Best wishes for a safe and happy holiday season from the SSCA's Board of Directors and Staff.

Need Some One-on-One Direction On Direct Seeding?

One day courses on how to direct seed into standing stubble are being planned for your region. This course will draw from recognized knowledge in the field and will include sessions on rotations, weed control, fertility, and equipment options, along with the theory and practice of direct seeding on a budget.

Cost: A Registration fee includes course materials and lunch. Minimum number: A minimum of 12 registrants is required before the course will be conducted. Pre-registration is required and receipts will be issued. 

Monsanto: A hand-out reference package (courses after January 31st will include the PAM/SSCA Direct Seeding Manual) will be distributed at the start of the course. Use it during the day and save it for reference and contacts in the future.

Enquiries: If you are interested in this course contact your SSCA Regional Soil Conservationist. Their names and phone numbers are listed at the bottom of page 2.

How long can you afford not to practice soil conservation?

SSCA/Monsanto Membership Enhancement Program For NEW Members Only

SASKATEWAN SOIL CONSERVATION ASSOCIATION

1993 SOIL CONSERVATION FIELD DAY

JUNE 15, 1993

(IN EVENT OF RAIN JUNE 18, 1993)

MUNICIPAL AIRPORT, MOOSE JAW, SASKATCHEWAN

2 MILES NORTH OF THE TRANS-CANADA HIGHWAY ON HIGHWAY #301

FEATURING THE LATEST TECHNOLOGY AND EQUIPMENT OPERATING ON A 200 ACRE DEMONSTRATION FARM!

DIRECT SEEDING - FERTILIZATION - CROPPING - WEEDING - SPRAYING - CONSERVATION TILLAGE - HARVEST/RESEED SPREADING

PLUS 80 ACRE OF DIRECT SEEDING DEMONSTRATIONS

(SEEN DURING THE FIRST WEEK OF MAY 1993)

In association with the:

WESTERN CANADA FARM PROGRESS SHOW JUNE 16 - 19, 1993

CONSERVATION FALLOW AT THE SITE WITH NEW IMPROVED RUSTLER

BY MONSANTO

SOIL FERTILIZATION

BY WESTCO WESTERN CO-OPERATIVE FERTILIZERS LTD.

MAJOR SPONSORS:

MONSANTO FLEXICOIL MORRIS

In cooperation with:

Mr. Gordon Noble, City of Moose Jaw, District #8

ADD Board, Saskatchewan Agriculture Development Fund, Saskatchewan Agriculture & Food and the Canada Saskatchewan Agreement on Soil Conservation.

FOR MORE INFORMATION CONTACT:

SASKATCHEWAN SOIL CONSERVATION ASSOCIATION

332 - 3085 Albert Street
Regina, Saskatchewan
S4R 0B1

Phone: (306) 787-0558
Fax: (306) 787-0553

NEW ECONOMIC WORKSHOPS READY!

3 new conservation economics workshops are available

- Economics of Zero Tillage
- Economics of Conservation Fallow & Economics of Shelterbelts

Farmers use their own information in partial budgets to assess the conservation practices.

The workshops are available at PFERA, Sask Ag & Food, & the SSCA.

Do you have ideas or comments on the conservation of our land resource? We would like to print them in future issues of the Prairie Steward. Please forward to:

The Editor

Prairie Steward

SSCA 132 - 3085 Albert St.
Regina, Sask.
S4R 0B1

Payment For Submission

- About 24% of Saskatchewan farms take some measures to control soil salinity.
- A 46-lb./acre wheat crop produces straw containing nutrients worth as much as $14.25 per acre.
- Field shelterbelts can reduce wind velocities for up to 20 times the height of the trees.
- Soil organic matter can hold about 2.5 times its weight in water.
- 25% of the land needed in Canada was prepared using conservation tillage.
**President’s Message**

The 1993 SSCA Annual Meeting and conference promises to be another winner. “Direct Seeding: Making It Work In The Drier Soil Zones” is the theme of this year’s conference. It will be held in Moose Jaw, February 8th and 9th. For more information see page 14 or call the SSCA Regina office. The attendance at last year’s conference was fantastic. I look forward to seeing you in Moose Jaw.

Speaking of direct seeding and soil conservation, make plans to attend the Soil Conservation Field Day and Direct Seeding Demonstration at the Moose Jaw airport, June 15th, 1993. The SSCA has leased a 200 acre demonstration site for this winter. Contact your Regional Soil Conservationists for more information.

The Soil Conservation Association is planning a number of different areas of the field. Contact your Regional Soil Conservationist for more information. Their names and phone numbers are at the bottom of this page.

I met quite a few of you at various field days and functions over the summer months. I hope to have the pleasure of meeting any of you that I haven’t already met in the months ahead. On behalf of the Bueckert family, the SSCA Executive, Board of Directors and Staff, I want to wish you the very best for the upcoming holiday season! We’ll see you in Moose Jaw in February.

