Forage Seed Grower Information Session & Notice of AGM
Tuesday January 14, 2020

The Annual General Meeting of levy-paying forage seed producers will be held on Tuesday January 14, 2020 at the Prairieland Park complex, Saskatoon, in Hall A, Breakout Room 2.

8:30 AM to 4:00 PM
There is no charge to attend and parking is free.
Lunch of soup & sandwiches will be available at cost ($20), payable at the door at registration (8:15 AM).

The Grower Information Session will begin at 8:30 AM, the AGM will be held immediately after morning refreshment break.

The forage seed levy contribution gives a registered producer the right to vote on organization business, & serve on the board of directors to lead the Sask forage seed industry.

All registered forage seed producers are encouraged to attend the AGM, be part of the democratic process, and participate in motions & discussions and VOTE to direct your organization!

Meet other forage seed growers, industry and Sask Ag reps, researchers.

Hear the presentations on state of the industry: Guest speakers this year represent: USDA, and private industry in Denmark, Canadian Plant Technology Agency, University of Saskatchewan, National Research Council, Government of Saskatchewan Ministry of Agriculture, Northeast Agriculture Research Foundation, and A Horizon Ag Research.

Topics: R&D variety development, forage seed production & markets

♦ Plant breeding - United States and Canada. Royalty structures on forage seed varieties in Canada
♦ European forage seed production | Canada’s production & exports
♦ SFSDC & Government of Saskatchewan Co-funded research on forage seed crops
  -Accelerating plant breeding cycles: developing doubled haploid methods
  -Integrated pest management for optimizing red clover production
  -Forage Galega
♦ Results of field trials 2019:
  -Perennial ryegrass & slender wheatgrass; red & alsike clover, annual ryegrass
  -Forage seed crops in rotation: red & alsike clover with canola, peas, and wheat

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On-line registration: https://www.skforageseeddc.com/
Executive Director at: office@skforageseeddc.com OR phone/txt mobile 306-341-1347

Questions or concerns? contact:
Questions or concerns? contact:
Chair’s Message
Hello, forage seed producers.

Well, as it has become the norm, we have finished out another challenging crop year. Why can’t we just have one normal harvest? Oh well, if it was easy everyone would want to do it.

As with all crops, our forage seed crops came through some tough conditions. Many grass seed crops endured wet conditions at harvest, while many clover crops remain in the field waiting until spring for harvest now. What did come off was of average yield and quality, and growers are now busy marketing and conditioning what they have in the bin. Even with all this extra work, our core forage seed growers continue to see the long term advantage of forages in the rotation as they begin spring 2020 planting decisions.

Your Commission and its partners had a busy year as well. Many hours of networking and planning were put in to get this year’s research program in place. As all the information has been collected, now begins the process of dissecting this information into useable content and context. We look forward to sharing this with all of you at our upcoming AGM and grower information meetings in January. I hope to see all of you out to enjoy our dynamic and informative speaking line up.

Best Wishes for a safe and successful 2020,
Your Chair: James Silcox

SFSDC Governance

Regulations
The Saskatchewan Agri-Food Act, 2004, is the policy framework which provides the legal authority for SFSDC, as an agri-food agency, to collect a producer levy and pool the contributions to support the promoting, developing, regulating, and controlling of the production and marketing of forage seed species grown in Saskatchewan.

At the federal level, the Saskatchewan Forage Seed Order SOR/2013-240 and the Agricultural Products Marketing Act provide the legal framework for interprovincial and export trade.

With this legislation, SFSC has the legal authority for the collection of levy on all forage grasses and forage legumes that are produced in Saskatchewan, except alfalfa, seed, turf and amenity, and reclamation species, inclusive of all grades of forage seed and all potential mixtures as determined in accordance with the provincial Regulations. This includes the following forage seed crops:


All sales of forage seed are subject to a levy of 0.75% of the gross value of forage seed marketed upon final settlement made to producers. Each buyer shall deduct the levy from any proceeds payable to a producer when forage seed is (a) purchased from a producer; or (b) acquired from a producer for sale on the producer’s behalf. If the levy is not deducted by the buyer, the producer is liable for payment of the levy to the Commission. (Order No. 13/15).

