Year Water Plan for Saskatchewan.

The 2002 report of Saskatchewan's Action Committee on the Rural Economy (ACRE) recommended that the province "adopts an aggressive policy towards irrigation development that expands utilization of the current irrigation system and further development in order to open new areas for diversified agricultural growth."

The Canada-Saskatchewan Water Supply Expansion Program is funding irrigation "infill" and expansion feasibility studies. The Wealth from Water: Future is coming, as water becomes more precious and Saskatchewan's untapped resource is responsibly developed.

**12:30 – 1:30 p.m. Lunch** – concession provided on-site.

***For more information, contact CSIDC at (306) 867-5400, or e-mail [csidc@agr.gc.ca](mailto:csidc@agr.gc.ca)***



## The Irrigator June 2005

particles that are longer than 3/4", the middle one 5/16"-3/4" and the bottom box contains all the particles smaller than 5/16". There is an additional fourth screen that can be added with 1/8" (3mm) holes which leaves mostly dust on the bottom one.

If the forage particles are too small, they begin acting like a concentrate, and movement within the rumen resembles a liquid rather than a solid. As a result, the Neutral Detergent Fiber (NDF) becomes less effective.

The nutritional formulation program SPARTAN from Michigan State assumes that

the NDF from long forages (> 1" or 25mm) is 100 percent effective; the NDF from short forages (< 1" or 25mm) 50 percent effective and other concentrates is 25 percent effective.

Table 1 shows the Penn State recommended distribution of particles for dairy rations. By adjusting the theoretical cut length of the silage cutter, you can change the distribution of particles. Table 2 shows some approximate particle sizes for three theoretical cut lengths.

For more detailed recommendations, consult a ruminant nutritionist. This is an area of active research, and recommendations may change.

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## **Irrigation "Infill" and Expansion Planning Funded**

*By John Linsley PAg, Irrigation Agrologist, SAF, Outlook*

The National Water Supply Expansion Program (NWSEP) is a \$60-million Canada-wide initiative that will help improve the capacity of Canada's agricultural community to address water supply concerns. The NWSEP was introduced in 2002, during the program's first year of operation, \$10 million was used to help develop high-priority water supply projects in drought-affected areas across Canada. In

addition, a one-year National Scoping Study was funded through the NWSEP to determine agricultural areas of Canada experiencing or anticipating water shortages.

The Canada Saskatchewan Water Supply Expansion Program - **CSWSEP** – is supporting three types of projects:

- **Tier One** – On-farm water infrastructure projects: individual on-farm water projects such as wells, dugouts, off-stream and water storage systems, and pasture pipelines.
- **Tier Two** – Multi-user infrastructure projects: larger scale projects which provide water to a number of water users, such as tank-loaders and regional pipelines, that will lead to growth in the agricultural sector.
- **Tier Three** – Strategic work projects, which include: activities (e.g. regional groundwater studies, groundwater exploration or testing, regional water management planning, water supply planning and feasibility studies, information extension activities,