I recently travelled to Australia with Gerry Willerth, John Kiss, the Executive Manager, Gary Schweitzer, Crystal Dahl, Cheryl Armbruster. Cheryl returned to Australia Trip:

Gerry Willerth, Ken Saperfeld, David Thompson, Dave French, Paul Smith, Pat Flatten.

From the Mouths Of Babes:

One evening, in late October, a woman and her 3 year old daughter were travelling home to their farm. Suddenly they were assailed by the smell of a man. A man down the road, they came upon a farmer standing at the edge of a burning field. Shocked, the little girl said, “Mommy, why is there fire on fire? Her mother replied “The farmer is burning his stubble.” The little girl thought about it for a minute and then turned to her mom, “But, Mommy, why is he burning stubble? Doesn’t he want his field any more?”

Editor’s note: This was an actual submission to the Prairie Starward. It’s interesting that a 3 year old can see what some adults can’t.

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Foscar, John W. Bashaw, AB
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Hepp, Gerard Hepp, AB
Ivey, Wayne Ivey, AB
Jarms, Elsie Jarms, AB
Kane, Greg Kane, AB
Kowalchuk, Julian Kowalchuk, MB
Lindberg, Ronald Lindberg, MB
Lindwall, Wayne Lindwall, AB
McCamra, Ralph McCamra, MB
Mann, Edm. Leduc, AB
Marr, Kevin Edm., AB
Nevin, Jim Nevin, MB
Perkins, Mark Perkins, MB
Pencelet, Robert Pencelet, AB
Raine, John C. Raine, AB
Rash, Calvin Rash, MB
Schaufel, Dan Schaufel, AB
Scott, Ron St. Croix, MB
Shel, Luke Shilo, SK
Skeaton, Lyle Skeaton, MB
Snydor, Roy Snydor, MB
Steinley, Clinton Steinley, AB
Walter, Dan Walter, MB
Weisman, Andy Weisman, SK
Witson, Dan Witson, MB
Wittger, Ron Wittger, MB
Witte, Elwood Witte, MB
Whiting, Don Whiting, MB
Whitney, Ron Whitney, MB
Wippel, Andy Wippel, MB
Wolfe, Dan Wolfe, MB
Young, Dan Young, MB
Zacharias, Lyle Zacharias, MB

The SSAC is Pleased To Welcome The Following New Members:

**SCSA Group Photo**

**SCSA Staff Update**

The SSCA would like to welcome Crystal Dahl to the Central office. Crystal joined us at the beginning of September and is taking over/secretarial duties from Cheryl Armbruster. Cheryl is still involved with the SSCA as she comes in 4 days a month to coordinate membership duties. We wish Cheryl all the best in school and welcome Crystal to the SSCA!

**SCSA Board of Directors**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Dave Bueckert</td>
<td>President</td>
<td>(306) 848-2981</td>
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<tr>
<td>Gerry Willerth</td>
<td>(Indian Head) President-Ex.</td>
<td>(306) 848-2981</td>
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<tr>
<td>Gary Schweitzer</td>
<td>Ex President</td>
<td>(306) 848-2981</td>
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<tr>
<td>Darrell Getter</td>
<td>(Tisdale) N.E. Director</td>
<td>(306) 848-2981</td>
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<tr>
<td>Terry Peress</td>
<td>(N.E. Director)</td>
<td>(306) 848-2981</td>
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**Regional Soil Conservationists (in Rural Service Centres)**

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<thead>
<tr>
<th>Name</th>
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<tr>
<td>Blair McClintock, North Battleford</td>
<td>(306) 848-2981</td>
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<td>Gary Nicu, Tisdale</td>
<td>(306) 848-2981</td>
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<td>Jannette Polage, Yelverton</td>
<td>(306) 848-2981</td>
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<tr>
<td>Pat Flatten, Swift Current</td>
<td>(306) 848-2981</td>
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<td>Bob Lomeli, Weyburn</td>
<td>(306) 848-2981</td>
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**Head Office**

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<th>Name</th>
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<td>Brian McCready</td>
<td>(306) 848-2981</td>
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<tr>
<td>John J. Kiss, Executive Manager</td>
<td>(306) 848-2981</td>
</tr>
<tr>
<td>Cheryl Armbruster</td>
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<tr>
<td>Blake Shepherd</td>
<td>(306) 848-2981</td>
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<tr>
<td>Mary Jo Friesen</td>
<td>(306) 848-2981</td>
</tr>
<tr>
<td>Steve Sadow</td>
<td>(306) 848-2981</td>
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**Trend Kit Corner**

This column presents only the highlights from the Soil Conservation Trend Kit. For more information contact your Trend Kit or your SSCA Regional Soil Conservationist.