The levy is refundable upon request to the SFSDC office within the timeline identified in the Saskatchewan Forage Seed Development Plan Regulation (see SFSDC website Levy Refund form for dates).
## Agenda: 2020 AGM and Grower Information Session

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:15 - 8:30</td>
<td>Registration* (no registration fee to attend, lunch available at cost)</td>
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<tr>
<td>8:30 - 8:45</td>
<td>Welcome, Introductions &amp; Opening Remarks</td>
</tr>
<tr>
<td>8:45 - 9:45</td>
<td>State of the Industry I: R&amp;D – forage species breeding &amp; variety development</td>
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| 8:45 - 8:50 | Joseph Robins, Research Geneticist, Forage and Range Research Laboratory United States Department of Ag-
| 9:00 - 9:10 | • Bill Biligetu, Ministry of Agriculture Strategic Research Program Chair in Forage Crop Breeding, University |
| 10:15 - 10:30 | Lorne Hadley, Executive Director, Canadian Plant Technology Agency |
| 10:30 - 10:45 | Refreshment Break & distribution voting cards for registered producers |
| 10:45      | SFSDC Annual General Meeting (AGM)                                    |
| 11:15      | SFSDC levy-funded R&D – improving production forage seed crops        |
| 11:15 - 12:00 | • Michael Steckler, A Horizon Ag Research: Perennial Ryegrass & Slender Wheatgrass |
| 11:30 - 12:00 | • Brianne McInnes, Northeast Agriculture Research Foundation (NARF): Red & Alsike Clover, Annual Ryegrass |
| 12:45 - 1:00 | Lunch (meal of soup, assorted sandwiches, deserts & drinks available for $20.00) |
| 1:00 - 1:15 | Ag Research Branch, Sask Ministry of Agriculture                      |
| 1:15 - 1:35 | • Alison Ferrie, National Research Council: Doubled haploidy methodology for forage grasses, ADF |
| 1:35 - 1:45 | • Sean Prager/ Dan Malamura University of Saskatchewan: Integrated Pest Management to Optimize Red Clo-
| 1:45 - 2:00 | • Brianne McInnes, NARF: Demonstrating effects of forage seed crops in rotation: Red Clover/Clearfield™ Canola and Alsike Clover/Clearfield™ (2017), Red and Alsike Clover and Peas (2018) and Spring Wheat (2019) ADOPT 20160365, project final report |
| 2:00 - 2:45 | Refreshment Break & technology set up for live stream presentation    |
| 2:45 - 3:15 | State of the Industry II: Production and Market Reports - European & Canadian forage seed production |
| 3:15 - 3:30 | • Anders Mondrup, Head of Field Production, DLF Seed & Science, Denmark |
| 3:30       | Adjourn                                                               |

* Register through Eventbrite: https://sfsdc-2020-agm-growerinformationsession.eventbrite.ca For more information about speakers and event details, please check for updates: on the SFSDC website at www.skforageseeddc.com or the Eventbrite listing SK Forage Seed Development Commission 2020 AGM & Grower Information Session. AGENDA TIMES MAY BE ADJUSTED SLIGHTLY pending weather and speaker travel times.
The Forage Seed Levy 2018/2019 crop year

Total value of forage seed sales reported to SFSDC in 2018-2019, was $9,146,183. Sales came from 17 forage seed species listed in Table 1 below. The value of deliveries was down 7% from 2017-2018.

Levy contributions in 2018-2019 totalled $68,710 made by 175 registered producers. This was a decrease of 50 registered producers from the year previous (225 registered producers in 2017/2018 contributed $79,868).

Levy refund requests represented 2.1% (or $1,491) of total levy revenue in 2018-2019, compared to 5.1% (or $4,096) in 2017-2018.

The levy rate has not changed in 13 years, remaining at 0.75% of the gross value of seed marketed at the first point of sale ($0.75 per $100.00). Over the long term, levy refunds summed to $22,873 for an average rate of 1.5%.

The relative value of deliveries and levy contribution to the different species is illustrated in Figures 1 & 2 (side page).

An amount of $95.3 M is the aggregate farm gate value (total value of seed deliveries) of forage seed crops reported to SFSDC, 2005/6 to 2018/19.

Approximately $717,000 has been collected in levy (not including refunds). Over 15 years, the average value of forage seed deliveries in Saskatchewan is nearly $7 M, with average levy contributions of $52,670.

