

## **BBRO Advisory Bulletin No 15 - W/C 15th August 2016**

**Moisture stress** - A number of crops and especially those on the thinner, lighter loams and sandy soils are now showing signs of moisture stress with wilting occurring at the hottest part of the day and further yellowing developing in the areas of the fields where rooting has been restricted. Many soils will have soil moisture deficits in excess of 80/90mm which will be limiting yields. Crops on the heavier clay loam and deeper silt soils will be affected to a lesser extent but growth rates will be reduced even on these soils. In the small percentage of crops that are being irrigated previous trials have indicated an average yield response of 2.5t/ha to a 25mm application. Crops will be currently using 4-5mm /day on warm bright days and any applied irrigation water will be used within a week and irrigation will need to be applied regularly (if available) to sustain yield responses.

**Varietal differences** - if you have different varieties planted within the same field the differences in canopy growth may be very visible following the high June rainfall and now the extended dry period. This may be purely down to the variety foliage characteristics but it could worth comparing the root growth to see what varieties have coped better on your farm with the challenges of this season and to help make decisions about varieties next season.

**BBRO Plant Clinic weekly update** - It's been slightly quieter period at the BBRO Plant Clinic since our last report but we have continued to see further samples of BCN, root rots and poor plant growth associated with slumped and compacted soils. We have also seen some samples showing early signs of root rots. As a standard check, we measure pH of the soil associated with samples submitted and we continue to see a trend towards low pH in these samples.

**Foliar diseases** – Limited reports of powdery mildew and rust continue to be received and most crops have had a fungicide treatment now. A second spray at the end of August/early September will be required for those crops lifted from October onwards. Further information is available in the 2016 BBRO reference book or visit the [BBRO website](#) and click on 'Publications - Reference Book' then 'Fungicide Strategy'.

**Selecting land for sugar beet next season** – decisions are now being made ahead of next season's beet crops and the difficulties of this season provide a number of key reminders:

- **Beet Cyst Nematode (BCN)** – the white females of the beet cyst nematode may still be visible of the root systems on infected crops and indicative of infected fields. Look at the roots of plants in areas of the crop where there are patches of backwards and yellow canopy growth. There is nothing that can be done to treat for BCN in this crop, of course, but soil testing to identify if BCN is a problem will help you decide whether tolerant varieties should be selected in future crops. BCN is spread around and between farms by soil adhering to machinery and soil being returned to the land after harvesting and cleaning. You may want to track back to where previous Maus clamps may have been located and whether the beet came from BCN infected fields.
- **Sub soiling** – having seen the impact of compaction in many crops this season, it is worth determining the level of compaction in more detail within fields and the need for sub soiling. This could be by simply mapping/marketing areas of fields where there have been symptoms of compaction, digging an inspection pit or using a soil compaction meter. It is important to determine the depth of any compaction to be able to set the sub soiler at the right depth. Pay particular attention to where there are differences in soil type and of course headlands where the depth, speed and the number of passes may need to be different from the rest of the field.
- **Soil pH** - pay attention to pH levels as we have seen a trend in the Plant Clinic to lower values this season. Remember that mild yield effects can be seen on mineral soils below pH 6.5. The BBRO Reference Book provides further information of target pH values for different soils types as well soil testing and mapping and the selection and use of different liming products.
- **Organic matter** - where land slumped under the high June rainfall the indications are that in many cases, low organic matter is a contributory factor and you may want to consider a programme to improve the organic matter content. However, the starting point may be to measure and map the organic matter content of your fields in more detail in order to prioritise fields or even areas of fields for action. There is a test that you can request to have undertaken when you have the standard soil tested for pH and nutrients done. The approaches to improving organic matter content may include the application of FYM, composts, the use of green manure cover crops or more fundamental changes in crop rotation and or cultivation strategy. However, it is not possible to provide general advice as every farm will be different. BBRO are involved in work looking at how we can improve soil health and may be able to assist you in deciding on an approach. Remember that improving organic matter content is a longer term strategy and commitment.

**Irrigation** - limiting soil moisture deficits (SMD) of sugar beet in mid-August range from 40mm on coarse sands to 60mm on sandy loams and 110mm on clay loams. Typically, plants with full canopies will use between 1.8mm per day on dull days to 4.2mm per day on bright sunny days (use an average of 3mm per day) Based on average rainfall figures for August, many crops will be currently running a deficit in excess of 80/90mm which is yield limiting. Applications of 25mm at high deficits but will provide some temporary relief from moisture stress but it will only be some sustained rainfall that will get soils back to below critical deficit levels. Please be aware that the figure quoted above are all averages and if you intend to irrigate it is recommended that the actual soil moisture content is measured or you keep a water balance sheet that can monitor specific crops. This is especially important in August when rainfall tends to be very local.

*Caution: this information is based on results of experiments and experience but cannot constitute a recommendation.*

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#### **BASIS Points**

Two BASIS points in total (not per bulletin) have been allocated for the period between 01/06/16 and 31/05/17 reference CP/52404/1517/g. To claim these points please email [michele@basis-reg.co.uk](mailto:michele@basis-reg.co.uk)

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