**Coming Events**

**November**

- Develop a soil management plan for your operation. Include field sketches, problems and possible solutions.
- Develop a soil management evaluation table to identify the effects of proposed soil management practices on your operation.
- Begin listing of upcoming extension meetings of interest.

**December**

- Figure on the economics of soil conservation. This allows comparison between current and proposed practices.
- Plan for new forage plantings.
- Attend SSCA annual meeting and direct seeding conference February 8th & 9th.

**January**

- Develop a tillage plan which will conserve crop residue either by reducing the number of tillage operations or by using alternative methods.
- Begin your fertilizer planning, take different months of the soil to conservation. If you forget to take soil tests before seeding...

**For your free copy of the Trend Kit write to:**

**TipKit**

c/o Canada-Saskatchewan Agreement on Soil Conservation
B-335 - 3085 Albert Street
Regina, SK
S4P 0B1

**New corporate members:**

- Flexiroll Ltd. Saskatoon, SK
- Saskatchewan Institute of Pedology Saskatoon, SK and our on-going Corporate Sponsors
- Monsoon, Saskatoon, SK
- Ducks Unlimited Winnipeg, MB
- Dunn Elanco Newmarket, ON
- Centre for Holistic Resource Management Alhaurerque, NM
DIRECT SEEDING: MAKING IT WORK IN THE DRIER SOIL ZONES

**North East Director Profile**

It’s a route to learn, improve and to talk to people that are practicing and, generally speaking, making conservation work.

**Q:** What sort of impact do you hope to make by being a director of the SSA?

A: When I’m finished with this, I can think that I had somewhat of an impact in protecting our valuable land resource in this province. I want to be able to say, you, I played an important part in conservation efforts. I think that’s a very important thing to feel good about.

**Q:** As the current SOS program will cease to exist on April 30, 1993, what kind of a soil conservation program for the future would you like to see? Would it be similar to the existing SOS program?

A: I think the SOS as it is, is pretty well finished. I think the route we need to try to follow, right now, with the larger conservation demonstration days and fields is probably a way to go. The information has really been getting out this last year and everybody is certainly aware of what we’re doing. But we still have to stress that economic situation. I think that’s so important, to prove to people you can make a dollar in doing this. Obviously, if we weren’t in such a bad economic situation, I think conservation would take all night. Now, someone could argue another way that if it was better, the farmers would say to hell with conservation, and wouldn’t bother. But I don’t look at it that way. I think there was a little more money around, farmers would be a little more willing to try some of these conservation ideas.

**Q:** What prompted you to get involved with the SSA and how long have you been active with the association?

A: I’ve always been very involved with soil conservation and very interested about land preservation and so forth. I really wasn’t aware that the organization existed until just prior to becoming a member. I was approached to serve as a director because the director for the North East had resigned. I decided to become a director and get very involved. I haven’t been around since day one of the initials, but I’ve been involved for the two full years and I’m seeking another term this year.

**Q:** What are some of the conservation practices you’re doing on your farm and how long have you been doing these?

A: I’ve been involved for years, but I’ve just recently become involved in the direct seeding practice, and various conservation techniques such as continuous cropping and direct sowing and so forth. The last two years I’ve direct seeded my total crop acreage and prior to that, I was doing some experimentation with it.

**Q:** What do you think could be some of the reasons why more people in the province aren’t practicing conservation?

A: That’s a tough one. Probably, the biggest reason is because they’re not really aware that what’s happened to our soil and the degradation that’s going on. They haven’t seen the economic benefits from conservation farming. They think “well, you could do this type of thing, but it’s going to cost you x number of dollars and there isn’t a positive economic side”. Now some of us can show that there is a economic benefit from it and it’s starting to become more popular.

**Q:** Do you see governments taking a little more aggressive stance on soil conservation?

A: I can see that happening down the road. If the Canadian taxpayers is going to continue to help fuel the bill for some of our crop insurance programs, I think that we, as farmers, can expect to have to cooperate with some land use aspects.

**Q:** Do you think that you’re going to have to do a conservation program along the lines of the American Farm Bill?

A: I think that could possibly come down the road. I think if there’s enough voluntary compliance through the efforts of the PFP and other organizations and the economic benefits are realized, there might be enough voluntary compliance and we’ll go it on our own. If that isn’t, if that tax dollar keeps coming in, I think ultimately we will end up with some similar type of compliance.

**Q:** So it’ll come down to a choice for farmers to make: they’ll either be in the program and practice soil conservation or, they won’t be tied into any support programs?

A: I can see that what could happen, which is of course similar to what they do in the US. I’m hoping that the farmer will be farsighted enough that society is not going to have to take that route, but it may happen.

**Q:** What are some of the benefits of joining the SSA?

A: The benefit that, I think, we’ve seen so far, is that it gives the person the opportunity to educate oneself. It allows people to belong to an organization that is on the cutting edge of a conservation program.

