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# agronomy newsletter

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Pioneer Co-op

Issue 1 December 2016

## upcoming events



### **Book your Inoculant today!**

**Jan 9–12: Crop Production Show**

– Saskatoon, SK

**Feb 1: Regional Pulse Meeting**

– Stockade Building, Swift Current

**Mar 14: Croportunities**

– Sky Centre, Swift Current

Cabri.....	306-587-2555
Frontier.....	306-296-2055
Gull Lake.....	306-672-4105
Herbert.....	306-784-7723
Kyle.....	306-375-2303
Maple Creek.....	306-661-7757
Morse.....	306-629-3340
Ponteix.....	306-625-3252
Sceptre.....	306-623-4224
Stewart Valley.....	306-778-5342
Swift Current.....	306-778-8705

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# CHRISTMAS EDITION

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## **Lentil Fertility Considerations**

There were a wide range of results reported by lentil growers around the South West in 2016. It is important that we re-visit which nutrients are needed to give your lentils the best chance of being productive for the 2017 growing season.

Lentils require more nitrogen than most people think. According to the Sask Pulse Growers the standard 30bu/acre lentil crop takes up 90lbs of Nitrogen per acre. A standard rate of 40lbs/acre of Monoammonium phosphate (11-52-0-0) provides only 4.4lbs out of the 90lbs taken up. This is where proper inoculation becomes important so the lentil can fix the rest of the nitrogen it requires.

Phosphorus deficiencies can lead to delayed germination, slowed emergence and overall stunted plants. Application of phosphorus fertilizer in the seed row, up to the maximum recommended safe rate of 20lbs of P<sub>2</sub>O<sub>5</sub>/acre, is useful at providing start up phosphorus to the plants until the root develops.

Potassium is another important nutrient in lentil production. It can help to improve the standability and disease/stress resistance of lentils by increasing cell wall thickness. Fortunately, in Saskatchewan, soils are naturally rich in potassium, but with the high grain yields being removed annually it is something to keep a close eye on. Ensure that your phosphorus and potassium combined don't exceed 20lbs/acre placed with the seed.

Zinc improves pollination, seed formation, and seed growth. It can be applied at seeding as ZnSO<sub>4</sub> fertilizer or sprayed on as a nutrient booster at herbicide or fungicide timing. Beware, zinc based nutrients will kill rhizobia if applied on seed along with the seed applied inoculant.

Understanding the history of your field and its current nutrient status helps make these fertility decisions accurate, and prevents you from over-spending or under applying fertilizer. The best way to eliminate the guessing is through soil sampling, which we will be offering all winter thanks to our new technique. Please inquire for more details.

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## **The Role of Crop Nutrition in Disease and Pest Management**

Consider this, fertilizer as medicine. Growers use pesticides to control plant diseases but need to be aware of the importance of mineral nutrition in disease management. Each nutrient has specific functions in plants and a deficiency impairs healthy plant growth. Plants under nutrient stress are more susceptible to diseases while the opposite is true with adequate crop nutrition. While proper fertilization does not eliminate these risks, it provides an important degree of protection against yield robbing factors.

Plants are surrounded by numerous enemies and cannot just pick up and flee so they must protect themselves in other ways. The outer waxy layer on leaves provides a barrier to bacterial and fungal entry. In addition, a group of plant compounds known as secondary metabolites protect against pathogenic microbes. One common defense is the cells that surround the infection site rapidly die, depriving the pathogen of nutrients and preventing its spread. Another defense response is the formation of enzymes that attack the cell walls of the invader. Without the proper crop nutrition these defense systems are unable to operate at full capacity. Talk to your local Pioneer Co-op Agrologist to discuss the nutritional needs for the different crops on your farm.

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## **Seed and Seed Treatment**

The growing conditions in 2016 were favourable for high levels of seed borne disease, because of this it is extremely important to have your seed tested. Seed test results provide accurate levels of disease present in and on the seed. The seed lot may also be tested with your preferred seed treatment to see how much that product can reduce the various diseases. However, bear in mind that the seed lab is providing complete coverage and the exact rate of seed treatment onto that sample. On the farm, how well your seed gets covered with product depends on a variety of factors such as the seed treating system used and the rate of seed going through the seed treating equipment.

There are a number of different seed treaters on the market ranging in price. You can make nearly every system work, but patience and close monitoring is required by the operator. The most important aspect of seed treating is to achieve complete seed coverage. All seed treatments on the market are water based, therefore it is possible to add water to help with coverage. The time is well worth it to get your crop off to the best possible start!



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Do YOU have a question you'd like our Agrologists to answer? Call the Agronomy Centre and let us know!

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