

CANOLA Digest

THE SOURCE FOR CANADA'S CANOLA GROWERS

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OUTLOOK

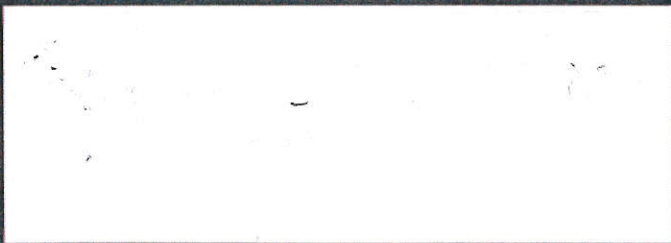
Market outlook • Panel on profitability • Scouting from the sky



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COMING**



The Canola Council of Canada's
new strategic plan



DIAGNOSTIC DILEMMAS

By Jay Whetter

The 4 Rs of fertilizer can often make or break a canola field. The 4 Rs are: right rate, right place, right time and right product. These diagnostic dilemmas are all about fertilizer management and how a misfire on just one R can throw profit off target.

W

rong blend. Too much fertilizer in the seed row. Not enough sulphur. Or the wrong type of sulphur. When Canola Council of Canada (CCC) agronomy specialists have diagnostic challenges that ultimately connect back to a crop nutrition issue, it most often stems from one of these problems. Here are two examples.

ELEMENTAL, MY DEAR WATSON

A grower called in June. He had just sprayed a canola crop, and the stand was unusually thin and a lot of plants were sickly. He wanted to know how to rescue the crop. The CCC agronomist went to the field and saw the stark difference between this problem field and other fields in the area. Other fields looked good. This one looked terrible.

The agronomist went through all the necessary questions regarding rotation, disease history, frost records, herbicide treatments, seed treatments, seeding practices and the 4 Rs of fertilizer. The damage could possibly be lingering effects of Group 2 carryover or some in-crop herbicide miscue, but the grower had not used Group 2 on that field for a number of years, and his weed control was fairly straightforward.

The grower revealed a few potential problem areas with his seeding practice – including seeding what seemed to be much too fast for the seeding tool and

the crop conditions. That could explain the thin stand, and what the agronomist noticed to be a fairly wide range of crop staging from plant to plant.

But this didn't explain the obvious signs of stress in a number of patches throughout the field. Top leaves had yellowing and even some purpling around the edges. They were also narrow and cupped, and seemed to be a lighter colour. A couple of knolls with poor soil texture showed really poor establishment and had the most obviously discoloured plants. The agronomist was starting to get the picture.

"Tell me again about your sulphur situation?" he asked the grower. The grower explained that his soil tests showed decent levels overall, but that he applied 20 lb./ac. across the field because he knew that canola needed a lot of sulphur and that sulphur levels, while perhaps adequate in an aggregate sample, tended to be highly variable across a field. "Excellent," the agronomist said, "but if these symptoms are tied to low sulphur levels, the first 10 lb./ac. of actual sulphur from ammonium sulphate should have made most symptoms disappear."

The agronomist then asked about the fertilizer source. "I put elemental sulphur into my fertilizer blend and applied it with my other fertilizer at the time of seeding," the grower said.



Canola plants with a sulphur deficiency tend to be pale coloured, with yellowing and even purpling of the leaves. Newer leaves are often stunted and cupped, while lower leaves may look healthy. Sulphur deficiency often does not show up this early in the season unless very severe.

Therein lies the problem. Elemental sulphur, if it is to provide any benefit, must be applied in the fall ahead of canola so it has a chance of breaking down and becoming available when the crop needs it. In other words: right product, perhaps, but wrong time. Ammonium sulphate applied at around 20 lb./ac. of actual sulphur at the time of seeding and in a band with the nitrogen satisfies the 4 Rs for sulphur.

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This canola crop was starved for sulphur. An immediate top dress with ammonium sulphate (dry) or ammonium thiosulphate (liquid) would perk up the plants and salvage some of the yield potential. some of the yield potential.

THE P IN PROFIT

Application mistakes are great learning tools, but it's always better if we can learn from someone else's mistakes, rather than our own. In this case, the grower made a mistake but didn't notice until he was partway done seeding a field. He took corrective measures, but didn't bother to go back over the seeded acres to correct the problem. He just kept seeding.