3

Previous Photo Contest Winners

- Prints and Slides welcome.
- Three Categories:
  - Soil Degradation
  - Soil Conservation
  - Wildlife & Habitat
- Open to Amateur photographers only please.
- Prizes will be awarded at the annual meeting in Moose Jaw on February 8. You must be present to win.
- All photos (slides & prints) will be returned.
- Send prints and slides by January 15 to: Gary Patterson
  3735 Thatcher Ave.,
  SASKATOON, SK
  57K 2H6
  FAX: 933-5287

Courtey Jim Romo, Saskatoon, SK

Courtey Dave Lukash, Yorkton, SK

FOR MORE INFORMATION PLEASE CALL: 787- 0555 (fax: 787- 0551) if you intend to participate in Tuesday’s Conference registrants are welcome to attend the educational program and practise soil conservation or, they won’t be tied into any support programs. It’s a route to learn, improve and to talk to people that are practicing and, generally speaking, making conservation work.

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Agricultural producers must realize that whether the waterway is contaminated with waste created in an urban setting or by soil washing off a farmer’s field, the result is the same. The idea that was occupying that waterway in its original state will be far more fragile land areas. Many farms have land that possibly should never have been broken and put into intensive cultivation in the first place.

With continuing soil degradation, the point may well be reached in some areas where nothing short of physically feasible to produce annual crops on this land.

Farmers should consider trying to generate revenue from this land through waterfowl or other annual cropping. Establishing forages for use in the livestock industry or as silage crop to produce feed products are only a couple of possibilities for land use adaptation.

Tillage has been the single biggest factor causing soil degradation in Western Canada. Traditionally, farmers have gone to tillage to control weeds, to reduce runoff, to increase soil organic matter breakdown.

To improve both soil quality and their image with the public, farmers will have to search for ways to reduce the amount of tillage occurring on their farms. An alternative farmers can consider for tillage is the judicious use of herbicides to control weed growth in summerfallow years, in the fall and prior to seeding. With the costs of some herbicides declining, it is becoming economically more feasible to replace some tillage with herbicides.

Another alternative to tillage is the practice of direct seeding. Direct seeding is the largest single change producers have made in the last few years. With the knowledge that trees create a positive public image, farmers will be encouraged to plant trees. Shelterbelts are several purposes. They provide a positive economic value to the farm by reducing wind speed at the soil surface. Crops such as canola, sunflower and alfalfa consistently produce higher yields when protected from winds. Another feature of shelterbelts is that they are aesthetically pleasing. Shelterbelts leave a positive image of agriculture in the minds of urban residents as they drive down the highway. However, shelterbelts cannot compensate for poor soil management in the between the two rows.

With the knowledge that trees create a positive public image, farmers should reconsider their desire to clear farm land and burn fields. Historically, these little patches of trees were left because of, perhaps, a lack of knowledge or because of the high water late into the spring and farmers just farmed around these areas. However, the drought years of the 1980s made farmers look quite a possibility to go in and clear these areas.

Farmers have to ask themselves if they really need to last on that quarter section. Would they be better off to leave the wetland habitat and improve the public image of farmers in the eyes of their urban neighbours?

Farmers could also consider alternate uses for some of their land. The amount of farmland in Western Canada is relatively small, but the challenges are great. With continuous soil degradation, the point may well be reached in some areas where nothing short of physically feasible to produce annual crops on this land.

The theme for the Conference is “Managing Rangelands for Sustainability and Profitability: Bringing Canadian Issues into Focus.”

Renowned guest speakers from Western Canada and the Northern United States will deliver keynote addresses at the Conference. The theme for the Conference will also be presented and discussed by conference participants.

For more information, please contact:
Faisal Taha
5408 65th Street, Regina, SK
S4T 3Y4 Telephone (306) 569-2633

By Juanita Polegi
SSCA E.C. Regional Soil Conservationist

EAST CENTRAL REPORT

Energy Use in Conservation Tillage

Blair McClintock
SSCA N.W. Regional Soil Conservationist

Modern agriculture with its dependence on tillage, fertilizers, pesticides and mechanization is very energy intensive. This intensive agriculture has helped to increase food production worldwide. There is potential to reduce the amount of energy used while maintaining production. Reducing the amount of energy used on-farm has the potential to significantly lower production costs.

When we think of energy use on the farm, we usually only consider direct energy costs such as farm fuel. These energy costs make up the second largest 92 percent of the total energy behind interest. In 1990, Saskatchewan farmers spent $353 million on farm fuel and lubricants.

However, in a long term crop rotation study started in 1967, at the Swift Current Agricultural Research Station, fuel accounted for only 31 to 51 percent of the energy used.2 The rest of the energy used in crop production is from indirect sources such as fertilizer, pesticides and machinery.

