



South Saskatchewan River Watershed AEGP

April 2015

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Contact Us Today!

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Variable Rate Treatments: Good for the Producer, Good for the Environment

Written by: John Ippolito, Regional Crop Specialist

More and more Western Canadian producers are adopting precision agriculture practices. With the use of a global positioning system (GPS) to track the location of equipment in the field, producers can apply the necessary input – such as fertilizer – in the precise amount needed and only where it is needed. This has potential benefits for the producer's bottom line as well as for the environment.

Making variable rate fertilizer applications can be complicated in that there are a number of factors and methods involved. Two of the essential elements in the process are: 1) identifying fields that have significant nutrient variability; and 2) determining what you hope to achieve by variable rate applications on those fields. Generally producers wish to increase or decrease input use with the goal of increasing yield and ultimately improving their profit margin. However as variable rate technology advances and our understanding about the science behind it increases, benefits such as reduced crop lodging, even maturity, decreasing disease pressure, and managing protein levels may be achieved.

Nutrient variability can be due to topography, soil texture, salinity or previous management practices. Different methods – such as soil conductivity maps, satellite images of vegetation and topographic maps – can be used to record the variations within the fields. This information is then used as the basis for developing management zones that require different treatments.

After making a variable rate fertilizer application, it is essential to record the cost of the treatments and the resulting crop yield in order to evaluate whether there is a net benefit to using these management practices in future years. Compare the results in each management zone against a check or constant rate that normally would have been used in that zone. By using this method, you can evaluate the results of the treatment in the management zones to determine if you have met your objectives. A learning curve can be expected when implementing new practices or technology on farm. It is therefore recommended a producer start with a manageable portion of land to minimize the effect of a potential unforeseen or disappointing result.

Under the **Farm Stewardship Program** there is funding available for 30% of eligible costs to a maximum of \$5000 for Variable Rate Fertilizer Equipment. Contact your AEGP technician for details.



Photo Credit: Ryan Scragg

Recycling Agricultural Materials

Grain Bag and Twine Collection Sites:

Unity- 306-228-2893

Humbolt- 306-682-1955

Rush Lake- 306-784-3121

Cudworth- 306-682-1955

Prince Albert- 306-960-5299

Saskatoon- 306-933-2343

Used Oil Recycling, Batteries and Household Waste:

www.saskwastereduction.ca

Pesticides & Vet Supplies:

Clean Farms picks up obsolete or unwanted pesticides and certain vet supplies every 3 years at designated local retailers. Sites vary depending on the year.

Empty Pesticide and Fertilizer Containers:

For collection site locations visit www.cleanfarms.ca

Growing Forward 2



A federal-provincial-territorial initiative



South Sask River Watershed Stewards



Government of Saskatchewan

Canada

Upcoming Events

Leader Weed Tour

June 16, 2015

Elbow Weed Tour

June 22, 2015

Blaine Lake Weed Tour

July 7, 2015

Birch Hills Weed Tour

July 8, 2015

CDISC Field Day Outlook

July 9, 2015

Native Prairie Appreciation Week (NPAW) Tour

June 18 & 19, 2015

Prince Albert, SK

www.pcap-sk.org

Saskatchewan Pasture Tour

August 6, 2015

Earl Grey, SK

www.saskforage.ca

MoA Events

www.agriculture.gov.sk.ca/

Calendar

Resources

Is Your Water Safe?

To test water quality for drinking or livestock contact your RM office or Regional Health Office

For More Information Visit:

www.saskatchewan.ca

Search Water Testing

Phone: 306-787-7138

Rural Water Quality Information Tool

On-line tool assesses the quality and suitability of raw water sources for privately owned and operated water supplies.

<http://www.agric.gov.ab.ca/app84/rwqit>

Forage Seeding in Saline Soils

Written By: John Hauer PAg Regional Forage Specialist, Ministry of Agriculture

Over the last few seasons you may have noticed your saline sloughs expanding. With the wetter than normal seasons the past few years your 1-2 acres saline patch has increased to 5-10 acres or worse. Seeding this saline patch to a forage mix is one way to stop the spread of this salinity.