So in this case, it wasn't a dilemma that prompted the grower to make a call last July. Rather, he was excited to show people how his mistake totally changed the way he manages his seed-placed fertilizer blend.

Phosphorus deficiencies don't always exhibit strong symptoms, which is why University of Saskatchewan crop nutrition specialist Jeff Schoenau calls it "hidden hunger." But phosphorus deficiencies can occur and are probably getting more common with the combination of higher yield (more removal) and insufficient fertilizer rates (safe seed-placed rates versus a maintenance program that applies some P with the banded blend to match removal rates).

So what happened in this case? The field was to receive a blend of 12.5-20-0-10 at 75 lb./ac. in the seed row, but the retailer delivered 20-0-0-10 in error. Neither of these blends are what the CCC would recommend for seed placement with canola (but keep reading to see why we included these details). The grower also put down 140 lb./ac. of 46-0-0 as a mid-row band.

Rather than use the wrong delivered blend for his seed-placed fertilizer, the grower used 11-52-0 that he had on hand until the ordered blend showed up. He then switched to the "correct" blend when the fertilizer dealer was able to get it out to them. Both went on at 75 lb./ac.



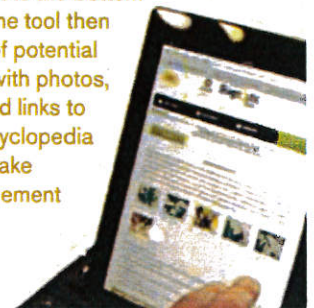
The side of the field that had the seed-placed 11-52-0 looked fantastic. The side with a seed-placed blend that included sulphate and overall higher rates of nitrogen had 30 percent fewer plants per square foot, uneven emergence and smaller plants.

The grower called a few weeks after emergence to invite the retail agronomist out to the field. The side of the field that had the seed-placed 11-52-0 looked fantastic. The side of the field with the "correct" blend that included sulphate, much less phosphate and slightly more nitrogen had 30 percent fewer plants per square foot, uneven emergence and smaller plants.

A few Rs are at work here. Right place is one. Nitrogen and sulphur fertilizer are safer outside the seed row. Right rate is the other. After talking to the grower about historical fertilizer rates on the field, it seems the hidden hunger of phosphate deficiency was a strong

TRY THE CANOLA DIAGNOSTIC TOOL

The online Canola Diagnostic Tool at www.canoladiagnostictool.ca walks you through a series of questions to get to the bottom of a problem. The tool then provides a list of potential causes, along with photos, descriptions and links to the Canola Encyclopedia to help users make the right management decision. ●



likelihood. Ideally, canola growers will consider maintenance rates of phosphate fertilizer, which match removal rates from previous crops. However, that rate often exceeds what is considered the safest seed-placed rate of 20 lb./ac. of phosphate (40 lb./ac. of monoammonium phosphate), although in moist conditions growers can often get away with double that rate. ●

Jay Whetter is editor of Canola Digest. He also produces Canola Watch, the Canola Council of Canada's free and timely agronomy newsletter. Sign up at www.canolawatch.org.

THE 4 RS OF FERTILIZER

Fertilizer use efficiency will be a key pillar in the Canola Council of Canada's (CCC's) agronomy message as the industry strives to meet the target of 26 million tonnes of canola production and sales from basically the same acres we have now.

Fertilizer management decisions that will increase efficiency stem from the 4 Rs. The 4 Rs are:

Right time: This can vary by product. At or before seeding is often more efficient than fall application or in-crop top up, but growers have to also consider fertilizer costs and logistics of applying all that fertilizer at the same time as seeding.

Right rate: Are phosphorus rates based on minimum crop needs, or long-term maintenance? Do your cereals exhibit potassium deficiencies, and is now time to consider K for canola? Does your canola have enough sulphur? Is it time to re-evaluate nitrogen rates given higher yield potential of new hybrids? These are some considerations as growers strive for higher profits.

Right place: The only fertilizer that has a benefit when it comes to seed placement is phosphate. All other nutrients should go in a band away from the seed row.

Right product: Elemental sulphur is not the right product for spring application. Controlled release nitrogen is not the right product for a top dress. ●