Red clover is consistently the highest value crop grown by the most producers, with timothy and perennial ryegrass accounting for

Table 1: Forage seed deliveries reported to SFSDC and levy contributions by cropkind, 2018-2019

<table>
<thead>
<tr>
<th>Crop Kind</th>
<th>Net Weight Delivered (kg)</th>
<th>relative (%)</th>
<th>Value Sales ($)</th>
<th>Levy Contributions ($)</th>
<th>relative (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clover, Red</td>
<td>966,461</td>
<td>56</td>
<td>2,327,549</td>
<td>17,486</td>
<td>25</td>
</tr>
<tr>
<td>Clover, Aliske</td>
<td>495,426</td>
<td>29</td>
<td>1,384,921</td>
<td>10,237</td>
<td>15</td>
</tr>
<tr>
<td>Clover, Sweet</td>
<td>257,387</td>
<td>15</td>
<td>272,987</td>
<td>2,047</td>
<td>3</td>
</tr>
<tr>
<td>Birdsfoot Trefoil</td>
<td>8,075</td>
<td>0.5</td>
<td>37,443</td>
<td>281</td>
<td>0.4</td>
</tr>
<tr>
<td>Cicer Milkvetch</td>
<td>1,690</td>
<td>0.1</td>
<td>3,697</td>
<td>28</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>TOTAL FORAGE LEGUMES</strong></td>
<td><strong>1,729,039</strong></td>
<td><strong>100</strong></td>
<td><strong>4,006,587</strong></td>
<td><strong>30,079</strong></td>
<td><strong>44</strong></td>
</tr>
<tr>
<td>Ryegrass, Annual</td>
<td>1,584,740</td>
<td>39</td>
<td>1,175,982</td>
<td>8,820</td>
<td>13</td>
</tr>
<tr>
<td>Ryegrass, Perennial</td>
<td>594,906</td>
<td>15</td>
<td>728,273</td>
<td>5,506</td>
<td>8</td>
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<tr>
<td>Timothy</td>
<td>810,847</td>
<td>20</td>
<td>822,025</td>
<td>6,197</td>
<td>9</td>
</tr>
<tr>
<td>Wheatgrass, Slender</td>
<td>250,146</td>
<td>6</td>
<td>504,391</td>
<td>3,801</td>
<td>6</td>
</tr>
<tr>
<td>Wheatgrass, Crested</td>
<td>128,943</td>
<td>3</td>
<td>562,996</td>
<td>4,238</td>
<td>6</td>
</tr>
<tr>
<td>Wheatgrass, Intermediate</td>
<td>12,376</td>
<td>0.3</td>
<td>43,655</td>
<td>327</td>
<td>0.5</td>
</tr>
<tr>
<td>Bromegrass, Hybrid</td>
<td>246,441</td>
<td>6</td>
<td>593,399</td>
<td>4,464</td>
<td>6</td>
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<tr>
<td>Bromegrass, Meadow</td>
<td>117,718</td>
<td>3</td>
<td>227,440</td>
<td>1,706</td>
<td>2</td>
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<tr>
<td>Bromegrass, Smooth</td>
<td>9,497</td>
<td>0.2</td>
<td>20,937</td>
<td>187</td>
<td>0.2</td>
</tr>
<tr>
<td>Red Top</td>
<td>121,107</td>
<td>3</td>
<td>264,984</td>
<td>2,002</td>
<td>3</td>
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<tr>
<td>Fescue, Tall</td>
<td>100,974</td>
<td>3</td>
<td>163,312</td>
<td>1,172</td>
<td>2</td>
</tr>
<tr>
<td>Fescue, Meadow</td>
<td>31,992</td>
<td>1</td>
<td>31,992</td>
<td>240</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>TOTAL FORAGE GRASSES</strong></td>
<td><strong>3,979,687</strong></td>
<td><strong>100</strong></td>
<td><strong>5,139,587</strong></td>
<td><strong>38,631</strong></td>
<td><strong>56</strong></td>
</tr>
<tr>
<td><strong>GRAND TOTAL 2018/19</strong></td>
<td><strong>5,708,726</strong></td>
<td></td>
<td><strong>$9,146,184</strong></td>
<td><strong>$68,710</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
The Forage Seed Levy, 2006/7 to 2018/19

Figure 1: Value of forage seed deliveries reported to SFSDC, 2006/07 to 2018/19

Figure 2: Levy value by cropkind, 2006/07 to 2018/19

Producer $  
Producer Vote  
Producer Voice  
Attend the AGM or serve on the board of directors of SFSDC  
Help your organization meet quorum at the 2020 SFSDC AGM, January 14th, 2020, Prairieland Park, Saskatoon.

