

Sugar Beet

Technical Update 04

17 May 2016

UPL Sugar beet herbicide trials – Suffolk 2016

Table 1 provides an update on spraying at the UPL Europe Ltd (UPL) sugar beet herbicide trials for 2016. The second post-emergence sprays have now been applied to all of the plots apart from the ‘Broadacre’ and ‘Delayed Programme’ ones, these have just received one spray at both sites. At Bradfield St George there will be two black-grass trials looking at timing and sequencing of annual broad-leaved weed programmes with black-grass control. The first post-emergence sprays are due at this site imminently.

Table 1. Details of sugar beet trials 2016 - Suffolk

Location	Trial objective	Drilling date	Crop growth stage	Pre-em	T1	T2
Mendlesham	ABLWs	28.03.16	6 TL's	–	30.04.16	11.05.16
Yaxley	ABLWs	22.03.16	8 TL's	–	13.04.16	05.05.16*
Bradfield St George	Black-grass	21.04.16	1 TL's	22.04.16	Due this week	–

* The first ‘Broadacre’ and the first spray in the ‘Delayed Programme’ were sprayed on the 11.05.16 at Yaxley.

‘Broadacre’ two-spray programmes

At the Yaxley site there are an assortment of broad-leaved weeds present including black-bindweed, penny cress, fat-hen, mayweeds, field pansy and orache. The first ‘Broadacre’ treatment was applied on the 11th May, only a few days ago and it is obvious that the field pansy and mayweeds will struggle with this approach to weed control. See photos 1 and 2 taken on 15th May. The protocol is set for this trial site, but in a commercial situation control of mayweed would be of concern and the inclusion of clopyralid (**Vivendi 200** or Dow Shield 400) and metamiltron (**Bettix Flo**) in the next spray would be advisable, see Table 2.



Photo 1. Black Bindweed and Field Pansy

Mayweed (*Matricaria recutita* and *Tripleurospermum inodorum*) – Wild chamomile, scented mayweeds and scentless mayweeds



Photo 2. Mayweed

Diagnostic Features of Seedlings

- It is almost impossible to tell the difference between the mayweed species in their non-flowering stages
- Emergence occurs over a long period of time so residual herbicides in sugar beet programmes should be considered
- Diagrams 1 and 2 show seedling stages of scented and scentless mayweeds

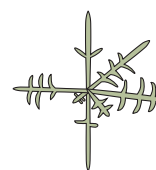


Diagram 1. Mayweed (*Matricaria recutita*)

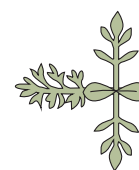


Diagram 2. Mayweed (*Tripleurospermum inodorum*)

Table 2. Mayweed species

Yield effect	Key actives	Comments	Suggested products*
Figures are not available but in a 2012 herbicide trial at Broom’s Barn mayweed was the dominant species smothering the crop! Mayweed can also cause problems with harvesting.	metamiltron clopyralid triflurosulfuron-methyl chloridazon	Ideally a residual is required such as metamiltron or for pre-em use only chloridazon. Clopyralid should be used if mayweeds are large. Triflurosulfuron can have some effect if weeds are small.	Bettix Flo (metamiltron) Vivendi 200 (clopyralid)

*Based on UPL products

Adjuvants – mineral oil compared to vegetable oil

At the Mendlesham and Yaxley trials sites we have included treatments to look at the impact of adjuvants on crop safety and efficacy, see Table 3. All of these treatments at the Mendlesham site are showing signs of stress with crop vigour being affected compared to untreated plots, not surprising since the T2 spray was applied on the 11th May, only three days ago. The plots that received the mineral oil treatment are slightly more stressed than the other two treatments – indicating that this adjuvant is harsher on the crop. At Yaxley where the T2 was applied on the 5th May there are now no obvious signs of difference between any of these three treatments on crop safety.

