

BBRO Advisory Bulletin No 11 - W/C 4th July 2016

Headlines

Crops can currently be described as a 'mixed bag' across the UK beet area. Many crops are growing well and have produced full and healthy canopies whilst others are backwards, struggling to develop at normal growth rates with canopies showing signs of stress. We have received many samples from backward crops at the BBRO plant clinic over the last two weeks and have been out assessing development.

June rainfall is being reported as one of the highest for many years (some beet growers have experienced six months of rain within 30 days). Also, the intense nature of some of this rain has tested the resilience of the soil to cope, especially where the soil structure is poor or where seedbeds had been worked up in less than ideal conditions. Waterlogged patches in fields are causing beet to look yellow, red or even wilt with corresponding poor growth. Headlands and areas of compaction such as wheelings are looking particularly poor.

The situation with leaf miner appears to have stabilised across most areas with few reports of progressive or significant new activity. The rainfall will have helped reduce the size of adult and larval populations but it will also be the case that in many crops these populations are between generations. We need to ensure we target any application of Biscaya carefully, remembering the emergency approval, is for a maximum of two applications. The BBRO work clearly shows that applications are most effective at egg hatch and early larval development. Crops need to be assessed and a judgement made as to where (in its cycle) the population is, bearing in mind generations will overlap, depending on when the initial eggs were laid. Remember that the threshold for treatment is when the number of eggs and larvae exceeds the square of the number of true leaves. For example, a plant with 10 true leaves would need a population of 100 or more eggs and larvae. Remember to check the underside of leaves for eggs and larvae.

Backward crops

We have been able to assess the soil conditions in some areas of poor growth and yellowing and are frequently finding that soil has gone tight or 'slumped' following heavy rainfall. In some cases, this can be associated with areas of soil compaction. This has resulted in a loss of soil pore space and structure,

producing low oxygen levels and anaerobic conditions where root growth is poor or where roots may have died. If you dig around affected plants the soil will appear very 'solid' and compact and lacking in fibrous root material. Plants may show reddening around leaf margins (see below) and new growth will look pale as plants struggle to take up sufficient nutrients and water.

In many cases this is transient water logging and as soils dry out many soils should re-condition themselves although in poorly structured, badly compacted and low organic matter soils, crops may be slow to recover.

In the case of backward crops, the temptation is to start applying various 'tonics', foliar nutrients and fungicides but it is recommended that you really understand the causes first of all so you most effectively target any expense and action.

Many crops are showing symptoms of manganese deficiency. Some are also showing symptoms of magnesium deficiency. Be clear on the two deficiencies; manganese deficiency shows as interveinal yellow mottling with some curling of the leaves inwards, magnesium shows as interveinal chlorosis (dead cells) on the tips and leaf margins, moving progressively towards the midrib.



Foliar nutrients applications may help crops recover, especially where root uptake has been compromised but this may not work in all situations. Remember plants can only take up relatively small amounts of nutrients through their leaves at each application. Also bear in mind N max limits in NVZ areas if you are considering additional nitrogen, either as solid or foliar liquid.

In a few places, small patches of beet have been in waterlogged soils for so long that the tap roots have rotted. They are likely to have rotted away to nothing by the time harvest starts but worth checking before harvest to avoid lifting rotten beet and risking a poor sample on delivery. The high rainfall has shown failing parts of drainage systems and these areas should be earmarked for further investigation.

These weaker areas of crop seem to be a magnet for pigeons - get some rope bangers/scarers up in these patches to deter pigeons and to prevent pigeon grazing spreading into better parts of the crop.

BBRO have some demonstration plots which have been waterlogged and where the soil has become badly slumped. We are hoeing to try and break the seal of the cap and ensure some air to the roots and this may be an action worth considering.

Pests

There has been a dramatic decline in *M. persicae* numbers over the last 10 days primarily influenced by weather.

The first symptoms of virus yellows (both beet mild yellowing virus and beet yellows virus) were recorded across East Anglia over this week. Please report any further symptoms, particularly in untreated crops.

We continue our monitoring for Silver Y moth eggs at sites where numbers are increasing but generally there are no concerns or need for treatment at present.

There are reports of localised capsid damage, especially near hedge backs, etc. but avoid the temptation to treat.

The white cysts of immature female beet cyst nematode are now showing on the roots of infected plants and closer inspection of roots in any backward patches may identify this as a primary cause. Nematode activity, both free living and cyst, will have been increased by the wet soil conditions and has been a main feature of the Plant Clinic this week.

Foliar Diseases

The first signs of rust have been found in crops this week (although no powdery mildew to date) and planning and decisions on fungicide programmes are now needed. Apply a broad spectrum fungicide at full rate at disease onset and continue to monitor crops throughout July and August when a second treatment may be warranted, particularly if lifting from mid-October onwards.



Early rust symptoms, Norfolk 7th July 2016

Downy mildew, especially in more susceptible varieties, is now being observed but are not currently at the levels seen in 2014 or 2015.

Weed beet & bolters

These are now showing in many crops and, in moist soils, they can be pulled easily with the root broken off and left on top of the canopy to wither. As time goes on, it will be important to check whether flowering has finished on the older flowers. Once it has, rogued plants will need to be removed from the field.

In some fields, there is still time to get a hoe through the last drilled beet. A-hoes will be best as there is more room for leaf canopy to flow through the hoe. You may need to remove row guards.

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

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