Thank you forage seed growers for supporting the check-off, & to the processors for reporting the transactions.
2019 Crop Year in Review

The 2019 growing season in north-east Saskatchewan was, in some ways, similar to 2018—a dry spring and wet fall that delayed harvest.

Establishing crops seeded in 2018 were aided by a wet fall followed by a winter with normal temperatures and precipitation. Although most fields had good establishment coming into the 2019 season, a dry and cool spring slowed the development of forage seed crops while some areas were impacted by drought.

Weeds in the driest areas were hard to control with herbicides and when rains did come in late spring, so did another flush of weeds. Late spring rains in the driest areas also resulted in a late flush of grass seed heads making stand maturity highly variable. Once the rains started they continued intermittently throughout the summer right up to the end of September.

Despite intermittent rains during the growing season, diseases were generally not a problem this year. Ergot was noticed in some bromegrass fields.

It was a typical year for insect infestations with the usual alfalfa weevil, lygus and alfalfa plant bugs affecting alfalfa. Lesser clover leaf weevil was generally not a concern this year in red clover. Grasshoppers were noticed in many forage seed crops but populations were usually below economic thresholds.

With delayed growth, swathing was delayed due to later maturity of grasses. Harvest of grasses was also delayed due to persistent rain after swathing, with some fields harvested at higher than ideal moisture content. Regrowth of grass through the swath, shelling and sprouting were noticed in some of these fields.

Seed harvest of alfalfa and clover was delayed due to late maturity and a wet fall as well. Unfortunately, some fields will have to wait until spring to be harvested. Seed yields of forage seed crops were highly variable this year but annual ryegrass and bromegrass were overall below average. Alfalfa, clover, timothy, fescue, and wheatgrass were average, and perennial ryegrass was above average.

Newly seeded fields in 2019 fared well once again this year due to adequate summer and fall rain. This coupled with good soil moisture conditions bodes well for next year.

The 2019 Crop Year: winter 2018 stubble moisture and looking ahead to 2020

The 2019 field crop report above and Les Henry’s annual stubble moisture map, reminds us that Mother Nature provides the water to grow our commercial crops of forage seed.

For producers in the main forage seed cropping districts, 8A &B and 9 A&B, the November 2018 stubble moisture map was an early indicator of 2 to 4 inches of available soil water.

Fields with sandy soils were wet to a depth of 24 to 48 inches, medium soils wet to 18–30 inches, and heavy soils were wet to a depth of about 12-24 inches. The majority of forage seed crops were likely in fields that would be part of the MOIST category, but for growers further south of a north-south line roughly drawn from North Battleford to the Melfort area, this was not the case.

The November 2018 edition of Henry’s stubble moisture map shows the transition to the DRY category and only 1 to 2 inches available water for crops and a large area of VERY DRY conditions with “essentially no moisture storage below 6 inches” (Les Henry, February 5/2019, GrainNews.ca, 22).

Les Henry reminds us that rain in each local area can change the situation and indeed it did in 2019. For some, the rains came at the right time, while others were not so fortunate.

The most recent precipitation map for Saskatchewan (Figure 3) is available in the Saskatchewan Government’s Final Crop Report - November 12 to 18, 2019, and available for download at

Figure 3: Cumulative precipitation going into winter 2019/20.
Source: Sask Govt Final Crop Report, Nov. 12 to 18th, 2019
The 2019 (non-field) Field Day, July 25th, 2019

The annual forage seed field tour and barbecue were held at the Agriculture and Agri-Food Canada (AAFC) Research Farm near Melfort, SK, on July 28th, 2019. The SFSDC, the Northeast Agriculture Research Foundation (NARF), and AAFC-Melfort hosted the event.

SFSDC invests a significant portion of the forage funds supporting field research on the grass and legume type forages grown for seed production. In 2019, these activities focused on minor use herbicides, fertility, and plant growth regulators, integrated pest management strategies for red clover production, including entomology work on lesser clover leaf weevil.

Plans were to showcase the forage plots described in the Spring 2019 edition of the Prairie Seeds Newsletter (available on the SFSDC website @ skforageseeddc.com). Researchers with projects funded by SFSDC prepared presentations in anticipation of talking with producers in the field; the field tour route was planned; signs posted in anticipation of the visitors, and the noon meal was arranged by the NARF staff. However, Mother Nature had a different idea and when the clouds started building; the winds came up, and the rains began. Touring the field plots was no longer an option. Fortunately, Jessica and the NARF and AAFC staff adapted quickly and our invited speakers had prepared a slide deck of their research just in case we were not able to get to the fields. The 2019 SFSDC event thus became a non-field-day field.

