

27 May 2014

**Table 1. UPL Sugar Beet Herbicide Trials progress**

Location	Trial objective	Drilling date 2014	Crop growth stage	Pre-em	T1	T1/T2 (graminicide)	T2	T3
Suffolk	Weed screen	20.03.14	8 TL Plus	Not applied	29.04.14	Not applied	Not applied	Not applied
	ABLWs*	20.03.14	2 TL – 8 TL	Not applied	10.01.14	Not applied	22.04.14	21.05.14
Norfolk	ABLWs*	12.03.14	2 TL – 8 TL	Not applied	15.04.14	Not applied	21.05.14	
	Black-grass	12.03.14	2 TL – 8 TL	14.03.14	15.04.14	03.04.14	21.05.14	

\*Annual Broad-leaved Weeds

## General trials update

At Stowbridge, weeds and beet growth were slow earlier in the month and then latterly wind and very hot day time temperatures caused a delay in spraying. At Mendlesham, the crop required a manganese spray which we were keen to apply before progressing with the herbicide programme, and then as at Stowbridge the very hot daytime temperatures together with wind delayed spraying. At both sites rain has been very helpful. Sprays were applied at all sites on 21.05.14, see Table 1.

## Suffolk Site – Manganese and frost damage

On the 9th May there was a 'flurry' of activity at the Mendlesham sugar beet trials site. The majority of the sugar beet plants were showing signs of stress – yellow mottling on the top surface and on the underside a 'silvering' effect (Photo 1) which at first glance looked very similar to red-spider mite activity. Dr Dewar inspected the leaves using a microscope (Photo 2) and no signs of any pest or disease was found. The consensus was that the symptoms were a combination of manganese and frost damage. Symptoms were also seen in the untreated herbicide plots. The field including the trial was sprayed on 12.05.14 with a manganese liquid but an area has been left untreated for observation.

## Formulations and Oils – the effect on crop vigour

On 09.05.14 the ABLW trial at Mendlesham was scored for vigour (Graph 1), differences could be seen between programmes and are reflected in the scores. It is interesting that Treatment 2 is a **Betasana Trio SC** (desmedipham + phenmedipham + ethofumesate) programme including oil and Treatment 5 is the same treatment minus the oil. Treatment 4 is an SE formulation of desmedipham (50) + phenmedipham (150) + ethofumesate (200) which gave good weed control but was harsher on the crop than some of the other formulated mixes. The two 'Broadacre' type programmes, Treatments 14 and 15 both knocked crop vigour; these two treatments have only received one spray unlike all the other treatments which had received two.



Photo 1: Underside of sugar beet leaf – showing 'silvering effect'.

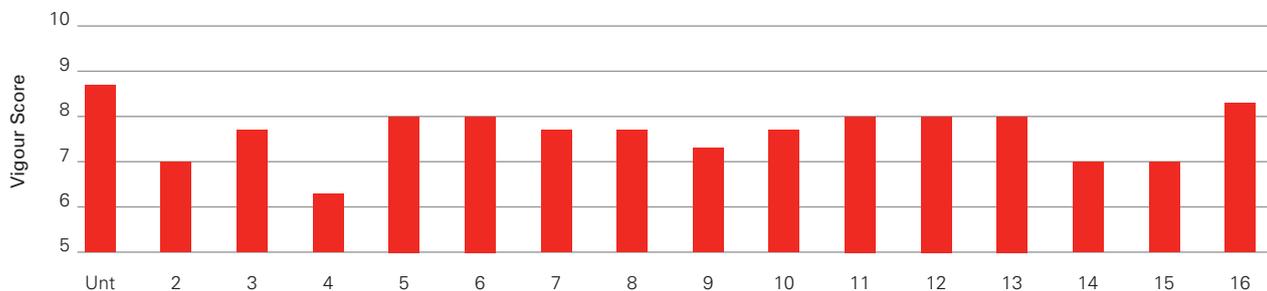


Photo 2: Alan Dewar inspecting sugar beet leaves.

Continues on p2

27 May 2014

**Graph 1. Vigour Scores 09.05.14 at Suffolk – Mendlesham (10 = no effect 0 = dead)**



The messages from the vigour assessments are:

- Be careful when using oils as they can affect crop vigour especially if applied when frosts are still occurring or when conditions are very hot when sprays are being applied
- SE (Suspo-emulsion) formulations can be harder on the crop and should be used with caution at early crop growth stages.
- The 'Broadacre' approach is very effective at controlling large weeds and should also reduce the number of sprays required, but it may have some effect on crop vigour.

Vigour effects tend to be transient and rarely impact on yield; they are also more obvious in trial situations where it is possible to compare a number of treatments. So no need to panic, but worth remembering if the crop is under stress that a programme based on Betasana Trio SC is a safe choice at all crop stages.



Photo 3: Clethodim activity on black-grass.

### Norfolk site – black-grass and ethofumesate sticking

The black-grass at the Norfolk site is present at a range of growth stages from just emerged to well tillered. Centurion Max (clethodim) was applied on the 03.04.14 following a T1 treatment based on **Beetup Compact SC** (desmedipham + phenmedipham) and **Oblix MT** (ethofumesate and metamitron) by the 13.04.14 the black-grass was showing symptoms (Photo 3), no effects on the sugar beet were seen.

As in most years ethofumesate 'distorted/fused leaves' occurs in some fields, a mild example of this was seen in the trials at Stowbridge (Photo 4), leaves also appear thickened and elongated.