Saline soils are soils that contain high concentrations of soluble salts such as: sodium sulphate, magnesium sulphate, calcium sulphate, sodium chloride (table salt). These salts, when present in high concentrations, limit or prevent plant growth of crops and forages. In extreme concentrations a white crust forms on the soil surface and nothing grows.

Saline soils are formed by the movement of excess moisture through the soil into groundwater. The ground water will dissolve salts in the soil profile in low concentrations and will travel down until it reaches a layer it cannot pass through. The groundwater will then travel laterally until it comes close (within 1.5 m) to the soil surface where it is wicked back to the soil surface by capillary action. The water then evaporates away and the salt is left. If this happens repeatedly the salts become concentrated and a saline patch is formed.

Salinity can be controlled by planting perennial forages that can help to lower the existing groundwater levels. This allows the salts to be flushed down lower in the rooting zone. Forages also provide ground cover and shading to help reduce evaporation of water at the soil surface, thereby reducing the capillary rise of salty water compared with bare soil areas.

The forage species chosen to control salinity will depend on several factors. One factor is the severity of the salinity. Some forage species tolerate high levels of saline salt better than others. Another factor is the planned use of the forage such as hay, grazing or idling for wildlife. Some forage species are more palatable than others. Another factor to consider is whether this saline area is prone to flooding. Some forage species tolerate flooding better than others. Consult your local Regional Forage Specialist to get the best forage mix to seed into your saline area.

Under the Farm Stewardship Program there is 50% funding for Protecting High Risk Erodable and Saline Soils, to a maximum of \$10,000 for eligible producers and projects. Contact your AEGP technician for details.



Photo Credit: John Hauer

A Significant Threat to Native Prairie

Reprinted from Beef Business magazine's Sept 2014

Invasive plant species are non-native plants introduced outside of their natural habitats. In this new environment, free from their natural 'enemies', they have an advantage that allows them to out-compete native plants for space, moisture and nutrients. On native rangeland, invasive species pose a significant threat to grassland biodiversity, and are often extremely difficult to remove once they're established. Examples of invasive species found in Saskatchewan native grassland include weeds such as leafy spurge, common tansy, burdock and downy brome, as well as introduced agronomic grass species such as crested wheatgrass and smooth brome grass.

Many of the invasive species we battle today first appeared in Canada's grasslands as early as the mid-19th century, when European settlers began importing seeds - both deliberately for agricultural use and accidentally through contamination by weed seeds. Unfortunately, some of these imported seeds have become invaders of native grassland, due to their aggressive growth habits and lack of natural predators. Other routes of entry for invasive species have come more recently and include grassland recreation, such as camping, hiking, and motorized vehicles, all of which can contribute to the inadvertent spread of invasive seeds.

As cattle producers, we get upset when invasive species show up in our grasslands as we know their spread reduces the carrying capacity and forage quality of pastures and thus impacts our bottom line. There is also the associated cost of controlling these weeds, both in terms of management time and potentially expensive control methods. But did you also know that the spread of invasive species can have a negative impact on biodiversity and on the habitat for many native prairie species?

Invasive species move into native rangeland and can alter the plant community and structure of native prairie, upsetting the fine balance in these ecosystems and reducing their ability to function to their potential. In areas of native rangeland where species at risk may be present, invasive species can be devastating to populations of plants or animals that are already under stress.

A recent, extreme example was taking place in an Environmental Reserve near Medicine Hat where protected, critical habitat for an endangered plant, Tiny Cryptanthe (*Cryptantha minima*), was becoming dominated by the invasive plant baby's breath (*Gypsophila paniculata*). A project in May of 2014 saw cooperators come on to the site where they removed nearly 22,000 baby's breath plants in a massive effort to control this highly invasive weed. The intent will be to continue monitoring the site to locate and remove weeds as well as gauge the impact on Tiny Cryptanthe and other native plants.