Table 3. Adjuvant treatments included in trials for 2016 at T1, T2 and T3

Tr. No.	Treatment
2	Betasana Trio programme with vegetable oil (Toil)
5	Betasana Trio programme with no adjuvants
9	Betasana Trio programme with mineral oil (Contact Plus)

So far, based on observations it would be advisable to use vegetable oils or no adjuvant for early sprays; in particular if the beet are small and, or emergence is uneven.

Black-grass

The UPL black-grass trials at Bradfield St George in Suffolk are going ahead, although late drilled there has been a significant amount of black-grass emerged. From an initial assessment levels of black-grass are around the 30 plants/m² level, much lower than experienced in winter cereal crops but sufficient to cause concern. Pre-em treatments had been applied to some plots one day after drilling, on the 22nd April, but at present no clear visual differences between treatments can be seen, black-grass is still emerging. The use of a pre-em should allow some flexibility with the timing of post-em sprays targeting annual broad-leaved weeds. In previous UPL trials it has been found advantageous to give priority to black-grass control if high numbers are present. The beet crop at Bradfield St George is now at the first true leaves emerging stage and black-grass is at the 2 to 3 leaf stage, Photo 3. The plan is to apply first post-emergence sprays early this week.

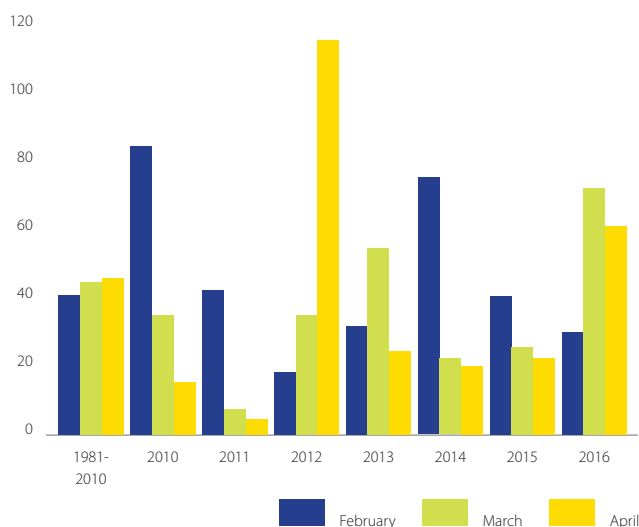


Photo 3. Black-grass

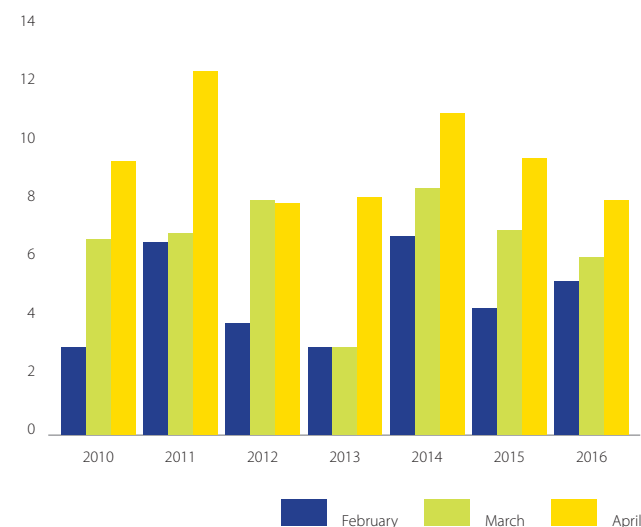
Weather conditions this season

In East Anglia this spring we have received higher rainfall during March than usual and April was also wetter compared to the average. Only 2012 has experienced higher April rainfall in recent years. The high rainfall in March resulted in delayed drilling on many farms especially on the heavier soils and the cool March and April temperatures have had an impact on crop growth especially when in combination with herbicide applications. However, the warm weather last week helped crops enormously and some later drilled crops that are only just receiving their first herbicides are looking remarkably well. Graphs 1 and 2 show rainfall and temperature data for East Anglia.

Graph 1. Average Rainfall (mm) for East Anglia



Graph 2. Mean temperature °C for East Anglia



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