Photo 4: Ethofumesate effect on beet plant.

### Potatoes and thistles in sugar beet

The economics of thistle control was covered in UPL Sugar Beet Technical Update No. 6, 22nd May 2013, this can be viewed on the UPL Sugar Beet website [www.uplsugarbeet.co.uk](http://www.uplsugarbeet.co.uk).

In summary, UPL herbicide options to consider for thistle control from the beet at 2 true leaves expanded stage are:-

- **Betasana Trio 2.0 l/ha** (phenmedipham + desmedipham + ethofumesate) + **Debut 20g /ha** (triflurosulfuron-methyl) + **Vivendi 200 0.5l/ha**

**OR**

- **Betasana Trio 2.0 l/ha + Bettix Flo/Defiant SC 1.0 l/ha** (metamitron) + **Vivendi 200 0.5 l/ha** (clopyralid)

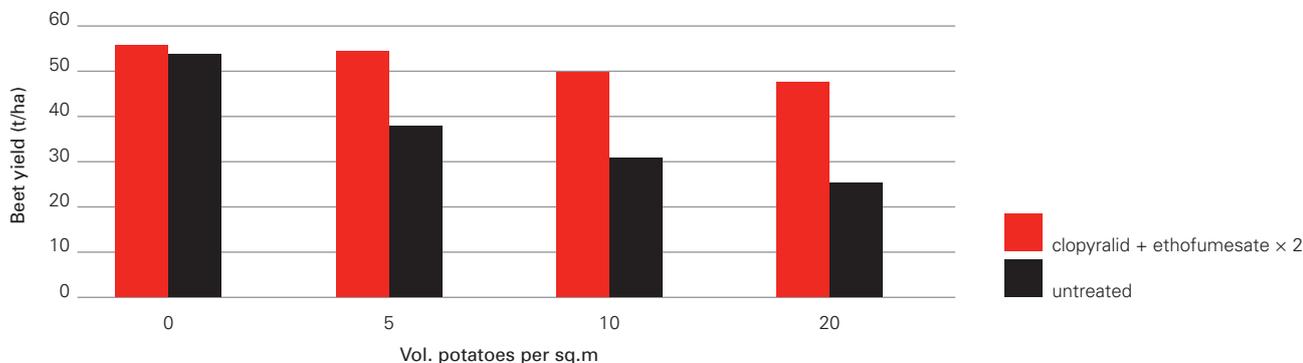
One creeping thistle stem per square metre can reduce the yield of sugar beet by one tonne per hectare.

In the 1990s a lot of work was carried out by Morley Research Centre on the control of volunteer potatoes in sugar beet and much of that work is still relevant today. Graph 2 shows results from using a clopyralid e.g (Dow Shield 400 or **Vivendi 200**) + ethofumesate e.g. (**Oblix 500 SC** or **Ethofol 500 SC** (ethofumesate)) programme to control volunteer potatoes, in summary 5 potatoes/m<sup>2</sup> can result in a loss of 16.5 t/ha of beet.

Continues on p3

27 May 2014

**Graph 2. Volunteer potato control – source Morley Research Centre**



Tips for controlling volunteer potatoes, sourced from Morley Research Centre Bulletins are:

- Avoid just scorching the potatoes as daughter progeny from scorched plants will be more vigorous than those from unscorched potato plants.
- Using **Vivendi 200** in tank mix with other actives such as ethofumesate e.g. **Ethofol 500SC** and triflurosulfuron-methyl e.g. **Debut** will result in quicker effects on the volunteer potato foliage, as opposed to using **Vivendi 200** alone.
- Remember to control volunteer potatoes elsewhere in the rotation.

Volunteer potato control should be well underway by now having commenced when the first emerging potatoes were at 5 – 10 cm high. A programme of three applications of **Vivendi 200** to cover extended periods of potato emergence is recommended. Generally an interval of 14 days is appropriate; remember applications should be completed by the end of June. Note that not all formulations of clopyralid are of the same strength so check labels.

## Mystery Weeds – Russell joins Bill and Richard!

We have received a photograph showing a whole field of 'little Richards' (Photo 5). This week we introduce Russell (Photo 7) who should be easier to identify and is more common than his little friends.

Full points (10) will be awarded for correctly identifying Russell this week. Send your suggestions to [ldalgliesh@uniphos.com](mailto:ldalgliesh@uniphos.com) or on twitter @UPL\_UK. Richard, Bill and Russell didn't make it to the BBRO Open Days, they are rather shy – well I forgot to water them so they looked a bit unhappy!

To aid with identification there is a very good interactive web site at <http://web.adas.co.uk/WeedManager/searchyoung.aspx>



Photo 5: A field of 'little Richards'



Photo 6: Bill



Photo 7: Russell

**BASIS points for the technical information provided by Sugar Beet Technical Update are CP/30274/1213/g (2 CPD). To claim please e-mail [scott@basis-reg.co.uk](mailto:scott@basis-reg.co.uk).**

Acknowledgement to John Youles (Independent Agronomist) based in Lincolnshire for providing updates on progress from 'The North'.

Information in this update does not constitute a recommendation, it is for guidance only. Up to date information can be found on our websites [www.upleurope.com](http://www.upleurope.com) or [www.upsugarbeet.co.uk](http://www.upsugarbeet.co.uk).

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