Large amounts of energy are needed to manufacture fertilizer. In the Swift Current study, fertilizer was the second highest energy input ranging from 15 to 49 percent of the energy used in the various rotations. 3

Herbicides and other pesticides are also very energy intensive. However, since only small amounts of pesticides are used, they make up a much smaller portion of the energy used in this study. 4

By reducing the amount of fertilizer applied, producers will also reduce the amount of energy inputs needed. However, the environmental impacts caused by soil erosion and loss of soil organic matter are well known. Some of these problems can be reduced by using such conservation techniques as chisel tillage. Energy use in the future can be reduced by as much as 10 percent by substituting herbicides for tillage. Conservation tillage techniques have the potential to reduce the amount of energy needed to produce the same amount of crop. Modern agriculture has been reduced using conventional energy intensive methods. Other benefits of conservation tillage include increased soil carbon and proper rotations, including legumes, can lead to a reduction in the amount of energy expended by the farmers.

1 Saskatchewan Agriculture and Food, 1992.


Energy Use in Conservation Tillage

By Blair McClintock
SSCA N.W. Regional Soil Conservationist

Modern agriculture with its dependence on tillage, fertilizers, pesticides and mechanization is very energy intensive. This intensive agriculture has helped to increase food production worldwide. There is potential to reduce the amount of energy used while maintaining production. Reducing the amount of energy used on-farm has the potential to significantly lower production costs.

When we think of energy use on the farm, we usually only consider direct energy costs such as farm fuel. These energy costs make up the second largest 92 percent of the total energy behind interest. In 1990, Saskatchewan farmers spent $353 million on farm fuel and lubricants. However, in a long term crop rotation study started in 1967, at the Swift Current Agricultural Research Station, fuel accounted for only 31 to 51 percent of the energy used.2 The rest of the energy used in crop production is from indirect sources such as fertilizer, pesticides and machinery.

Large amounts of energy are needed to manufacture fertilizer. In the Swift Current study, fertilizer was the second highest energy input ranging from 15 to 49 percent of the energy used in the various rotations. 3

Herbicides and other pesticides are also very energy intensive. However, since only small amounts of pesticides are used, they make up a much smaller portion of the energy used in this study. 4

By reducing the amount of fertilizer applied, producers will also reduce the amount of energy inputs needed. However, the environmental impacts caused by soil erosion and loss of soil organic matter are well known. Some of these problems can be reduced by using such conservation techniques as chisel tillage. Energy use in the future can be reduced by as much as 10 percent by substituting herbicides for tillage. Conservation tillage techniques have the potential to reduce the amount of energy needed to produce the same amount of crop. Modern agriculture has been reduced using conventional energy intensive methods. Other benefits of conservation tillage include increased soil carbon and proper rotations, including legumes, can lead to a reduction in the amount of energy expended by the farmers.

1 Saskatchewan Agriculture and Food, 1992.

Many producers are asking where soil conservation is headed in the next 3 to 5 years. Most producers agree that the new Canada-wide soil conservation negotiations will likely concentrate on slightly different concerns, although there will still be priorities of soil conservation, water quality, water quantity, and waste discharge, which is related to pollution reduction management.

Ontario and the Federal government have recently announced funding to support the Agricultural Green Plan for that province and it shows a heavy emphasis on the above objectives. Provincial directives show about three quarters of their efforts will be placed on soil conservation and water issues.

The remainder will be spent on environmentally responsible management of manure and wastewater facilities. Federal efforts will feature similar programs with nutrient management through farm plans, support of agricultural [conservationpractices, technology transfer, along with research and education.

District practices have taught us much about how to approach new conservation programming. There has been a good awareness and respect throughout the country for existing plans. A particularly good plan has been followed by a group working as the Upper Thames River Authority in Ontario. It has developed a plan to develop the principles of soil conservation to test new technology that has been tested and select the best of its kind and use in other areas.

So, where does Saskatchewan go from here? I guess that depends on how well we have learned from the past two and a half years and how well we adapt to the practices we have observed. A great deal of commitment needs to be made in the future, if we are truly going to be stewards of the soil.

Yield trends of continuous spring wheat at Swift Current as influenced by fertilization (5-year running mean, 1960-1965)

Yield trends of continuous spring wheat at Indian Head as influenced by fertilization (5-year running mean, 1960-1965)

Yield trends of continuous spring wheat at Lethbridge as influenced by fertilization (5-year running mean, 1960-1965)

Residue Management Options For The Unharvested Crop
By Garth Pattinson
SKCA W.C. Regional Soil Conservationist

The extraneous water in 1992 has resulted in a residue management nightmare for some producers in various areas of the province. Producers should consider all residue management options when dealing with a crop that is severely lodged or unvegetation due to frost.