Tiny Cryptanthe (*Cryoatantha minima*)
Photo Credit: Candace Elchuk ©
Environment Canada

So what can land managers do to reduce the impact of invasive species? The most effective, economical, and ecologically sound approach to managing invasive plants is to prevent them from invading in the first place. Land managers often concentrate on fighting well-established infestations, at which point management is expensive and eradication is unlikely. Infestations

must be managed to limit the spread of invasive plants, but weed management that controls existing infestations while focusing on prevention and early detection of new invasions can be far more cost-effective.

Under the Invasive Plant Control Program administered by SARM, there is funding available to assist rural municipalities and private land owners control Prohibited Weeds and certain Noxious Weeds.

The **South Saskatchewan River Agri-Environmental Group Plan** is a producer based group dedicated to raising watershed awareness among local area farmers and ranchers. Producers within the boundaries of the South Sask River Watershed are able to access the

Canada-Saskatchewan Farm Stewardship Program.

The CSFSP provides **cost-shared funding** to encourage the implementation of **Beneficial Management Practices**. The BMPs help address issues of water quality, nutrient management and soil erosion within the watershed.



Website Links

South Saskatchewan River Watershed Stewards
www.southsaskriverstewards.ca

Ministry of Agriculture Webinars
www.agriculture.gov.sk.ca/Webinars

Water Security Agency
www.wsask.ca

Saskatchewan Forage Council
www.saskforage.ca

Sask Invasive Species Council
www.saskinvasives.ca

Prairie Conservation Action Plan (PCAP) www.pcap-sk.org

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We can direct you to technical support and help with applications for the **Farm Stewardship Program, the Farm & Ranch Water Infrastructure Program, and the Invasive Plant Control Program.**

**CONTACT US
TODAY!**

**Environmental
Farm Plans on-line
April 1, 2015**

Farm Stewardship Program

Beneficial Management Practice	Funding Level	Pre-Approval/ Rebate
Livestock Site Management		
Relocation of Livestock Confinement*	60% to \$50,000	Pre-Approval
Fencing to Protect Surface Water*	50% to \$10,000	Rebate
Farmyard Runoff Control*	50% to \$30,000	Pre-Approval
Riparian Area Grazing Management and Fencing*	50% to \$10,000	Pre-Approval
Native Rangeland Grazing Management and Fencing*	50% to \$10,000	Pre-Approval
Carcass Disposal Planning	75% to \$30,000	Pre-Approval
Manure Management		
Manure Storage Enhancements	30% to \$50,000	Pre-Approval
Manure Application Equipment and Technologies	30% to \$30,000	Rebate
Land Management		
Natural Waterway Erosion Control*	75% to \$30,000	Pre-Approval
Creek and Stream Crossing*	50% to \$20,000	Pre-Approval
Native Plant Establishment*	75% to \$10,000	Pre-Approval
Protecting High Risk Erodible and Saline Soils*	50% to \$10,000	Rebate
Shelterbelt Establishment	\$1200/mile to \$5,000	Rebate
Water Flow and Erosion Control*	50% to \$20,000	Pre-Approval
Weather Data Collection & Monitoring	50% to \$1,000	Rebate
Irrigation Management		
Irrigation Management Planning	50% to \$2,000	Rebate
Irrigation Equipment Modification	30% to \$50,000	Pre-Approval
Variable Rate Irrigation Technology	30% to \$15,000	Pre-Approval
Precision Farming		
Variable Rate Fertilizer Equipment	30% to \$5,000	Rebate
Variable Rate Mapping	30% to \$2,000	Rebate
Agricultural Wastes		
Used Oil Storage	50% to \$2,000	Rebate
Plastic Grain Bag Roller	50% to \$5,000	Rebate
Environmental Solutions		
Environmental Solutions	20-50% of \$50,000	Pre-Approval

***Available through AEGP without EFP, all BMPs available with an EFP**
There is a Multi-Producer Erosion Control BMP. Contact AEGP tech for details.