British Beet BBRO Research Organisation

Advisory Bulletin

Issued: 30th March 2023

IN BRIEF

- Drilling on lighter land is progressing slowly but the continuing showery weather is making it 'one step forward, one step back' on more-bodied land. Attention to detail with cultivations and drill set up is required, along with a little patience.

- Ensure all cultivations are optimised to reduce soil compaction and capping. Keep checking conditions at depth. Check for any smearing and compaction around the seed after drilling.

- Select appropriate seed rates in line with expected establishment. **Remember Cruiser treated seed must be drilled at a maximum rate of 1.15 units/ha.** Ensure all operators are aware of the guidelines associated with the use of Cruiser SB treated seed.

- Target the right varieties for the right field. This is important for traits such as BCN, AYPR rhizomania tolerance and SMART varieties.

- When drilling, keep checking the depth, especially where soil type changes. Use the weather forecast to help decide on drill depth.

- High soil moisture levels and warm weather will increase nematode activity and the risk of Docking disorder. Assess and treat accordingly.

ADVISORY

Soil temperatures are now above 8ºC, in some areas into double figures, and are ideal for drilling with the risk of bolting now very much reduced. It is anticipated that crops will develop quickly. Remember, establishing optimum plant populations is key to achieving good yields. Variable and changing soil moisture levels demands attention to detail in creating the final seedbed cultivations and for accurate drilling.

Attention to soil and seed placement

As soil profiles have a high moisture content, ensure all cultivations are completed with minimal ground pressure, checking that tyre selection and pressures are optimised to reduce compaction. Over-cultivated ground can be more prone to capping so choose cultivations field by field especially if drilling between rain events. Min till and Strip till

practices may require more patience to ensure machinery (disc/tines) are working effectively. Remember that the use of track eradicators may be more challenging and less effective in wetter soils.

Fig 1: Difficult conditions and challenging cultivations - require patience

Select appropriate seed rates in line with expected establishment. **Cruiser treated seed must be drilled at a maximum rate of 1.15 units/ha.** If a higher seed rate is required non-Cruiser seed can be used to 'top-up' the rate. If this is only a small amount of the total seed, simply mix this in with the other seed. If using more than a 50:50 mix, consider drilling in separate blocks. Make sure you keep a record of where different seed lots are drilled. Please ensure all operators are aware of the guidelines associated with the use of Cruiser-treated seed. Operator guidelines and spill kits have been posted to all Cruiser growers. This information can also be found on the BBRO website.

Target the right varieties for the right field. This is important for traits such as BCN & AYPR rhizomania tolerance. Also consider varieties with better disease resistance for fields expected to be harvested later. Make sure any SMART varieties are very clearly identified and mark-up all varieties as drilling progresses checking that drills are thoroughly cleaned out when changing between SMART varieties and conventional varieties. Ensure the variety plan is communicated to all your farm team. This is essential for the best agronomic decisions and crop outcome as the season progresses.

When drilling, keep checking the depth (target 2-3cm in moist soils and 3-4cm in drying soils). Check regularly, but especially where soil type changes within fields and between fields**.** Use the weather forecast to help decide on drill depth.

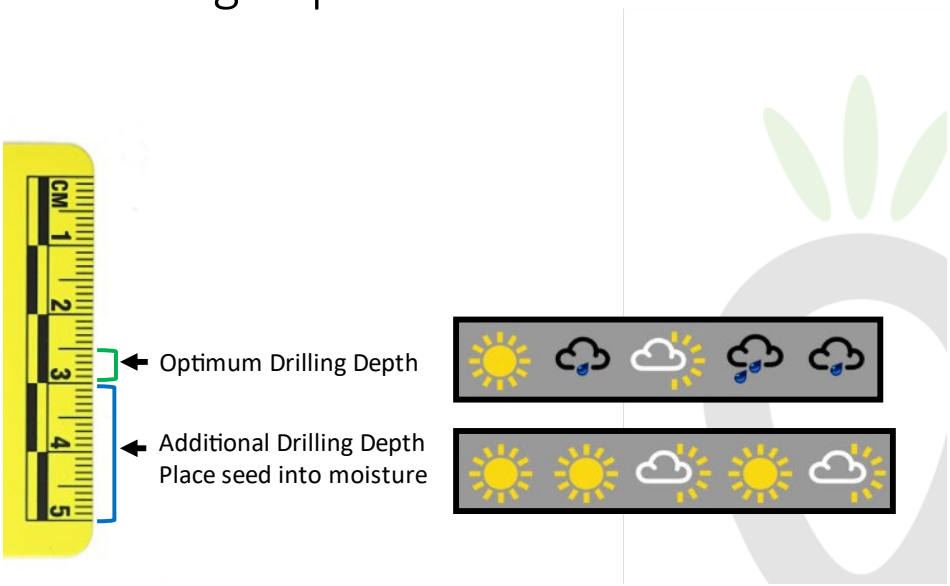

Fig 2: Check drilling depth regularly and ensure you drill into moisture

Continuously monitor the uniformity of seed spacing, and for any signs of smearing and compaction especially around the seed trench and behind wheels, checking that the seed trench can be collapsed or covered to ensure seed to soil contact. Make sure all unnecessary weight is off tractors and drills. Manage down pressure and the use of track eradicators as conditions change and keep press wheels free of sticking soil.

