

# BULK Batches

Excellent quality can be achieved when treating large volumes of seed. It all comes down to choosing the right product, application system, and operator.

By Julie McNabb

**S**EED TREATMENTS CAN PRODUCE higher crop yields and quality, but whether treating large or small quantities of seed, proper application is required to harvest all the benefits. Good quality can be achieved when treating bulk batches of seed as long as you have a good product, an accurate application system, and an educated operator.

Ted Labun, Seed Treatment Specialist with Syngenta, says on-farm treating of cereals makes up 80% of the seed treated in Canada and a typical batch doesn't amount to more than 400 bushels per hour, which is considered a small batch. "Cereals just aren't in the large batch category," says Labun. Canola, on the other hand, is done in large batches on the commercial level.

Ken Bartsch at Philom Bios says the same is true for inoculants. "Inoculants have been applied on-farm on pulse crops and cereals and on a commercial basis when it comes to canola and soybeans." He says there are some large-scale treating companies that are just getting started for pulse and cereal crops in Canada, so it may become more popular in the future.

## The Equipment

One such company is ProCoat Technologies Inc., which applies the polymer PROTEC using a large-scale treater called the Procoater. The machine comes in portable and stationary models, both of which are capable of treating about 30 metric tonnes per hour (1,100 bushels/hour) of pulses and 45 Mt/hr (1,650 bu/hr) of cereals and other crops.

Joe Olesko with ProCoat says the company's large capacity machine is able to combine many products and apply them to the seed all at once. "This year we used as many as five different products," he says.

Graham Seed Treating Systems also designs and manufactures systems for high volume applicators. In recent years the company has helped design and install custom treating systems for large-scale seed growers, municipal seed plants, and line companies like Agricore United and Cargill. The systems are capable of treating upwards of 2,500 bushels per hour.

Brian Ellis, owner of Graham Seed Treating Systems, says some seed retailers, seed plants, and custom applicators that require fast turnaround times have gone to parallel systems

## TREATING TIPS

Graham Seed Treating Systems' tips for treating large quantities of seed:

- Almost all stored products will settle out into separate components to some degree. Re-mixing prior to application provides uniform application onto the seed, and hoppers with low-pressure recirculation are the preferred storage to assure product uniformity.
- Some products are quite sensitive to high circulation volumes through large drops in pressure. It tends to make them separate more quickly in storage. Recirculation pumping should be done with non-shear (low pressure diaphragm) pumps at the lowest possible pressure, otherwise, product separation will be accelerated.
- Air in the product will change the density and make application rates vary. Tank returns into tank tops will draw air into the product. This means tank return lines should discharge below the liquid surface. If a flow measurement is done through a nozzle, at least two hours settle time is required before volume can be accurately measured.

**“Even though it’s being done in large quantities, it is just as accurate as smaller ones. Large quantities do not mean poor quality.”**

– Ted Labun



The Procoater, designed by ProCoat Technologies Inc., is a large scale seed treater capable of treating 1,100 bushels/hour of pulses and 1,650 bushels/hour of cereals and other crops.



Westlock Seed Plant runs two of Graham Seed Treating Systems’ G3 units in parallel for increased capacity. The plant treats very high volumes of seed and speed is of the essence.

when treating large volumes of seed. The quality of application remains excellent as grain flow is diverted through two parallel units. “They have two G3 treaters that are mounted side-by-side and are fed through a common delivery point,” he explains. A single G3 treater is capable of treating about 20 bushels a minute, so if an operator has parallel units, essentially they can double that capacity to 40 bushels per minute.

### The Results

Labun says quality when treating large batches remains excellent. “Even though it’s being done in large quantities, it is just as accurate as smaller ones. Large quantities do not mean poor quality,” he says, adding that it all depends on the equipment and the operator.

Bartsch concurs that all equipment, regardless of capacity, can do a good job, and adds that it all comes down to speed. “The faster it does it, the bigger it is and the more expensive,” he says. “But it does just as good of a job. It all depends on how

much you want to spend and how fast you want it done.”

That being said, there are a couple of issues that can affect quality. Mixing issues are much more critical in higher capacity systems than those with lower capacity. Ellis says he now feels the best way to handle high volume seed treatments is to separate the duties of tank circulation and applicator delivery – application delivery requires higher pressure at lower volumes while tank circulation requires higher volumes at low pressure – by using two different pumps which will keep the product uniform. Ellis says seed dust is another issue that can affect quality, and recommends installing vacuum points at treating-bin feed inlets or outlets.

A number of factors play a part when deciding which method to use to treat seed, whether on-farm or commercially, but when it comes down to it, Ellis says the ability to achieve quality shouldn’t be a concern in making the decision. “With a conscientious operator and the right equipment, it is easy to get a good quality treating job.”