1) Bale as Feed. This is probably the best option if the feed can be utilized. The stubble should be left tall enough to trap snow, but no taller than the effective snow-shielding of the direct seeding equipment. Unfortunately, crops that have not already been baled may now have deteriorated to a poor quality feed.

2) Mowing. Using a rotary or flail type mower will cost $5 to $6 per acre. This is a good alternative to tillage because the soil structure will not be disturbed and the residue will remain to protect the soil. It moving in the fall, be sure to leave trap strips to increase snow trap potential. Remember to follow the guidelines for stubble height and direct seeding.

Another Forage Choice - Filling The Mid-Season Grazing Gap
By Pat Flaten
SKCA S.W. Regional Soil Conservationist

Producer across the province recognize the need for an important land use choice. Most often, the land is needed for second growth, tame grasses, and sometimes clover. Proper fertilization of native species has been more common than clover. Since clover, and has been one of the best in terms of lasting production, it is in demand and assistance from Manitoba, Alberts, and parts of the U.S.A. also use demonstration to quickly transfer ideas.

We use the need for a greater exchange of ideas as our exchange in the movement for the Canadian Centre for Agriculture and Food Development. This is also an idea for the new Centre of Information where the help is available and information is available.

He sees a need for something to fill the mid-season grazing slump of crop grasses. Most of the introduced species are best suited for early season grazing and starting in early in the mid-seasons. Their nutritive value drops after that. In fact, although native grasses tend to retain their value better, both native and introduced species lose nutritive value after you’ve stopped grazing. This means that grasses are still actively growing in July and August in these efforts to work together for land care.

So, where does Saskatchewan go from here? I guess that depends on how well we have learned from the past two and a half years and how well we adapt to the practices we have observed. A great deal of commitment needs to be made in the future, if we are truly going to be steward of the soil.
By John J. Kass
Manager

This fall several board members from the SSCA and the Manitoba-North Dakota Zero Tillage Farmers Association (ManDak) were in a race against the weather to attend the International Soil Conservation Organization (ISCO) Conference in Sydney, Australia. Participants in the trip included: Dave Buerkert, SSCA President, Gerry Willeth, SSCA President-Elect and John Kass, SSCA Manager. An additional trip was also made to attended the International Soil Conservation Organization (ISCO) Conference in Sydney, Australia.

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The SSCAs activity manual for K to 12 teachers, “Soil Conservation for School Children”, is short term like it is in Canada. It’s hard to think of any other operations which would fall within that broad definition of “industrial source”, including stubble burning and postharvest or biofuel processing. “Fuel burning equipment” is also widely defined to include any equipment or apparatus that burns fuel for the purpose of vehicle transportation, heating, drying, generating power or any combination thereof. Many kinds of farm equipment would be considered to be “fuel burning equipment”.

The fact that no permit is required does not mean that operations such as stubble burning are completely exempt from the operation of the Act. The Act makes no distinction between a “small operation” and a “large operation” and in any case gives SEPS the power to issue a “control order” to the owner or operator of any industrial source. The Clean Air Act, or municipal bylaw, the farmer may be liable and face expensive lawsuit if burning causes a traffic accident or aggravates people’s health problems.

The Clean Air Act has the same purpose, to control and prevent air pollution, and it is much broader in its application than the Clean Air Act in the United States. The Clean Air Act requires a permit for any operation which emits air pollutants into the air at a greater than a specified concentration. The Clean Air Act also requires a permit for any operation which emits air pollutants at a rate greater than a specified amount. The Clean Air Act defines an “industrial source” as any source that emits air pollutants in a manner that can be reasonably anticipated to cause a visibility problem on public roadways or developed property. The Clean Air Act also defines an “industrial source” as any source that emits air pollutants in a manner that can be reasonably anticipated to cause a visibility problem on public roadways or developed property.

In addition, stubble burning and some other farm operations (such as spraying) might under certain circumstances be subject to the Clean Air Act. The Clean Air Act also requires a permit for any operation which emits air pollutants in a manner that can be reasonably anticipated to cause a visibility problem on public roadways or developed property. The Clean Air Act also requires a permit for any operation which emits air pollutants in a manner that can be reasonably anticipated to cause a visibility problem on public roadways or developed property.

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Any questions you may have in regard to stubble burning or other farm operations may be answered by calling the Air Quality Branch of Saskatchewan Environment and Public Safety in Regina or by writing to Mr. Andrychuk at the firm’s office in Regina. Mr. Andrychuk has written and lectured in the field of environmental law.

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Tree seedlings which were designed, for the most part, to catch major wind-borne air contaminants are in quantities sufficient to cause air quality problems. There is also new interest in the utilization of shelters to control odours and the waste gas stream from manure production. Furthermore, trees provide habitat for wildlife in areas where habitat is scarce.

