

Sugar Beet

Technical Update 06

08 June 2016

UPL Sugar Beet Herbicide Trials – Suffolk 2016

At last, final sprays have been applied to the Yaxley and Mendlesham trials sites yesterday, with the delayed **Betasana Trio** programme and a programme based on 4 treatments being sprayed. All other programmes finished their treatments on the 26th May 2016. It will be interesting to see if the weed control is better in these late sprayed plots. With the recent very high rainfall (rain gauge overflowed) these late sprayed plots will probably do well as they will catch late germinating weeds in crops that are still not covered over. The two-spray programmes (Broadacre) have done very well controlling some extremely large weeds, however Field Pansy and Mayweeds have struggled with this approach, final weed assessments will be interesting. Details of all spray dates at the two sites are given in Table 1, Photo 1 shows the untreated plots at Mendlesham and Graph 1 details the weed species identified in the untreated plots at Yaxley. There are still some differences in crop vigour to be seen between treatments, although these have become less apparent with time. There seems to be more crop effects this year, probably due to the cold and wet weather we have experienced.



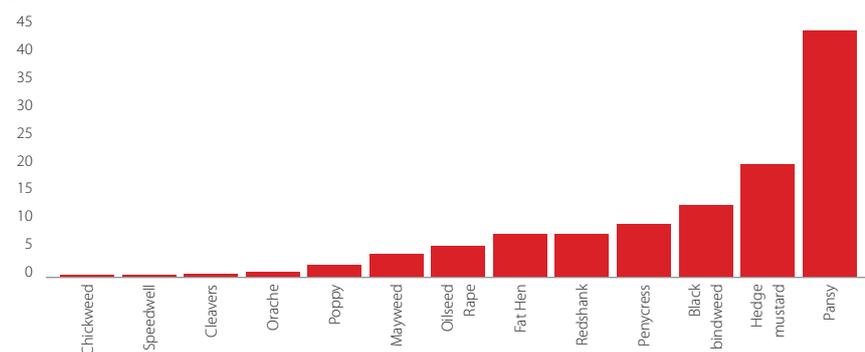
Photo 1. Untreated plots at Mendlesham

Table 1. Details of ABLW Sugar Beet Trials 2016 - Suffolk

Location	Trial objective	Drilling date	Pre-em	T1	T2	T3	T4
Mendlesham	ABLWs	28.03.16	–	30.04.16	09.05.16	26.05.16	06.06.16
Yaxley	ABLWs	22.03.16	–	13.04.16	05.05.16*	26.05.16	06.06.16

* The first 'Broadacre' and the first spray in the 'Delayed Programme' were sprayed on the 9th May 2016 at Yaxley.

Graph 1. Weeds Identified on Untreated Plots at Yaxley.



Ivy Leaved Speedwell and Field Pansy

Some fields have already received their final herbicide sprays, or they are due imminently.

Interestingly, this season the two weeds that seem to have caused the most problems are Ivy Leaved Speedwell and Field Pansy, or at least these are the two I have received the most calls about, aside from black-grass.

Below is a brief summary on those two weeds.

Diagnostic Features of Ivy Leaved Speedwell and Common Field Speedwell

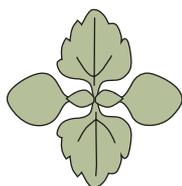


Figure 1. Common Field Speedwell (*Veronica agrestis*)

Ivy Leaved Speedwell: Cotyledons sometimes confused with Cleavers, but Cleaver cotyledons 'have a cleavage' and Ivy Leaved Speedwell cotyledons don't. Very large cotyledons that are dull dark-green, first true leaves are hairy and toothed only on the basal half.

Field Speedwell: Variable, spade shaped, hairy cotyledons, sometimes difficult to tell them from some other speedwell species. First true leaf is hairy and regularly toothed.

