

Sugar Beet

Technical Update

UPL ABLW Trials Suffolk 2015

Dewar Crop Protection are on schedule with spraying, the T1 applications having been applied to both sites, (Table 1). The sugar beet plants have emerged nicely and we have a good selection of annual broad-leaved weeds!

Table 1. Details of sugar beet trials 2015

Location	Trial objective	Drilling date	Crop growth stage	T1
Mendlesham, Suffolk	ABLW's	23.03.15 (Hornet)	Fully expanded cotyledons	16.04.15
Yaxley, Suffolk	ABLW's	15.03.15 (Haydn)	First true leaves showing (Photo 1)	14.04.15



Photo 1: Sugar beet plant at Yaxley

The weather, drilling dates and first post-emergence sprays

This season is starting off as being relatively cool with the 'odd' warm day and relatively dry (Tables 2 and 3) compared to recent seasons, although not as cold as 2013 and not as dry as 2011.

Table 2. Mean Rainfall for East Anglia (mm) Source: www.metoffice.gov.uk

Year	Feb	March	April	May	Jun	Year	Feb	March	April	May	Jun
2010	82.4	34.1	15.1	25.6	30.4	2013	31.10	53.3	23.8	48.8	20.2
2011	41.3	7.3	4.3	16.2	69.5	2014	73.4	21.7	19.5	93.1	37.6
2012	17.90	34.1	112.7	48.3	98.8	2015	39.5	25.1	—	—	—

When the Mendlesham trial site was sprayed this week, the temperatures had risen to 18°C, Relative Humidity (RH) was 40% and the cloud cover was 15%. The dry conditions and low humidity meant that weather conditions were not optimum for good weed control, and although warm, night temperatures have been cool, so it will be interesting to see the effects of the different programs in the coming weeks.

A useful source of information on the effects of weather and weed control in sugar beet that is still relevant today can be found in Morley Bulletin 101 (April 1995) available on line at tmaf.co.uk. Key points are summarized in Table 4.

Table 3. Mean Daily Temperature for East Anglia (°C) Source: www.metoffice.gov.uk

Year	Feb	March	April	May	Jun	Year	Feb	March	April	May	Jun
2010	2.9	6.5	9.1	10.9	15.5	2013	2.9	2.9	7.9	10.6	14
2011	6.4	6.7	12.1	13.2	15	2014	6.6	8.2	10.7	12.9	15.4
2012	3.7	7.8	7.7	12.2	14.2	2015	4.2	6.8	—	—	—

Table 4. Key points for weather at time of spraying Source: Morley Bulletin No. 101

Rain	Light rain can improve activity of phenmedipham (< 1.0 mm/hour) as it moves the herbicide into leaf axils. Rain will reduce activity if herbicides are washed off the target.
High temps	High temperatures increase the activity of phenmedipham and metamiltron, and at temperatures > 21°C crop safety can be an issue.
Light intensity	Even at low temperatures if crops are growing rapidly crop safety can be adversely affected if herbicides are sprayed under high light intensity (low cloud cover).
Relative humidity (RH)	At high RH levels (> 90%) many herbicides will produce more reliable results, in particular metamiltron.

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Mendlesham trials site

At the Mendlesham trials site cleavers are starting to emerge along with a selection of other weeds, it will be interesting to see if they appear in all of the plots or just in patches. Those that have emerged are not looking 'very perky', having that 'purple' tinge that goes with cooler conditions, control will be best when they are actively growing and are at the 1st whorl stage.

Field pansies are present at both the Mendlesham and Yaxley trials sites, generally a weed that is not considered to be a major problem but in recent years we have seen numbers increasing, and although a pretty flower, in large numbers it can be troublesome!



Photo 2: Cleaver beside a sugar beet plant



Photo 3: Cleaver – purple leaves



Photo 4: Field pansy

Cleaver (*Galium aparine*)

Diagnostic features of seedlings

- Cotyledons are very large (Photo 2), they can sometimes appear purple/green in colour, especially if the weather is cold (Photo 3).
- Oval cotyledons are notched at the tip, the notch going inwards like a 'cleavage'. (A female is allowed to make this comment!) See Diagram 1.
- Can be confused with ivy-leaved speedwell but the notches at the tip go outwards on the speedwell.
- True leaves appear as whorls.



Diagram 1: Cleavers, showing 1st whorl or notched tips. (Source: Morley Bulletin No 27)

Yield effect	Key actives	Comments	Suggested products *
Not quantified, but very competitive and considered a key weed to control.	triflusalufuron-methyl ethofumesate	Sprays work best at the 1st whorl stage when cleavers are green and actively growing.	Betasana Trio + Debut or Betasana Trio + Safari Lite WSB

* Based on UPL products with appropriate tank mix partners. Betasana Trio = phenmedipham, desmedipham and ethofumesate. Safari Lite WSB = triflusalufuron-methyl + lenacil. Debut = triflusalufuron-methyl.

Field Pansy (*Viola arvensis*)

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.** In recent years numbers have been increasing with > 60 plants m ² being recorded.	metamitron	Plants suppressed with herbicides seldom competitive. Aim to control at the cotyledon stage.	Betasana Trio + Bettix Flo

* BBRO – Growers Guide (Weed control)

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