The researchers presented background information on the methods they use in their research, and the results of their work. For more information, see the Summer 2019 Issue of the Forage Seed News prepared by the Manitoba Forage Seed Commission and distributed to all Saskatchewan forage seed producers who contribute to the levy collected by SFSDC.

Breeding new sainfoin lines are also part of the portfolio of breeding projects by Dr. Biligetu and co-researchers, Drs. Bruce Coulman and Yong-Bi Fu (AAFC). This project is co-funded by SFSDC and ADF. Sainfoin is a minor legume in Canada.

Saskatchewan forage seed producers delivered approximately 123,000 kg of seed in 2005/6 to 2011/12 and 2015/16. Seed deliveries are worth a total value of $215,545, and levy contributions to date from sainfoin are $1,617.

The varieties Melrose (1969), Nova (1980) and AAC Mountainview (2013) are available, however, Dr. Biligetu reported there is limited germplasm available for breeding and as part of the research done by S. Bhattarai, B. Coulman, Y-Bu Fu, A. Beattie, and B. Biligetu, 38 accessions were sourced from around the world and characterized for winter survival, dry matter yield, regrowth, spring vigor, days to flower, stem number and seed yield. In total, three breeding lines have been identified and seeded in replicated plots in Saskatoon in 2018 and 2019 with additional lines expected in 2019/2021. During a visit to the 2019 sainfoin nursery in Saskatoon, it was easy to see how sainfoin is an attractive pollen source for many honey and bumble bees as well as alfalfa leafcutter bees.
SFSDC and the provincial government are supporting the development of methods to accelerate plant breeding in forage grasses. Dr. Alison Ferrie and her team from the National Research Council (NRC) are considered experts in developing and refining laboratory protocols for microspore culture and doubled haploid production. With success developing DH protocols for over 20 crops, Dr. Ferrie and her team are taking on the challenge of doing so in forage grasses (crested wheatgrass, hybrid brome, and meadow brome).

**DOUBLED HAPLOIDY**

**By Alison Ferrie**

Haploidy techniques are very powerful breeding tools in the improvement of crops. Microspores (immature pollen grains) when cultured under sterile conditions will produce embryos that can be regenerated into plants. Treatment of haploid plants with colchicine will double the chromosome number to produce homozygous, pure breeding lines. The main advantage of using haploid plant production technology in a breeding program is to shorten the breeding cycle by three to four years. Microspore and anther culture techniques that have been used to generate haploid and double haploid plants in many species. These techniques are being used in many breeding institutions to develop varieties and advanced breeding lines.

The current project is building on our previous experience and knowledge of doubled haploidy in a wide range of species. Different species require different microspore culture protocols but there may be similarities between the methods. Our objective is to develop a reliable, efficient microspore culture protocol for generating double haploid plants in selected forage grass species. Doubled haploid plants generated from this project will be evaluated in the forage breeding program, U of S.

Dr. Ferrie will be presenting preliminary results of the 4-year ADF project at the SFSDC Grower Information Session, January 14th, 2020.

Jessica and her team also planted annual ryegrass field plots with the objective to improve production through fertility management and the use of plant growth regulators (PGRs).

The first experiment consisted of four different rates of Nitrogen application (0, 50, 100, 125 kg N/ha) in combination with PGRs Manipulator and Parlay. The PGRs were applied July 16th and data had not yet been collected on tolerance, plant height or lodging.

The second experiment evaluated herbicides applied on seedling annual ryegrass. Prestige, Pixxao, Paradigm, Cipreme, and Puma Advance were applied on July 8th at 1X and 2X rates and compared to untreated control. Jessica reported the problem weeds were wild oats, volunteer canola, and Canada thistle, and few grassy weeds. As of July 28th, there were indications of tolerance issues at 2X rates, but the injury was minor with less than 5% damage overall.

Other projects at NARF were herbicide screening of Viper ADV + Assure II in red and alsike clover. Some tolerance issues were observed midseason with damage noted in red clover using the 2X rate.