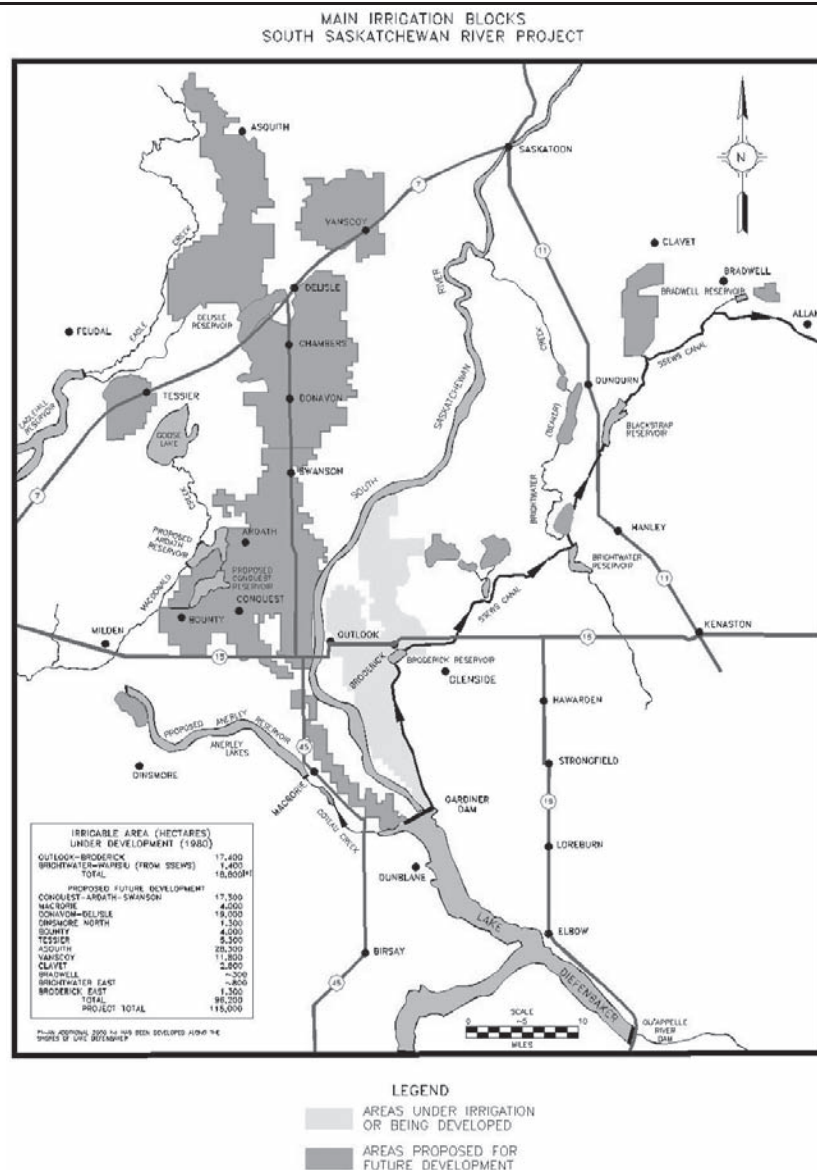
*The Gardiner Dam and Lake Diefenbaker*

etc.) that will serve to increase opportunities for strategic partnerships and to enhance partner and stakeholder understanding of the operational and developmental capacities as well as limitations to the water resources in their communities.

**Application deadlines for CSWSEP have passed. Will there be a National and/or Prairie water program after March 31, 2006?**

The CSWSEP will be re-evaluated before March 31, 2006 to determine whether additional programming will be implemented.

**Will construction dollars automatically become available if the Tier Three strategic studies demonstrate a positive impact?** No commitments have been made at this time.



*Abandoned West Side irrigation infrastructure shut down in 1973*

## **Environmental Farm Planning - EFP**

*By Garth Weiterman PAg, Irrigation Agrologist, SAF, Outlook*

*(The information below was used from PCAB's website [www.saskpcab.com](http://www.saskpcab.com) with permission.)*

PCAB or Provincial Council of Agriculture Development and Diversification Boards for Saskatchewan Inc., the delivery agent for EFPs in Saskatchewan, is a non-profit agriculture organization that focuses on timely, effective delivery of agriculture programs to Saskatchewan producers.



### What are EFPs?

Environmental Farm Plans are voluntary, confidential self-assessment tools completed by agriculture producers to raise awareness regarding environmental strengths and risks on their operations. As part of their EFP, producers will develop their own action plans to reduce environmental risk on their operations.

### Why should I do an EFP?

Environmental stewardship is key to the sustainability of our vital agriculture industry. Completed EFP's are a demonstration of agriculture's commitment to environmental stewardship.

### How do I complete an EFP?

Simply attend EFP Workshops in your area. Trained facilitators will deliver workshops and guide producers in the completion of their EFPs.

### How much does it cost?

Instruction, an EFP Binder and several other tools are provided. EFP Workshops are free of charge for Saskatchewan agriculture producers.

### **Environmental Farm Plans: Irrigators Involved**

Outlook area producers had their first chance to examine the EFP workbooks at a local workshop held at the end of January. Although numbers were small, attendees were quickly led through the comprehensive workbook by facilitator Tamara Weir-Shields. The well laid out process allowed producers to identify natural and management risks on both their farmstead and field sites. The four hour session gave producers enough information and tools to complete the



*Backflow prevention valve just downstream of the pump.*

workbook at home and at their own pace. A follow-up workshop in February was held to answer any further questions and allow producers to hand in their anonymous Environmental Farm Action Plans.

Because of the commonalities in irrigated production, SAF staff in Outlook realized the benefit in holding an EFP workshop strictly for irrigators. Facilitator Darren Steinley, son of SIPA board member Howard Steinley, came to Outlook on February 23<sup>rd</sup> from the Swift Current area to lead an irrigation-focused EFP workshop. Despite less than perfect driving conditions, SAF staff were extremely pleased with a turnout of 28 people. The same workbook and process were followed with a wrap-up session held on March 23<sup>rd</sup>.



*Backflow prevention valve installed in mainline.*



Producers in both sessions were quick to pick up on the cost/benefits involved in the EFP process and discussed the possible funding assistance available. As a producer works through the workbook, environmental risks in his or her operation are identified. The Environmental Farm Action Plans allow the producers to address most risks with actions.

What action can be taken to improve the situation? Many of the answers to these questions involve cost-sharing solutions with government. Beneficial Management



*Low pressure pivot with drop tubes.*

Practices (BMP) categories have been established where cost-shared funding is available to fulfill action plans. For irrigation management, these include such categories as irrigation equipment modification / improvement to increase water or nutrient use efficiency, improved irrigation intake systems, and equipment purchases to prevent backflow into water sources. Other non-irrigation related BMP categories include shelterbelt establishment, improved pest management, improved manure storage, farmyard runoff control, water well management, erosion control and many others. The cost sharing ranges from 30 percent to 50 percent with program caps ranging from \$2,000 to \$30,000, although BMP categories and program caps may vary in future years.

Irrigation focussed EFP meetings will be organized where interest is shown. If you want to learn more about the EFP process, please visit the PCAB website [www.saskpcab.com](http://www.saskpcab.com). To date, over 500 EFPs have been endorsed in Saskatchewan since the process started last January...not bad!

