

Beet Crops

Technical Update 05

23 May 2017

UPL Europe Ltd, Annual Broad-leaved Weed (ABLW) Sugar Beet Trials – Suffolk 2017

Rain has been very welcome here in Suffolk and sugar beet crops have 'perked' up enormously with the forward beet plants now having 10 true leaves plus (Photo 1.). A typical problem this year has been the uneven emergence of the crop and there are many fields including the UPL trial sites where some beet is only just emerging, this has made weed control decisions very difficult. Photo 2 shows beet in the same row at very different growth stages this is from the Mendlesham 1 trial site.

In untreated plots weeds are now beginning to take over (Photo 3.) with a difference in dominant weed species now showing between trials. At Mendlesham 1 and Yaxley herbicide applications are nearly finished with only a T4 to go onto one treatment. Not all plots received a pre-emergence spray and a few weeks ago it was impossible to see any difference between plots that had and had not received a pre-emergence. However, after the recent rains it appears that pre-emergence herbicides and residuals in general are now 'kicking in'. Watch out for late germinating weeds especially in gappy crops and assess the need for final sprays.

A summary of spray dates at the three trials sites is given below in Table 1.

Table 1. Details of Sugar Beet Trials 2017 – Suffolk (6th May 2017)

Location	Drilling Date	Crop Growth Stage	Pre-em	1st Post-em	2nd Post-em	3rd Post-em
Mendlesham 1	28.03.17	10 true leaves	30.03.17	19.04.17	09.05.17	18.05.17
Mendlesham 2	24.03.17	10 true leaves	28.03.17	19.04.17	20.05.17	
Yaxley	16.03.17	10 true leaves	25.03.17	11.04.17	20.04.17	10.05.17

Fire Brigade Treatments

As final spray decisions approach in some cases there are some large populations of weeds to deal with. It is impossible to list all options but a 'Broadacre' type programme can often help.

- **BETASANA TRIO 2.5 + SHIRO/Debut 30g + Venzar Flowable 0.4 + BETTIX FLO 0.5 + Oil**

The above is supported from the 2 true leaves expanded stage of the beet crop. Remember if using on Fodder beet then an EAMU is required for Venzar Flowable.



Photo 1. Sugar beet at 10 true leaves



Photo 2. Small and large beet plants

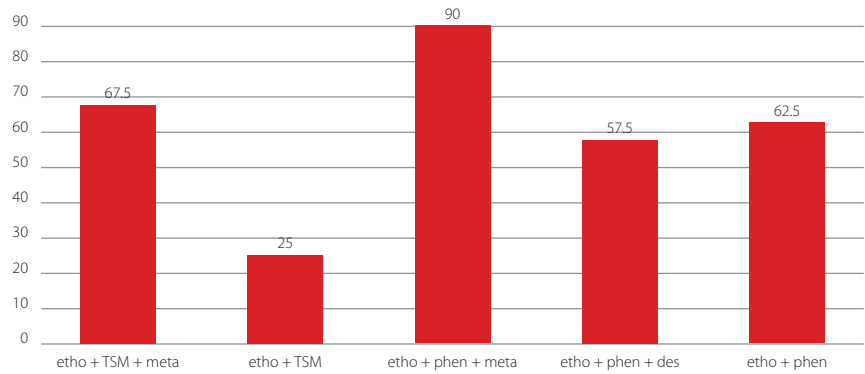


Photo 3. Untreated

Control of Orache in Beet Crops

At Yaxley, UPL has a Development trial where treatments include ethofumesate with a range of different tank mix partners. Graph 1 show results from assessments made in May with respect to percentage control of Orache. The best control so far has come from a combination of ethofumesate + phenmedipham + metamitron. Even in the recent dry conditions the inclusion of metamitron has been important.

Graph 1. % Control of Orache with Ethofumesate and Different Partners



Key:

etho = ethofumesate; TSM = triflurosulfuron-methyl; phen = phenmedipham; des = desmedipham; meta = metamitron

Source:

DCP UPL Development trial, Yaxley 2017

Orache, Creeping Fat-hen (*Atriplex patula*)



Photo 4. Orache

Diagnostic features of Orache

- Orache has broader cotyledons than Fat-hen
- Leaves and cotyledons have a bright-green underside, whilst the underside of Fat-hen cotyledons can be bright purple
- Orache plants are more prostrate than Fat-hen