Although demand for field shelterbelts remains high, there are other programs which provide a lot of additional benefits. One of the best known is the Shelterbelt Program. In addition, in addition, Mr. Andrychuk has married and lectured in the field of environmental law.

Mr. Andrychuk is a partner in the law firm of MacPherson, Leslie & Tyerman. The Saskatchewan law firm was founded in 1921 and has offices in Regina and Saskatoon. Mr. Andrychuk has written and lectured in the field of environmental law.

By Leonard D. Andrychuk
partner in the law firm of MacPherson, Leslie & Tyerman

SSCA Employee of the Month

SSCA And ManDak Attend ISCO Conference

By Yvette Crane
Education Coordinator

The summer and fall have been busy months as school’s start was also the last day for several SSA educational programs. The SSA’s activity manual for K to 12 teachers, “Soil Conservation for School Children”, is short term like it is in Canada. It’s hard to think of any other operations which would fall within that broad definition of “industrial source”, including stubble burning and postharvest or biofuel processing. “Fuel burning equipment” is also widely defined to include any equipment or apparatus that burns fuel for the purpose of vehicle transportation, heating, drying, generating power or any combination thereof. Many kinds of farm equipment would be considered to be “fuel burning equipment”. The Clean Air Act, or municipal bylaw, the farmer may be liable and face expensive lawsuit if burning causes a traffic accident or aggravates people’s health problems.

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The Steinleys and their surplus equipment for sale

By Chris Zabek

SASK Growth Information Officer

By this point in time, all producers should be aware of the various benefits of shelterbelts. Their value in preventing soil erosion, increasing overall crop yield and enhancing wildlife habitat is well-documented. Indeed, people plant trees for both conservation and economic reasons.

Weed control in growing shelterbelts has also been stressed. PRIA personnel, the Saskatchewan Soil Conservation and Extension Agrometologists, and SSSA staff have been hard at work driving home the fact that weeding, especially in the established shelterbelt, is vital to the survival and long term vigour of many producers.

Many producers have seemed to have this message to heart, as indicated by the results of a 1990 PRIA survey. Several months after the Forestry Canada report was released, over 60% of the producers surveyed said that they would consider using shelterbelts. Yet, this is still not necessarily the case. Many producers do not want to invest the money, time, and effort required to establish and maintain shelterbelts.

Weeds in Established Shelterbelts

The result of a weed free shelterbelt

Weeds in Established Shelterbelts

Grain Lintl Is Good For Sustainability

By C.A. Campbell, R.P. Zentner, F. Sellas and V.O. Biedermann

Agriculture Canada, Research Station Staff, Swift Current, SK

Grain lint, when grown in rotation with wheat, will not only increase grain protein of the wheat, but can lead to improved soil organic matter quality. It can provide an effective alternative to the frequent summerfallowing practiced in the semi-arid areas of Western Canada.

In a twelve year study carried out on the Brown Loam soil at Swift Current, wheat grown in a two year rotation with lint averaged one percentage point in grain protein over wheat grown continuously.

The results showed that after about four or five years, the amount of available nitrogen (nitrates) in the rooting depth of increased, compared to that of the control plots that were the same.

Both systems were fertilized on the basis of 150 lb/acre.

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This is one of a series of interpretive posters produced by SWCS to promote education in the conservation of our soil and water resources. Funding was provided in part by the Canada-Alberta Soil Conservation Initiative.

The loss of topsoil lowers the quality of the soil. This makes it more expensive about wind erosion. Strong winds will always be around, but we can do certain things that will protect the soil from blowing away.

A. Too much tillage of the soil breaks down the clumps of soil into smaller particles which are more easily carried away by the wind. Straw and other plant pieces left on the ground are also broken up and worked under when the land is tilled over and over. The soil is no longer protected and can blow away.

B. One way to slow down the wind and keep the soil in place is by planting shelterbelts. The rows of trees that make up a shelterbelt are carefully arranged so that wind does not blow across open fields. Shelterbelts prevent wind erosion in the summer and winter. In the winter, snow is trapped by the trees and melts in the spring providing more moisture for crops. Shelterbelts not only help to stop wind erosion, but also provide a home for wildlife such as deer, rabbits and birds.

DON’T FORGET TO SEND US YOUR PHOTOGRAPH WHEN YOU’RE DONE . . . AND BE SURE TO INCLUDE YOUR NAME, AGE, AND ADDRESS!

WIND EROSION PREVENTION

This is one of a series of interpretive posters produced by SWCS to provide education in the conservation of our soil and water resources. Funding was provided in part by the Canada-Alberta Soil Conservation Initiative.