Fig 3: Avoid smearing in the seed trench

Nematode activity

Crops on light soil types are now at higher risk of Docking Disorder, caused by Stubby root (*Trichodorus, Paratricodorus sp*.) & Dagger (*Longidorus sp*.) nematodes. Yield losses can be severe due to the feeding damage of these nematodes (30%+) and the subsequent fanging and root bearding. Warm and wet seedbeds will favour movement of the nematodes towards sugar beet seedlings. Consider the risk factors, particularly if you have a history of

Docking disorder in your sugar beet fields. BBRO suggest the use of NEMguard DE at a rate of 10kg/ha for control of these nematodes. NEMguard DE is the only product approved for their control. If in doubt, testing for these nematodes should take place, although this may be too late for crops being drilled this season. It is important to note that the nematodes causing Docking Disorder are different to Beet cyst nematode (*Heterodera schachtii*). If you have a history of any fields with BCN infestation, tolerant varieties of sugar beet should be grown.

Nitrogen fertiliser

Remember, nitrogen is essential for early canopy growth. In anticipation of some rapid growth this season, make sure there is sufficient nitrogen applied either at drilling or soon after drilling. Make sure the crops have at least 30-40kg of available nitrogen from drilling onwards. If placing fertiliser, target a band 5-7cm to the side and below the seed. Keep checking where the fertiliser is being placed to avoid it getting too close to the seed. If you place more than 60kg N/ha, depending on conditions and the accuracy of placement, there is a potential risk of seed damage. If applying a band of fertiliser to the surface at drilling, ensure there is some soil incorporation.

Destroy any 'green-bridges'

Continue to monitor and destroy and new leaf growth on beet left in clamps, spoil heaps and any beet which may have been left in the ground. These will all act as hosts for aphids and potential sources of virus (and other diseases such as downy mildew and cercospora) for the new season beet crop.

Pre-emergence Herbicide use

The variable soil conditions may result in a range of emergence dates this season and make herbicide timings complicated. The use of a pre-emergence herbicide may be a good option to help with this, especially as there may be soil moisture available for activation. Use of pre-ems can be helpful:

- As part of a black-grass control programme
- To help with the timing of post-emergence sprays
- Should save a post-emergence spray
- Inclusion with liquid fertilisers
- As part of a Conviso Smart programme

Pam Chambers (British Sugar) has provided some useful notes below.

Currently **there are only three actives** that can be used pre-emergence on sugar beet, excluding total herbicides. These actives and associated information are listed in Table 1, note that quinmerac is only available as part of a formulated product. Using 'straights' will give flexibility in rates of use but formulated products reduce number of cans involved and can be cheaper. All actives can also be used at the post-emergence timings. Although products may contain the same actives the rate of active inclusion and label information are not always the same. Pre-emergence sprays are not advisable for organic soils.

Table 1. Actives and example products available for 2023

Active (s)	HRAC*	Example Products	Manufacturer	Key Target weed species
ethofumesate	15	Efeckt Oblix 500 Ethofol	UPL UPL UPL	Annual meadow grass, Black-grass
metamitron	5	Golitx 70 SC Bettix Flo	ADAMA UPL	Mayweeds, Knotgrass, Small nettle, Fat hen, Orache, Annual meadow grass, Field pansy
ethofumesate + metamitron	15 5	Oblix MT Torero Volcano	UPL ADAMA UPL UPL	See above
quinmerac + metamitron	4 5	Golitix Titan	ADAMA	Quinmerac adds control of Cleavers, Speedwells, Fool's Parsley

Notes: * Herbicide resistance action committee

Black-grass control

Where black-grass is expected (excluding organic soils) then ethofumesate should be used pre-emergence. It is advisable to include metamitron as it has some activity on black-grass, it will extend weed species controlled and it is useful for resistance management.

Suggested rates are: -

- ethofumesate 500 g a.i./ha (e.g., Efeckt 1.0 L/ha) + metamitron 700 g a.i./ha (e.g., Goltix 70 SC 1.0 L/ha)
- ethofumesate has a maximum permitted total dose of 1.0 kg a.i./ha over a three-year period on the same field. (Check if growers have used ethofumesate on their wheat or herbage seed)

It is wise to retain some ethofumesate for post-emergence use. The inclusion rate of metamitron can be varied according to weed species expected.

Delays with post-emergence herbicides anticipated

The use of pre-emergence sprays should allow flexibility in timings of post-emergence sprays so where 'travelling' may be difficult or where application of first post-emergence sprays are likely to be delayed then a pre-em may be beneficial. Ideally the use of a pre-em should result in less post-em sprays being required.

Liquid fertilisers and pre-emergence herbicides

Several growers will wish to include pre-emergence herbicides in with liquid fertiliser applications. Omex for example will support tank mixes of ethofumesate + metamitron with their Nitroflo 30 and Nitroflo NS products.

- Nitroflo 30 (N) – supported by Omex in tank mix with metamitron +/- ethofumesate

- Nitroflo N+S – supported by Omex as long as the herbicides are mixed with a minimum of 50L of water before adding the fertiliser and consistent agitation is maintained

Smart beet varieties

The timing of the Conviso chemistry is important to optimise control of the weed beet. In some situations, applying pre-emergence herbicides using conventional chemistry may be advantageous e.g., where high levels of speedwells are expected.

EVENTS

Dates to be released shortly.

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Two NRoSO points in total (not per bulletin) have been allocated between 01/06/2022 and 31/05/2023 **NO471260f** reference. To claim these points please email NRoSOCPD@cityandguilds.com