British Beet BBRO Research Organisation

Advisory Bulletin

Issued: 9th March 2022

IN BRIEF

- **Planning for drilling**. Many soils are currently too wet for seedbed cultivation and too cold for seed to germinate. Uniform and rapid emergence as well as growth is the foundation to high yields. Warmer, drier weather is forecast, so patience may be required to ensure crops are drilled into the best conditions. Conditions change may rapidly so ensure all preparations are made for a prompt start

- **Seed rate.** Remember that the maximum seed rate for Cruiser SB treated seed is 1.15 units/ha (115,000 seeds/ha). For non-Cruiser SB-treated seed, the standard seed rate recommendations can be followed.

- **Drill set up.** Check the in-row spacing settings, especially where drilling at 1.15 units/ha which may be lower than normal. Set up the depth drill to place seed at 2-3cm in a moist layer of soil. Drill slightly deeper if soil is drying out.

- **Farm hygiene**. As it becomes warmer, remember to keep checking around the farm for potential sources of virus (as well as other pests and diseases) such as leaf growth on spoils heaps and any remaining beet clamps. Destroy immediately.

- **Drill varieties tactically.** As seed arrives on farm, take time to plan out and prioritise the order in which varieties are to be drilled and in which fields. Diligence at this point can pay a significant dividend in terms of better performance.

- **Nitrogen fertiliser.** Make sure there is at least 30-40kg/ha of nitrogen applied on mineral soils at, or as soon after drilling to help drive early canopy development. The high cost of nitrogen means the economic optimum is 15-20% below the standard recommendation of 120 kg N/ha. Consider reducing the overall nitrogen rate but be more conservative in making reductions on very light or thin soils.

ADVISORY

Planning for drilling. Many soils are currently wet and still cold and not conducive to seedbed cultivation and germination of seed. It is important to drill seed into good conditions to encourage rapid emergence and development, so do not rush drilling crops in poor conditions. Drier and warmer conditions are forecast. Aim for a level, friable seed bed down to 3-5cm, retaining moisture and warm enough for germination (more than 5°C) As soils dry, maintaining good seed-soil contact and retaining moisture in the seedbed is key to optimising emergence and established plant populations.

Remember seed germination will only start where soil temperatures are above 3°C and is very slow up to 5°C. Monitoring of soil temperatures is showing that many soils are currently between 3 and 5°C. Aim to drill when temperatures are consistently above 5°C.

Avoid cultivating when too wet to reduce compaction from wheelings and avoid multiple cultivations passes when soil is drying rapidly to preserve soil moisture. Later drilled crops into better seedbeds often overtake early drilled crops sown into poor seedbeds. The legacy of the recent wet weather is that some fields and areas within fields need to dry out. Attempting heavy remedial action when soils are still wet at depth will not achieve ideal results, so a compromise may have to be made, keeping to shallower cultivations.

Rolling after drilling can be a benefit, to aid soil to seed contact, but it can also have negative outcomes. If you have achieved a good friable soil to drill into within the row, utilising clod pushers or row cleaners, rolling after drilling can push larger clods into the seed row, impeding germination, and establishment even if it looks better visually. The decision to roll should be considered when setting up a drill, especially the use of clod pushers or row cleaners.

Seed rate. Remember that the maximum seed rate for Cruiser SB treated seed is 1.15 units/ha (115,000 seeds/ha) If you usually use a higher seed rate, remember to change the setting on your drill to a wider spacing. On 50cm rows, 1.25 units/ha and 1.15 units/ha have in-row spacings of 16cm and 17.4 cm, respectively. If you want to drill at a higher seed rate, it is possible to use additional untreated seed as well as Cruiser treated seed. However, it is important that the seed rate of treated seed must not exceed the maximum on each hectare. Keep the untreated seed in separate drills and do not mix treated and untreated as one seed bulk.

For non-Cruiser SB-treated seed, the standard seed rate recommendations can be followed. as highlighted in the 2022 BBRO reference book.

Drill depth Set up the drill to place seed in a moist layer of soil. Soil type and depth of cultivation will determine drilling depth to some extent but target seed at 2-3cm. In drier conditions, it is possible to drill at increased depth, up to 4-5cm, but no deeper.

Drill varieties tactically. As seed arrives on farm, plan out the order of which varieties are to be drilled and in which field. Make sure your drill operator/contractor is aware of the plans.

Remember to drill varieties which are less susceptible to bolting first. Avoid drilling SMART varieties early to reduce the risk of bolters.

Remember to drill BCN tolerant varieties in infected or higher risk fields.

Identify those fields where there was significant cercospora infection in 2020, or more sheltered fields where temperature and humidity may be higher and infection risk greater, and target with less susceptible varieties. Remember, cercospora can remain infective on surviving leaf trash for up to two years.

Select the most suitable varieties for fields which are likely to be harvested later. This can deliver an additional 15-20% of yield.

Some key information on varieties is provided below. Refer to the RL variety list on the BBRO website if you want further details. Make sure you mark-up and keep a note of where different varieties are as this will allow you to monitor crops more closely and make better agronomic decisions.

Bolting susceptible (unsuitable drilling before for mid-March) **-** BTS1915, Evalotta KWS, Philina KWS, Maruscha KWS & Smart Rixta KWS

BCN tolerant – Daphna, Katjana KWS, Lacewing

Lower Cercospora susceptibility* - Daphna, Kortessa KWS, BTS5570, BTS3020, Philina KWS, Maruscha KWS

Later harvesting suitability** - Daphna, Kortessa KWS, BTS1915, BTS1140, BTS3020, BTS5770

Recommendation for earlier harvesting – Evalotta KWS

**Data from BBRO variety strip demonstrations. ** Combined canopy growth and foliar disease susceptibility assessments.*

Nitrogen. Make sure there is at least 30-40kg/ha of nitrogen applied on mineral soils at, or as soon after drilling to help drive early canopy development. Aim to apply the remainder of the nitrogen at full emergence. For many, the high cost of nitrogen means the economic optimum is 15-20% below the standard recommendation of 120 kg N/ha on low index N soils. On very light and thin soils with low SMN level, be more conservative about the reduction you make. Taking a SMN test before drilling will help you decide how much you could reduce your total nitrogen application by. Remember to fully account for any nitrogen released from manures, slurries and digestates etc, as well cover crops, especially where legumes were grown.

Check fertiliser spreading equipment is carefully calibrated.

EVENTS

Catch up with the latest info from our recent BeetTech22 events via the BBRO website https://bbro.co.uk/events/

CONTACTS

British Beet Research Organisation, Centrum, Norwich Research Park, Colney Lane, Norwich, NR4 7UG
Prof Mark Stevens mark.stevens@bbro.co.uk 07712 822194
Dr Simon Bowen simon.bowen@bbro.co.uk 07718 422717
Stephen Aldis stephen.aldis@bbro.co.uk 07867 141705
General Enquiries info@bbro.co.uk

BASIS POINTS

Two BASIS points in total (not per bulletin) have been allocated for the period between 01/06/21 and 31/05/22 reference **CP/111958/2122/g**. To claim these points please email cpd@basis-reg.co.uk
Two NRoSO points in total (not per bulletin) have been allocated between 01/06/2021 and 31/05/2022 reference **NO469403f**. To claim these points please email NRoSOCPD@cityandguilds.com