Jessica will be leaving NARF and SFSDC thanks Jessica for her interest in forage seed production and dedication to research supporting minor use herbicide data collection, plant growth regulators, entomology, and fertility studies. Brianne McInnes will be presenting the results of the forage research projects initiated by Jessica.
Feature Crop: Red Clover Research Update

Red clover is the dominant species grown and sold by forage seed producers in Saskatchewan. Figure 4 (sidebar) illustrates the production from 2006/7 to 2018/19, particularly the variability in the total value of seed deliveries and the downward trend in the number of registered producers.

SFSDC has invested levy dollars and contracted researchers to improve the productivity of red clover grown for seed. One of the largest projects to date for SFSDC is being done in partnership with the government of Saskatchewan as co-funder, and the University of Saskatchewan team of entomology researchers. Graduate student Dan Malamura, supervised by Dr. Sean Praeger, and Dr. Bill Biligetu, has made several presentations on this research to SFSDC at field days and grower information sessions and available in Prairie Seeds Newsletters 2018 & 2019.

The lesser clover leaf weevils (LCLW) was found in red clover fields in the Nipawin area in 1985 and in 1986, crop surveys reported many fields were ploughed under due to severe damage. Several insecticides have been evaluated by researchers supported by ADF and while we have a greater understanding of the insect’s life cycle, no satisfying method of control has been found to date. There is one registered active ingredient, deltamethrin, and two products, Decis and Poleci. With repeated use, there is a risk that resistance to this active ingredient will develop. The insecticide is also toxic to the natural pollinators.

The research team is focusing on integrated management approaches for controlling LCLW and its effects on pollinator communities in red clover seed production. Decis and an alternative pesticide, Exirel (active ingredient cytraniliprole), were tested in replicated trials at six locations in first and second-year red clover crops located in northeast Saskatchewan.

The researchers have found that the insecticide treatments of Decis and Exirel have the potential to control LCLW pressure, however, the effects are not evident immediately after application. Yield did not differ among treatments.

There are several advantages to planting red clover, including its ability to improve soil health by increasing soil organic matter, and fixing nitrogen. The researcher team is investigating optimal seeding rates (0.5, 2.5, 4.5, 6.5, 8.5, and 10.5 kg/ha) for N fixation and seed production.

Seed yield data from the replicated field plots at Clavet and Melfort was measured in 2019. Data is being analyzed and the 15N isotope dilution method was used to estimate the N fixation rate of red clover. Attend our 2020 Grower Information Session and hear more results on integrated management in red clover.

Thank you Dan & Sean for your efforts towards improving the productivity of red clover seed production and advancing our understanding of the effect of pesticides on natural pollinators.
4R Nutrient Stewardship in Forage Seed Production
By Charlotte Ward, MSc, PAg, Agri-Environmental Specialist, Yorkton
and Kim Stonehouse, MSc, PAg, Crops Extension Specialist, Tisdale

It is widely accepted that on the Canadian prairies, forage seed crops are often deficient in nitrogen and phosphorus; however, depending on location, crop, soil characteristics and environmental conditions, potassium and sulfur may also be added to the list of nutrients to be supplemented. Depending on the type of forage seed crop, an annual application of fertilizer may be required. In the case of perennial fields, there may be a need for increased loading at the establishments for certain nutrients which are less mobile or are not at risk of volatilization. One or more of these four major nutrients may be limiting for optimum forage seed production.

There is limited knowledge around nutrients that are required in smaller quantities (micronutrients) for forage seed production. But, in terms of the macronutrients (NPKS) and their role in forage seed production, the library of production information is growing. The type, rate, timing and placement of these nutrients will not only impact production potential but can also affect the overall efficiency of fertilizer application.

When developing a fertility plan for forage seed crops, soil testing is a critical piece of the puzzle to benchmark and monitor soil nutrient levels during production or as management practices change. Soil testing can help direct application rates to ensure that crops receive adequate nutrition to reach their genetic potential and can reduce fertilizer costs.

Soil testing saves money in the long term as nutrients are applied only when and where they are needed. It also ensures management decisions can be made to ensure that the crop is healthy and has all the nutrients needed to deal with moisture, disease, pests or even problems such as lodging. Therefore, soil testing is a practice that fits well into a 4R Nutrient Stewardship program.

Agronomists are including 4R Nutrient Stewardship as part of the production package for most of the major crops that are grown. 4R Nutrient Stewardship uses scientifically proven beneficial management practices (BMP) to improve crop yield and increase economic return, while minimizing any potential negative impacts of nutrient application.

