**LUARS is testing Borage, new Sulphur fertilizers, PGRs and EcoTea!**

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LUARS has often taken a lead in testing new crops/and products. LUARS was the first one in Ontario to initiate experiments on ESN in field crops in 2006 and test new crops such as Galega. This year, we are testing a new crop Borage and two new sulphur (S) fertilizers (MAP + MST and SymTRXTM 10S) on canola, which has a reasonably high demand for sulphur.

Borage (Borago officinalis L.) is a low input annual crop seeded in spring, has its origin in Syria and grows ~2 feet tall. It has star-shaped sapphire and pink flowers that bees love. It is also known as Starflower and Herb of Gladness for its exhilarating effect. Borage requires well drained soils with a pH from 6 to 8 and is drought sensitive. It takes 80 to 100 days for a single harvest; it is recommended to swath when the most mature pods begin to shed and combine 7 to 10 days later. It is grown for its flowers or seeds. The seeds contain the highest plant source of gamma-linolenic acid (GLA), which is used as an anti-inflammatory in natural health products. Temperate climates and cool temperatures increase GLA production which could increase the quality of crop grown in Northwestern Ontario’s climate. Its chopped leaves and flowers could be added to summer drinks or salads. The borage oil market is projected to grow at a rate of 4.4% in North America due to its increased use in cosmetics and natural products and is expected to reach 61.1 million USD worldwide by 2027. Ontario farmers has an opportunity to take advantage of its increasing demand in the natural health product sector. We are seeding Borage on different dates and seed rates to optimize its time of seeding and seed rate.

MAP + MST (9-43-0-16): MST stands for microionized sulphur technology. It has elemental S in 15 micron size on an average; smaller the particle size greater the surface area which would help in relatively speedy conversion of elemental S to sulphate form in which the crop plants take up S from soil. Since it is a blend of MAP and microionized elemental S, each granule of the fertilizer has S in it. It is slow release and ensures S availability throughout the growing season. It is also safe for seeds/seedlings, handling and storage.

SymTRXTM 10S (14-24-0-10): It is a bio based fertilizer product from Aluvia Plant Nutrients USA, which has an agreement with The Mosaic Company to market it under their brand name SusterraTM. The company claims that their product, built with up to 15% recycled organic matter, is optimized for the efficient delivery of nutrients — with immediate nitrogen availability for early season growth and slow-release nitrogen for late season needs, and promotes microbial activity in the soil, supporting a more balanced microbiome that is proven to improve overall soil health leading to more sustainable production. It is a high-quality, homogeneous, dry-granular product, that provides uniform nutrient distribution, blends easily with other fertilizers and is well-suited for use with existing application equipment.

We are comparing these two new S fertilizers with ammonium sulphate alone and in blends with ammonium sulphate at different rates of S in side by side experiments on canola. We are also comparing two Plant Growth Regulators (PGR) – Manipulator and Moddus in wheat and barley at 80 and 160 kg N/ha. In addition, we are also testing EcoTeaTM, which contains nutrients (nitrogen, calcium, magnesium, iron, zinc and copper) and microbes (Penicilium, Aspergillus, Trichoderma, Protozoa, Amoeba and Flageliate) in spring crops and 60 new varieties of spring cereals, canola, corn, soybean and flax! We will share results from these tests towards the year end.

*Can also be seen at: https://tbfarminfo.org/luars-is-testing-borage-new-sulphur-fertilizers-pgrs-and-ecotea/ and in Ontario Farmer, June 8, 2021, Page B10 with the heading ‘Lakehead University to test new crops, techniques’.*