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# Vibrant start for sugar beet

**Roots Sugar beet agronomy**

This spring a new seed treatment has provided growers with an additional choice for their sugar beet seed. *CPM* finds out how it performed in the field last year.

*By Lucy de la Pasture*

**This season's sugar beet campaign has seen yields holding up surprisingly well after the incredibly difficult season, according to Lincs grower and contractor, Richard Ivatt.**

“With the impending loss of thiram, we were keen to trial the new option of Vibrance SB (sedaxane+ fludioxinil+ metalaxyl-M) on our sugar beet. We've already used Vibrance widely on the wheat and seen early emergence effects, improved rooting and yield increase.”

Having had last season's sugar beet

sowing delayed by three to four weeks by the cold, wet seedbed conditions, the seed treatment trial was one of his first to be drilled (25 April) in a field with a medium-gravel soil-type.

### Current standard

He alternated six rows of Vibrance SB treated variety KWS Sabatina, with six rows treated with the current standard, thiram. A commercial field treatment of thiram on the variety Cayman was also included in the trial. All the seed had Cruiser Force (thiamethoxam+ tefluthrin) and Tachigaren (hymexazol).

“With plenty of moisture at emergence, initial growth was consistently good across all the treatments as the soils rapidly warmed up, with near 100% establishment,” he recalls. “It was all growing beautifully, and then the drought hit.

“It was really clear that the thiram started to go off first, with leaves wilting and then laid out flat, whilst the Vibrance SB rows were still standing. They appeared to stay upright, and presumably

more active, for weeks longer.”  
An initial assessment of the young plants showed significantly longer tap root growth on the Vibrance SB treated plants, which was believed to be helping plants scavenge for moisture and nutrients deeper and more efficiently.  
In first trial digs, on 20 Aug, the Vibrance SB treated plant roots were 22% heavier, at an average of 479g/root, compared with 374g with the standard treatment. There was also an average of 35% more healthy top growth on the Vibrance SB treated plants.

When the drought finally broke, Richard was amazed how all the plants recovered surprisingly well and have benefitted from the prolonged sunshine and warm weather into Oct.

Follow-up in-season test digs at the end of Sept, revealed the new seed treatment still had an average 12% root weight advantage, at 548g/root compared with 478g, and comparable top growth weight.

When taken through to final yield at the end of Jan, the Vibrance SB treated ▶



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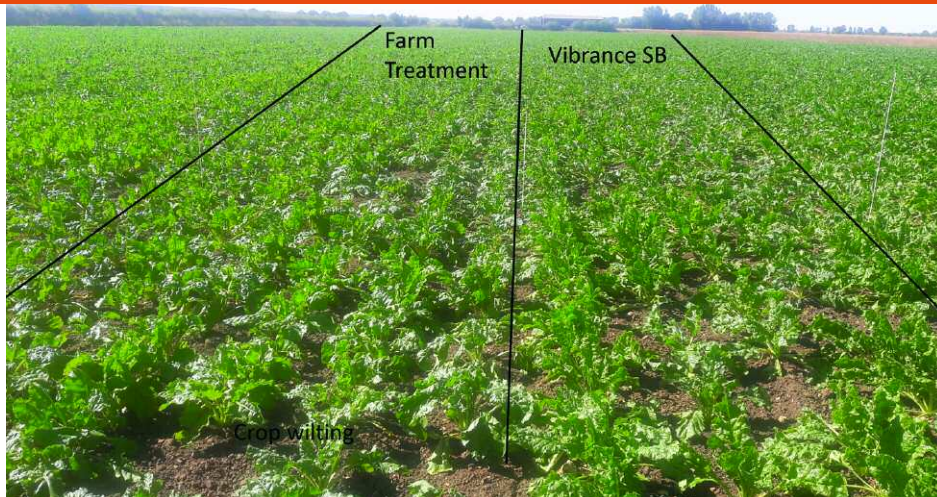
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The standard farm treatment (left) began to wilt in the dry conditions when the Vibrance-treated was unaffected.

► Sabatina achieved an average yield of 57.6t/ha, compared with 40.84t/ha with the standard thiram. The field crop of Cayman yielded 50.35t/ha.

“So even though it was put under extreme test by the hot, dry conditions, Vibrance SB delivered a 17t/ha yield increase over the farm-standard treatment,” he says.

“We’d expected the sugar content to be good after all the sunlight over the summer, which has happened — with some at over 17%. The size and weight of the roots has been really surprising given the late start to the season and then the extreme effects of the drought,”

he comments.

On both his own farm’s 160ha of sugar beet, which forms part of 690ha of arable cropping at Baston Fen, and the 1200ha which he lifts annually as a contractor, Richard notes that improved establishment has been instrumental in consistently raising yields over the past decade. His target is to establish 100,000 beet plants/ha.

“Wherever you’ve got a gap, you’ve lost yield — and wasted the cost of the inputs too,” he points out. Seedbed quality is the key starting point and, even with the high cost of seed, he advocates erring towards a higher 1.1 or 1.2 units/ha if conditions

are less than perfect for seed to soil contact.

