K-Mag AGRI FACTS

Brought To You By IMC — Producers of Quality Crop Nutrients

K-Mag Will Increase Canola Yield, Quality

Like all oil-seed crops, canola needs large amounts of sulfur (S) for the highest yields and quality. Years of research have shown that plants can only absorb S through their root systems in the form of sulfate (SO_4). An excellent source of sulfate-S for canola is K-Mag, a unique, perfectly balanced combination of 21-22% S all in the sulfate form, potassium (20-22% K_2O), and magnesium (10-11% Mg). K-Mag is mined and processed by IMC near Carlsbad, New Mexico from the world's largest and purest deposits of langbeinite, a mineral composed of potassium sulfate and magnesium sulfate.

Canola, a crop producing oil and meal, has garnered much attention recently. This cool-season, oilseed crop has the lowest saturated fatty acid content of all the vegetable oils, and has enjoyed increasing demand as the public becomes more health conscious. The residual meal, which is used as animal feed, contains more than one-third crude protein. Canola oil is also being studied as a biodegradable lubricant and is the subject of speculation about possible use as a fuel. With all this going for it, canola is certainly a crop destined for expanded growing areas.

As interest in canola has grown, more and more research has been undertaken. Recent studies by North Dakota State University (NDSU) reveal just what sulfur fertilization can mean to canola. Table 1 shows growth and yield response of canola to S and nitrogen (N). Treatments with Urea and K-Mag produced about 500 lb/A more than Urea alone.

Table 1. Growth And Yield Response Of Canola To Sulfur And Nitrogen. Carrington, ND, USA

Nutrient Source	S lb/A	N lb/A	Test Weight lb/bu	Yield lb/A
Urea	0	120	50.3	2081
K-Mag+Urea	20	120	52.0	2497
K-Mag+Urea	40	120	51.8	2557

Averaged across all S treatments, a highly significant difference in grain test weight and yield emerged with the addition of 20 lb/A S (Table 2).

Table 2. Mean Response Of Canola To Sulfur. Carrington, ND, USA.

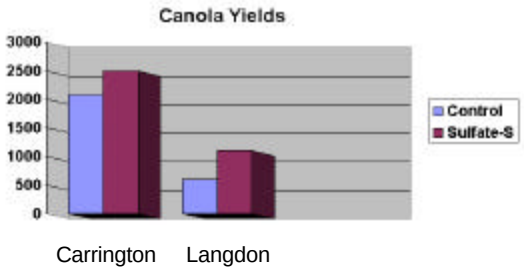
Sulfur Rate	Test Weight (lb/bu)	Yield (lb/A)
0	50.0	2038
20	51.7	2591
40	51.9	2560
Lsd 0.05	1.0	306

Note: Among treatments, there was no difference between 120 and 220 lb/A N rates.

Similar studies carried out at Langdon, ND, yielded comparable results (Table 3).

Table 3. Growth And Yield Response Of Canola To Sulfur And Nitrogen. Langdon, ND, USA.

Nutrient Source	S lb/A	N lb/A	Yield lb/A
Control	0	0	604
Urea	0	35	548
K-Mag + Urea	20	35	1017
K-Mag + Urea	40	35	1094



Summary

- Average yield increases due to sulfur at the two sites was 444 lb/A. That increased gross income by $44.45/A on an investment of $12.50/A.

- Sulfate sulfur, such as that in K-Mag, substantially increased yield and test weight of canola.