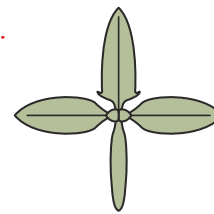


Diagram 1: Orache, young seedling

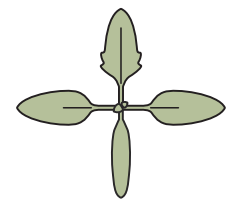


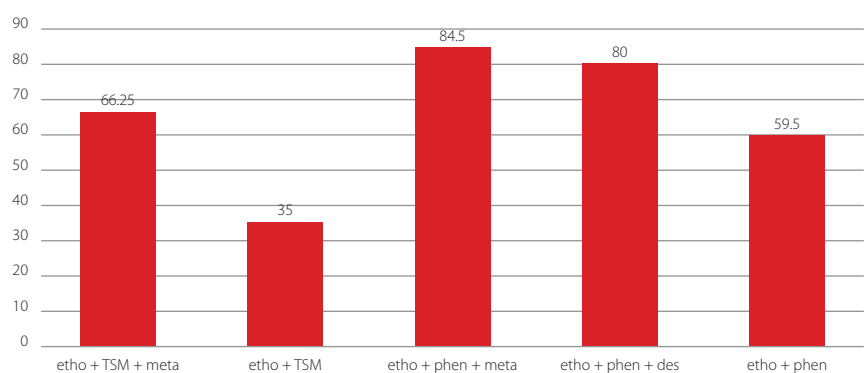
Diagram 2: Fat-hen, young seedling

Yield Effect	Key Actives	Comments	Suggested Products
Yield effects have not been determined for Orache but for Fat-hen a yield reduction of 11% or more for 1 plant for each 1/m ² of crop is quoted.	metamitron	Important to include metamitron even in dry conditions.	BETTIX FLO
	phenmedipham desmedipham	All three actives are available in a formulated mix as BETASANA TRIO .	BEETUP COMPACT
	ethofumesate		EFECKT

Control of Field Pansy in Beet Crops

Graph 2 shows initial assessment results for Field Pansy control, the addition of metamitron to an ethofumesate + triflurosulfuron-methyl program has added an extra 31.25% control and the addition of desmedipham or metamitron to an ethofumesate + phenmedipham programme added 20.5% and 25% control respectively. There were no adjuvants used in this trial, they would definitely have improved the effect of some treatments.

Graph 2. % Control of Field Pansy with Ethofumesate and Different Partners



Key:

etho = ethofumesate; TSM = triflurosulfuron-methyl; phen = phenmedipham; des = desmedipham; meta = metamitron

Source:

DCP UPL Development trial, Yaxley 2017

Field Pansy (*Viola arvensis*)



Photo 5. Field Pansy

Diagnostic features of seedlings

- Cotyledons are oblong and a dark glossy green
- First true leaves are broad with a rounded tip and toothed margins.

Yield Effect	Key Actives	Comments	Suggested Products
Field pansy emerging in large numbers at the same time or shortly after the beet, can compete with the crop and reduce yields. Plants suppressed with herbicides seldom compete.	metamitron phenmedipham desmedipham ethofumesate Addition of oil to larger weeds.	metamitron is the recognized active for Field Pansy control. Contact herbicides and adjuvant oils will help in dry conditions. Aim to control at the cotyledon stage, at larger growth stages expect only suppression.	BETASANA TRIO + BETTIX FLO BEETUP COMPACT + EFECKT + BETTIX FLO

Weather and Weed Control

Under the current warm conditions and now we have high soil moisture content, beet and weeds will both be growing rapidly. Don't forget that beet going through rapid growth can be particularly sensitive to herbicides so if 0% cloud cover, high relative humidity and high temperatures prevail be careful with adjuvants and don't spray during the middle of the day.

Photo 6 shows damage from a recent herbicide application, the beet will recover but it will slow growth down, at this time of the year it is important to reach canopy complete stage as soon as possible to make the best use of the sunlight, so do be careful with adjuvants and 'hot mixes'.

Graminicide activity is improved when conditions are warm and weeds are growing well, in particular clethodim (Centurion Max) if not yet applied should give good control of black-grass now. Remember not to tank mix with broad-leaved weed herbicides and if necessary increase water volumes. Control of perennial grasses such as common couch and creeping bent will also be much improved under these good growing conditions, see BBRO pre and post-emergence grass weed control charts 2017 for further information and product choice. In UPL trials 2016 intervals between Centurion Max and UPL products were reduced to 3 days with no adverse effects but this is at growers own risk.

Clopyralid as in **VIVENDI 200** will also now work much better than prior to the rains as it relies upon movement around the plant for good control of thistles and volunteer potatoes.

According to Morley information

- High temperatures immediately after spraying may cause crop damage with mixtures containing phenmedipham. It is wise to stop spraying at least four hours before temperatures or light intensities rise to damaging levels, i.e above 21°C. Spray very early in the morning or in the evening.
- High temperatures also increase the activity of metamitron.
- When weeds and the crop are growing rapidly, they tend to have less wax on the surface and so it is easier for herbicides to enter the weeds or damage the crop.



Photo 6. Effect of herbicides

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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