Colouring Contest Rules:

1. Deadline: January 27, 1993

2. Send in your name, age and address with your entry.

3. Paint the picture in any of the following age categories:
   - 6 and under
   - 7 - 8 years
   - 9 - 11 years
   - 12 and over

4. This page may be photocopied.

5. Send your entries to:
   - Soil Smart
   - SBCA
   - Room 32
   - 3085 Albert Street
   - Regina, SASK
   - S4S 0B1

COLOURING CONTEST - WIND EROSION PREVENTION

Can you put the letters from these paragraphs in the right place on the colouring page? (I’ve done the first one, “A”, for you!)

Wind erosion happens when the soil is left unprotected from the strong winds. The loss of topsoil lowers the quality of the soil. This makes it more expensive to produce crops, harder to grow good crops. The blowing soil can also plug ditches and make driving more difficult. Country and city people should both be concerned about wind erosion. Strong winds will always be around, but we can do certain things that will protect the soil from blowing away.

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C. Planting crops in narrow strips is another way to prevent wind erosion. This is called strip cropping. These narrow strips have stubble left on the surface and do not allow the wind to pick up soil particles. The summertime winds between the stubble are not wide enough for the winds to start the soil blowing.

D. Keeping plant residue (straw, dead plants) on the surface is very important in preventing wind erosion. One way is by seeding the crops directly into the stubble without till the soil first. This means that soil particles are kept covered and will not blow away.

E. When the land is not tilled as often, certain weeds may start to grow and create problems. Selective weed killers can be sprayed when weeds are a problem instead of cultivating to kill them. This keeps more plant residue on the soil and prevents wind erosion.

During the 1970’s, soil drifting was a major problem in Saskatchewan. In the 1990’s, the situation has become only marginally better. Farmers practice and technology have changed dramatically during the last sixty years. However, farmers still have the urge to till excessively in an attempt to control weeds and conserve soil moisture. Soil drifting is an inevitable result.

Improper use of tillage can lead to soil drifting problems. Not only do you lose soil when it blows off your field, but your neighbours inherit your dust soil if they have left their stubble standing. Some people would argue that this “gift” is more than welcome, while others would rather see farmers keep their own soil on their own side of the fence.

In the spring, tilling soil may fill up standing stubble much like snow does in the winter. This situation can be devastating for both conventional and direct seeding operations. Problems caused by this extra soil may include poor fertility, water run-off, and soil damage. Proper snow fence design and planting can be used to enhances the growth and harvest results.

As a result of this demonstration, a direct seeding club was set up in Coronach this past winter. The club began with 16 members. It leased a 1040 JD tractor and a 3110 air-seeder. The club hired two operators and they seeded close to 4000 acres of land farmed by the 16 members. Each club member kept a record of chemical applications and rainfall.

Concerned with high input costs and soil erosion the producers, in the direct seeding club felt that they had to change some of their production methods. By joining a club such as this and sharing the costs of a machine, they were able to reduce their input costs and reduce soil erosion.

Other farmers have expressed an interest in joining the club and the club is looking into leasing two direct seeding outfits for the spring of 1994.

I recently attended a club meeting and the response was very positive. As a Soil Conservationist, it is encouraging to see the formation of a direct seeding club evolve from a demonstration site.

WINDBURSTERS TO ENHANCE WATER SUPPLIES

The most effective measure producers can take is to use well placed snow fencing to trap snow in the dugout. Snow fences should be built as close as possible to the dugout at least 150 feet away from the dugout. Snow fencing should be placed 150 to 200 feet from the dugout to properly control the snow. The most effective fences are those that are placed to prevent the leaves from getting into the dugout where they could contribute to algae problems. Livestock should be kept away from the shelterbelts to prevent damage to the trees.

By Blair McClinton
SBCA N.W. Regional Soil Conservationist
The past two years have been very dry in Northwestern Saskatchewan. This is particularly true for the western half of the region. In addition to poor precipitation, snowfall has resulted in the loss of water supplies that local producers rely on to water their livestock. Many producers in the area are planning to build dugouts to improve their water storage. Snow management, with snow fencing or shelterbelts, can be used to enhance the water supply.

Dugouts have proven to be an effective water supply. For dugouts to be very effective during droughts, they need to be able to store more than one year’s supply of water. This is the reason that PFRS has set guidelines for minimum dugout size.

In years when the soil moisture levels are very low in the fall, there is usually a low level of spring runoff. This means producers need to take extra measures to ensure that their dugouts fill in the spring.

The best way to enhance the water supply from dugouts is to build a snow fence to trap the snow. By building a snow fence, the producers can achieve a much higher water supply than without one. Snow fences are more effective than just planting trees. Snow fences can be used to trap snow for about 20 years. Trees can be used to trap snow for about 15 years. Snow fences are also cheaper than planting trees.

Proper snow fence design.

By Ray Ketenbach
SBCA Communications Specialist

Using Wind Barriers To Enhance Water Supplies

By Blair McClinton
SBCA N.W. Regional Soil Conservationist

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