4R Nutrient Stewardship addresses soil and weather concerns to minimize crops losing nutrients after application. The 4Rs stand for the Right Source at the Right Rate at the Right Time in the Right Place. All 4Rs must be addressed to achieve the most efficient use of fertilizer.

The right source is the product that is most readily available to the crop, in sufficient quantities, where and when the plants need it. The right source also refers to a product that contains the nutrients in which the plants will be deficient if nutrients were not supplied.

The right rate is the amount of nutrients the plants require to achieve an expected yield without over- or under-supply. Soil type, organic matter, precipitation, growing degree days and residual nutrients, as determined from soil tests, will all combine to determine the right rate.

Applying nutrients at the right time (i.e. close to the time when the plants will use them) and in the right place where they will resist loss (i.e. within the soil) will help ensure maximum fertilizer efficiency.

4R Nutrient Stewardship starts with soil testing. The intensity of soil testing can vary from farm to farm. More producers are working with agronomists to develop soil maps of their fields. These maps can be used with modern farming equipment to integrate variable rate applications of inputs such as fertilizer on their farms.

Within the Canadian Agricultural Partnership, the Farm Stewardship Program provides Saskatchewan producers funding to implement BMPs in three priority areas – water, climate change and biodiversity. One of the BMPs eligible for funding is the Variable Rate Mapping BMP. This assists producers to obtain zone maps for variable rate fertilizer and variable rate irrigation application.

This rebate BMP funds one-time consulting services and the associated costs for purposes of creating zone maps for variable rate fertilizer and variable rate irrigation application at 30 per cent of the total cost to a maximum of $2,000 over the life of the Canadian Agricultural Partnership program. The maximum eligible cost for variable rate mapping is $8 per acre.

Eligible producers must have an Environmental Farm Plan Certificate or other sustainability initiative, such as Verified Beef Production Plus, 4R Nutrient Stewardship or an International Sustainability and Carbon Certificate. For more details on who is eligible, please visit the Farm Stewardship Program webpage.

For more information on 4R Nutrient Stewardship or the Farm Stewardship Program, please contact your nearby Saskatchewan Agriculture Regional Office; or call the Agriculture Knowledge Centre at 1-866-457-2377.
Executive Director’s Report

By Jo-Anne Relf-Eckstein

Greetings!

Thank you to our growers who contribute their levy to the Commission and all the organizations in the industry who support our efforts. SFSDC is grateful for your continued support. We recognize that as profit margins tighten, contributing a levy to the Commission is sometimes a hard choice for producers.

I have worked for the Commission for eight months and I appreciate the opportunity to be involved and being a part of what I describe as the ‘culture’ of forage seed researchers, industry, government, and forage seed organizations in Manitoba and Alberta. Everywhere I went, every call I made, people in this industry were friendly, open, and willing to answer my questions. Thank you! I look forward to meeting many producers in the next year.

For the 2020 Grower Information Session and Annual General Meeting, SFSDC has put together a diversity of speakers.

James Silcox, Chair SFSDC and forage seed producer from Carrot River, will start things off, providing an excellent opportunity for input into the activities of the Commission.

The first and last set of speakers frame two core areas where SFSDC has the authority to operate – research and development, and market development and promotion. The first speaker is Dr. Joseph Robbins who works as a research scientist developing forage seed varieties. As Dr. Robins explained in a recent conversation, the development of new competitive varieties of forages is a challenge for a plant breeder. Not only do you have to breed for seed (yield and quality), but also biomass and improved nutritional value for livestock – nearly physiological opposites for a plant. Add to this that the majority of forage seed species are perennial – having three to four generations per year is not an option for forage breeders to accelerate their programs as in other cropkinds. This is indeed a tall order for improving species that fall into the minor crop status, with many having relatively small markets for seed and/or pesticide sales.

Nearly every producer attending commodity group AGMs or Information Sessions wants to know about markets. This year, our last set of speakers for the day fits this bill.

SFSDC is pleased to announce that a forage seed production specialist from one of the world’s largest forage seed companies, DLF Pickseed, will be live-streamed to our meeting. Anders Moldrup, from the main research farm in Denmark, will start our final session of the day, and our local government forages resource person, Mr. Terry Kowalchuk, will be our last speaker and will discuss the current forage seed market trends and prices.

In between the two State of the Industry sessions, local researchers, contractors and a speaker from the Saskatchewan Ministry of Agriculture will provide an update on current research projects and programs. The speaker line-up is detailed Page 3.