## **Disease Control in Irrigated Rotations - Sclerotinia**

*by Lana Shaw PAg, ICDC Agrologist, Outlook*

Sclerotinia diseases are costing irrigators and other farmers around the world a lot of money. White mold and sclerotinia stem rot were problems last year in irrigated bean and canola fields across the prairies. One or two applications of fungicide (\$40/acre) are standard practice in dry bean production, but yield and quality losses can still be significant. Irrigated canola often suffers yield loss, but fungicides are generally not economical for canola production.

Sclerotinia diseases are a serious problem in sunflower, canola, soybean, dry bean and many horticultural crops around the world. Chemical control measures are under pressure because of deregistration, toxicity, and health concerns. In Canada, bean growers have had to switch from Ronilan to Lance because of U.S. trade restrictions.

Sclerotinia survives in soil for years in sclerotia bodies, the hard black structures produced by the fungus. When a susceptible broadleaf crop is grown and infected, sclerotia are added to a soil sclerotia bank like weed seeds are added to the soil seed bank. Sclerotia make cultural and chemical control difficult.

Sclerotinia is a high priority problem for crop production around the world. Numerous research and development projects are contributing to control of sclerotinia diseases in a wide variety of crops. A number of approaches are being tried: registration of reduced-risk fungicides, disease forecasting and biocontrol.

Disease forecasting can improve disease control by identifying the level of risk. Fungicides for control of sclerotinia diseases have to be applied preventatively before disease development. Forecasting can indicate if and when fungicide application is likely to have an economic impact. Agriculture and Agri-Food Canada researchers are currently working on developing a decision support system for fungicide applications to control white mold in dry bean. We would like to see the Outlook weather station incorporated into the system.



*White mold (Sclerotinia) starts here with the Apothecia releasing spores to infect the petals of the bean flower. Check this year's bean field but also last year's bean, pea or canola field for Apothecia.*

Biocontrol actually has a lot of potential to knock the teeth out of this pathogen. Indigenous soil fungi can infect sclerotia and use them as a food source. One of these has been developed into a commercial biocontrol product with a wide crop

range. *Coniothyrium minitans* was shown to sanitize the soil of sclerotia in the long-term in a research trial in the Netherlands. Researchers in Canada are assessing the



*Last year's ICDC Bean Day attracted irrigated bean growers, researchers and industry reps to discuss the finer points of growing this high cost, high return, high management crop. White mold control was a hot topic last year following lack of access to U.S. markets for Ronilan-sprayed beans.*

potential of local strains to control sclerotinia diseases in dry bean, canola, sunflower and alfalfa.

Intercept WG (known as Contans WG in Europe) is a preparation of the fungus *C. minitans*, which acts as a parasite on sclerotia bodies. It has yet to be registered in Canada. It was developed by a German company and was first registered as a pesticide for agricultural soils in Germany in 1997. It has subsequently been registered in several other European countries and in the U.S., where it costs \$9 – 10 dollars per pound. Typical application rates vary from one to four lb/ac. Contans WG is applied with conventional spray equipment and incorporated thoroughly. It can even be tank mixed with certain herbicides. It has the potential to reduce fungicide costs and yield loss due to disease. We are following developments in this area and hope to get ICDC involved in testing this biocontrol agent in the near future.





*Last year's ICDC Bean Day*

combined data, we expect to find differences in severity due to row spacing, crop rotation and fungicide use. If we can collect enough data, we should be able to determine the amount of yield loss due to white mold. This is an excellent opportunity to grow our management expertise.

If you have not been contacted about

### **ICDC's 2005 White Mold Survey**

A survey of irrigated acres can give us real-world answers to reducing white mold losses, reducing production risk, and improving profitability. The purpose of the survey is to determine and differentiate the effects of dry bean production practices and fungicide use on disease severity and yield. ICDC will collect agronomic information from dry bean growers and combine this with a disease severity rating just before undercutting or swathing. After some thorough analysis of the

participating in this survey and you have a dry bean field you would like to include in the project, contact ICDC's Lana Shaw at 867-5512.



*Last year's ICDC Bean Day*



# Mark your Calendars!

## CSIDC

**Annual Field Day and Trade Show, Thursday, July 14, 2005 – 9:30 a.m.  
Outlook, Saskatchewan**

## Irrigation contacts in Saskatchewan

### Web sites

ICDC/SIPA [www.irrigationsaskatchewan.com](http://www.irrigationsaskatchewan.com)  
SAF [www.agr.gov.sk.ca](http://www.agr.gov.sk.ca) go to Crops/Irrigation  
CSIDC [www.agr.gc.ca/pfra/csfdc/csfdc.htm](http://www.agr.gc.ca/pfra/csfdc/csfdc.htm)

### ICDC Board of Directors

SWDA Carl Siemens (Chair) (Rush Lake ID)  
784-2811

SEDA Rick Swenson (Baildon ID) 692-5060  
NDA Kevin Plummer (Moon Lake ID) 382-2098  
LDDA John Könst (SSRID) 867-8939  
Randy Bergstrom (Luck Lake ID)  
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