Richard believes seed treatment has been instrumental in overcoming the farm’s history of soil pests. Having monitored with bran bait traps in the past to identify symphylid, millipede and wireworm risks, he’s aware of the threat they pose.

“Our previous standard dressing of Cruiser Force managed soil pest issues very effectively. Although we’ve now lost the neonicotinoid, we fortunately still have the essential Force element (tefluthrin).”

He considers that without neonics, he’ll have to become more adept at monitoring for aphid numbers in the spring and more responsive with foliar insecticides.

Although he does fear that, in an effort to control aphids, it may lead to some growers to significantly increase their use of pyrethroids. All this will do is put even greater pressure on their efficacy and aphid control, he comments.

Richard points out that over recent years, sugar beet investment in new varieties, greater precision with nutrient applications, more robust fungicide programmes and improved cultivations for soil care have all helped achieve yield increases that have consistently outpaced other arable crops.

Adopting new seed treatment technology could be the next step in yield to maintain margins and the crop’s attraction for

## Best practice for Teppeki use

This spring looks set to be a baptism of fire for sugar beet growers, with a high forecast for virus yellows and the first season for 25 years without the reassurance of neonicotinoid seed treatments for early aphid control.

According to BBRO, 90% of the *Myzus persicae* population was resistant to pyrethroid insecticides in 2018, says Adrian Sisson, Belchim’s technical country manager. A new approval for Teppeki (flonicamid) for use in sugar and fodder beet at least provides an effective tool to control aphids, but with just one application permitted, getting the timing right will be essential.

“Teppeki needs to be used correctly and must be applied at the full rate of 140g/ha in a minimum water volume of 200 l/ha,” he says.

In the past, the neonics have given peace of mind for aphid control for several weeks after planting. If a BBRO aphid warning was given later in the season, then an insecticide may have been applied at around that time.

“It’s now more essential than ever to monitor your own crops closely. The BBRO warning comes out when migratory winged aphids build up to a point where risk increases, but the threshold used to time insecticide application is very specific and is one green wingless aphid per four plants, up to the 12-leaf stage.

“That means the BBRO warning should trigger close monitoring of fields so that Teppeki is only applied when the threshold is reached. Spraying too early will be a waste of the only chance you have to achieve aphid control,” he explains.

BBRO is actively discouraging growers from resorting to applying carbamates or pyrethroids for aphid control because they’re unlikely to be effective and will harm the beneficials, which play an important part in aphid control if they’re allowed to build up in the crop.

“Teppeki is very selective, so kills aphid species but is kind to beneficial insects,” says Adrian. “It has systemic and translaminar



Spray thresholds for aphids are triggered by the number of wingless aphids in crops.

activity, stopping aphids feeding within an hour and has been shown to be very effective in BBRO trials.

“The product has 21 days persistence, so there’s still a risk of virus yellows if there’s a prolonged period where aphids are migrating into the crop. It’s vital not to compromise the timing of your one effective aphicide application.”

sugar beet growers, he believes, especially after his experience last campaign.

Listed on British Sugar seed orders for the 2019 season, Vibrance SB has been shown to develop a faster root system for



Georgina Wood highlights the benefits of early accelerated growth.

rapid and strong spring establishment, along with effective control of complex rhizoctonia, pythium and phoma seedling diseases, notes Syngenta technical manager, Georgina Wood.

## Effective zone

She explains that research has shown the seed treatment provides an effective zone of protection from these soil-borne infections around the seedling, even with repeated rainfall or irrigation events.

Where treated seeds were planted into clean soils, Georgina reports Vibrance SB also appeared to encourage faster and deeper rooting, compared with thiram. "Accelerated early root growth helps the crop to capture nitrogen and available moisture, for fast top growth and maximum ground cover. This can result in maximum light capture, and therefore the best potential to build yield."

The benefits of better rooting can be seen throughout the growing season, with Vibrance SB treated trials showing better tolerance to summer drought. "Getting a healthy crop up and away through the most vulnerable growth stages provides the best foundation to build yield," she says. ■



The Vibrance-treated plots yielded 17t/ha more than the standard farm treatment.

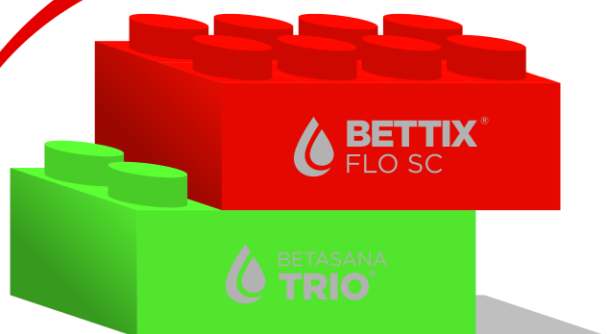
## Biscaya gains EAMU

BBRO have announced Biscaya (thiacloprid) has been granted an emergency authorisation for aphid control this season. Full details are to be announced, but two applications of Biscaya will be possible in addition to one application of Tepeki.

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