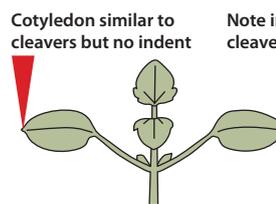


Figure 2. Ivy Leaved Speedwell (*Veronica hederifolia*)

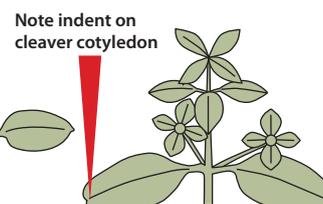


Figure 3. Cleaver (*Galium aparine*)

Table 2. Suggested Products for Ivy Leaved Speedwell and Field Pansy

Weed	Yield effect	Key actives	Comments	Suggested products*
Field Pansy	Field pansy emerging in large numbers at the same time or shortly after the beet can compete with crop and reduce yields. In recent years' numbers have been increasing with > 60 plants m ² being recorded. We have high numbers at the Yaxley trials site.	metamitron ethofumesate phenmedipham triflurosulfuron-methyl lenacil	Plants suppressed with herbicides are seldom competitive. Aim to control at cotyledon stage. In 'Broadacre' programmes control is sometimes difficult where plants are established at first spray timing.	Betasana Trio 2.5 + Debut 20g + Venzar Flo 0.4 + Bettix Flo 0.5 + Adjuvant Oil
Ivy Leaved Speedwell	Generally not too much of a problem as low lying and tend to die off once the crop canopy closes over.	chloridazon – pre-em ethofumesate phenmedipham triflurosulfuron-methyl lenacil	Chloridazon pre-em is a really useful cost effective start.	Betasana Trio 2.5 + Debut 20g + Venzar Flo 0.4 + Adjuvant Oil

* Using UPL products to beet crops with 2 true leaves plus.

Mugwort (*Artemisia Vulgaris*)

Another weed that has caused amusement – well possibly not for the grower (Photo 2) is *Artemisia vulgaris*, also known as Mugwort or Wild Chrysanthemum. Reading up about the various uses of Mugwort is fascinating and possibly useful.

The active compound in Mugwort is Thujone, an aromatic oil. Consumed orally or by inhaling Mugwort herb smoke or aromatic oil, Mugwort is said to improve dream recall and sometimes induce lucid dreams when used shortly before bed.

After this season, probably a few of us may be searching for this field – the farmer refused to tell me where it was! On a serious note, thanks to Darryl Shailes and Pat Turnbull for providing information on control options, see Table 3.

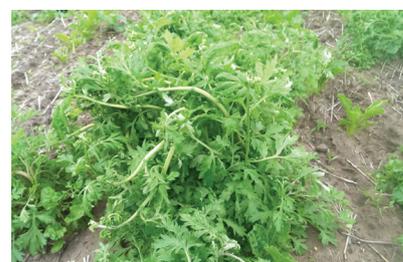


Photo 2. Mugwort

Table 3. Suggested Products for Mugwort

Weed	Yield effect	Key actives	Comments	Suggested products*
Mugwort	Not known but can grow up to 150cm.	Clopyralid – main active triflurosulfuron phenmedipham desmedipham ethofumesate	Repeat applications with reduced spray intervals required. Medicinal properties if control fails!	Betasana Trio 1.5 to 2.0 or Betanal maxxPro 1.25 + Debut 20g + Vivendi 0.5 or Dow Shield 400 0.25 + Adjuvant Oil 1.0*

* Take care with oil if temperatures are high and there is low cloud cover, in these situations spray either in the evening or early morning. Recommendation is for crop at 2 true leaves plus.

Final Sprays for ABLW's

Where an economical tidy up is required prior to canopy closure, then a tank mix of **Beetup Flo/Betasana SC + Efeckt/Oblix 500 SC/ Ethofol** + Adjuvant Oil can often be effective. The strengths of this mix are the control of late germinating: Fat-hen and Black bindweed.

In situations where thistles and volunteer potatoes are present, then late sprays are the norm and should be based around clopyralid as in **Vivendi 200** (clopyralid 200g ai/l). Make sure you check the rates of clopyralid products as some are 400g ai/l such as Dow Shield 400.