The Annual General Meeting will be held from 10:45 to 11:15, January 14th, 2020, Hall A of Prairieland Park complex (the area closest to the Ruth Street Entrance). Hall A is chosen specifically for our 2020 event. Those who wish to attend do NOT have to pay admission to the Crop Production Show and parking is free!

Help us make the best use of the levy dollars SFSDC collects and administers on behalf of Saskatchewan forage seed producers. Register on-line, or at the door, listen to the presentations and meet other forage seed producers, university researchers, other producer organizations, government, and forage seed industry representatives.

We want to hear from you!

The financial information presented in this issue of Prairie Seeds is intended to impart the following:

1. SFSDC is a producer-financed and producer-directed not-for-profit organization. Producer financial and democratic participation is critical to sustaining its purpose to support forage seed producers in Saskatchewan – your dollars – your vote – your voice.

2. The sale of forage seed brings tremendous value to the province, but there is much work to do as an industry. Be part of identifying areas in need of research and/or market development.

3. Forage seed crops offer a crop diversification alternative. They improve soil health and are a food source for natural pollinators. While many forage seed producers know this, the industry has great opportunity to work together and demonstrate the value chain of forage seed crops - from seed to feed.

4. SFSDC is using the producer levy to invest where the Board of Directors believes will improve seed yield and quality of forage seed crops. A major portion of your levy is supporting the gathering of data for label expansion of minor use pesticides, and we support the breeding program in their efforts to develop adapted species. What are other farm level needs and problems?

On behalf of SFSDC,
best wishes for a prosperous 2020.

Jo-Anne Relf-Eckstein
Upcoming events

Saskatchewan Ag Grads Social - College of Agriculture & Bioresources
January 10

Saskatchewan Ag Grads Reunion Banquet & Program - TCU Place
January 11

Saskatchewan Ag Grads Hockey Tournament – Waldheim Rec Centre
January 11

Canaryseed Development Commission of Saskatchewan – Prairieland Park, Hall A
January 13

Saskatchewan Winter Cereals Development Commission – Prairieland Park, Hall E
January 13

Saskatchewan Wheat Development Commission AGM – TCU Place
January 13

Saskatchewan barley Development Commission AGM – TCU Place
January 13

Saskatchewan Flax Development Commission AGM - TCU Place
January 13

Saskatchewan Pulse Growers AGM – TCU Place
January 13

CropSphere – TCU Place
January 14 & 15

Saskatchewan Forage Seed Development Commission – Prairieland Park, Hall A
January 14

Saskatchewan Oat Development Commission AGM – TCU Place
January 14

Saskatchewan Canola Development Commission AGM – TCU Place
January 14

Saskatchewan Seed Growers Association – Saskatoon Inn
January 15 & 16

Saskatchewan Mustard Development Commission – Prairieland Park, Hall A
January 16

AgriARM Research Update – Prairieland Park, Hall A
January 16

Saskatchewan Alfalfa Seed & Leafcutter Bee Conference & AGMs, Delta Hotel
January 16 & 17

Details available at www.cropweek.com

OTHER EVENTS

Manitoba Forage Seed Conference, Victoria Inn, Winnipeg
January 16 & 17

Saskatchewan Beef Industry Conference, Saskatoon Inn
Jan. 30 to Feb. 1

Saskatchewan Soil Conservation Association Conference, Western Development Museum, Saskatoon
February 6

Canadian Forage Seed Conference, Edmonton, Alberta
February 25 & 26

Mark your calendars for a visit to Edmonton and attend the first Canadian Forage Seed Conference since 2006!

The conference will be hosted at Fantasyland Hotel which is situated in the West Edmonton Mall. Registration $250/person. The conference will begin with registration and breakfast at 8 AM Tuesday, February 25th, and end about 3 PM, Wednesday, February 26th. Highlights include International Market Report - Turf Grasses & Forage Legumes, Seed Yield & Seed Shattering with Different Swathers, Remote Sensing for Pest Management, Perennial Ryegrass Production Systems, Prairie Pesticide Minor Use Consortium update, Crop Protection Options, Cover Crops, Carbon Sequestration, Legume Inoculants, as well as featured Saskatchewan forage seed researchers. Contact coordinator@peaceforageseed.ca or phone 1 877 630 2198,

Conference agenda updates: http://www.peaceforageseed.ca/fsconference/index.html