Financial Impact of Weeds in The Sugar Beet Crop

Graph 2 and Table 4 were first published in the Sugar Beet Technical Update No.5 (15th May 2013). Table 4 has been updated to reflect the current price of £25.97 per adjusted tonne, it illustrates the importance of weed control in sugar beet. With respect to final sprays when deliberating if you should or shouldn't – If in any doubt, the cost of a spray is generally more than compensated for in the return from increased yield! For those interested in reading more about the impact of weeds, then Morley Bulletin No.50 (www.tmaf.co.uk) has information that is still valid today and can be accessed via the internet.



Table 4. Financial Impact of Weeds on the Sugar Beet Crop

% Yield loss from weeds	Yield Impact on 50 t/ha	£/ha (loss)	Yield impact on 80 t/ha	£/ha (loss)
11% (one fat-hen/ m ² BBRO 2016)	5.5	142.85	8.8	228.56

In a UPL herbicide trial conducted in 2012 at ‘Broom’s Barn’ where the dominant weed species were Black-bindweed and Fat-hen, the untreated plots yielded 17.9 t/ha and the **Betasana Trio** treated plots yielded 79.2 t/ha. Looking at the untreated plots in this year’s trials we would envisage similar yield benefits from herbicide programmes at the two Suffolk trial sites. Obviously weed species and numbers vary considerably from field to field and often within a field.

Restrictions on UPL Herbicide Products

As we near the end of herbicide spraying in sugar beet crops, it is worth checking up on any restrictions regarding maximum total amounts and the number of applications permitted. Table 5 provides a summary of information for key UPL products. **Beetup Flo** and **Betasana SC** no longer have a restriction on the number of applications that can be applied to a crop. This is a relatively recent change and some agronomy programmes may not reflect this. It is worth noting that not all ethofumesate labels are the same, i.e. **Oblix 500 SC** and **Efeckt** both have a restriction of 1.2l/ha allowed post-emergence of the crop, however 2.0l/ha in total is permitted when taking in to account any pre-em applications. **Xerton** (417g ai/ha ethofumesate) has recently gained approval for post-emergence use in winter wheat, therefore if planning to use **Xerton** this autumn, remember to take into account the restriction on ethofumesate, i.e. only 1.0kg is permitted over a three-year period on the same field.

Note: **Xerton** does not have approval for use on sugar beet.

Table 5. Summary of Restrictions and Max Total Doses That Apply to Key UPL Sugar Beet Herbicides

Product	Restriction/Max total dose	Actives (l/ha)
Betasana Trio*	Maximum total dose of is 7.0 l/ha	115g ethofumesate 75g phenmedipham 15g desmedipham
Vivendi 200	All applications should be completed by the end of June	200g clopyralid
Beetup Compact SC	Maximum total dose of is 6.0 l/ha	80g phenmedipham 80g desmedipham
Beetup Flo/Betasana SC	Maximum total dose is 6.0 l/ha	160g phenmedipham
Bettix Flo	Maximum total dose is 5.0 l/ha	700g metamitron
Efeckt/Oblix 500 SC*	Maximum total dose is 1.2 l/ha post emergence of the crop Total for pre and post emergence application must not exceed 2.0 l/ha	500g ethofumesate
Ethofol*	Maximum total dose of 2.0 l/ha	500g ethofumesate
Oblix MT/Volcano*	Maximum total dose of 6.0 l/ha	150g ethofumesate 350g metamitron

* A maximum total dose of 1.0kg of ethofumesate over a three-year period on the same field applies.

Black-grass

Final treatments on the two black-grass trials were due to be applied on Monday the 6th June 2016. . One of these will be a late Centurion Max which will be compared to a number of treatments including early sprays of Centurion Max, applied on the 16th May 2016. The shortest spray interval that we have looked at between Centurion Max and **Betasana Trio** is 3 days, however, the most common spray interval used was 7 days. The trial also looks at the benefit of using ethofumesate pre-emergence. Black-grass head and plant counts will be carried out in a few weeks’ time.

BASIS points for the technical information provided by this series of updates are CP/51900/1617/g. To claim them email assistant@basis-reg.co.uk.

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Graph 2. The Effect of the Prolonged Presence of Weeds on Yield of Beet

