Beet Crops

Technical Update 03

12 April 2019

UPL Europe Ltd (UPL) – sugar beet trials progress

All four UPL trials have now been drilled, pre-emergence sprays applied where required and first post-emergence sprays will be applied early next week. Key weeds that are emerging at present at the trials site are volunteer oilseed rape and black-bindweed.

Photo 1. Beet at cotyledon stage

UPL beet herbicide tank mixes with insecticides

A frequently asked question at the moment is about insecticide applications to beet crops, will they mix with herbicides or not? Advice from UPL on tank mixing insecticides with herbicides follows and is summarised in Table 1, BUT the key consideration should be to 'get the timing right' by following advice from BBRO.

UPL **do not support** any insecticide tank mixes i.e. with **Teppeki** (flonicamid) or **Biscaya** (thiacloprid) with their annual broad-leaved weed herbicides e.g. **BETASANA TRIO** (phenmedipham + desmedipham + ethofumesate), **BETTIX FLO SC** (metamitron), **BETASANA SC** (phenmedipham), **BEETUP COMPACT SC** (phenmedipham + desmedipham) for the following reasons:

- The Teppeki label has a water volume requirement of 200 – 500L/ha which **cannot be reduced** when applying at the 0.14kg/ha recommended rate.
- To obtain the best control from beet herbicides targeting annual broad-leaved weeds water volumes of 80 – 150L/ha of water are recommended.
- Insecticides will benefit from being applied at higher water volumes to obtain better control of aphids.

UPL has tested the physical compatibility of **CENTURION MAX** (clethodim) with Biscaya (thiacloprid) and at recommended rates of use they will mix in the sprayer tank. Note no tests have been undertaken to check for any adverse crop phytotoxicity or for the biological efficacy of the individual products when applied as a tank mix. UPL accepts no liability for physical compatibilities; therefore, use is at grower's own risk.

Belchim has tested the physical compatibility of **CENTURION MAX** (clethodim) with Teppeki (flonicamid) at recommended rates of use. These compatibility tests were carried out in 200L water per hectare. Belchim Crop Protection gives no warranty and accepts no liability in respect of the crop safety or biological efficacy of tank mix compatibilities and use is at the operators own risk.

Note there is **no information** regarding the addition of adjuvants to Insecticide + **CENTURION MAX** (clethodim) mixes.

Table 1. UPL beet tank mixes with insecticides – summary

Tank mix		Comment
BETASANA TRIO + Teppeki or Biscaya	NOT SUPPORTED	UPL DO NOT SUPPORT any annual broad-leaved weed control herbicide tank mixes with an Insecticide
BETTIX FLO SC + Teppeki or Biscaya		
BETASANA SC + Teppeki or Biscaya		
BEETUP COMPACT SC + Teppeki or Biscaya		
CENTURION MAX + Teppeki	Physically compatible at recommended rates of use not tested with any adjuvants	
CENTURION MAX + Biscaya		

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Black-grass control

Hopefully in beet fields where black-grass is a known problem pre-emergence sprays that included **EFECKT/OBLIX 500/ETHOFOL** (ethofumesate) have been applied even though conditions have been relatively dry. All UPL brands of "straight" ethofumesate now have the same label and contain 500g/L of active, they can all be used on sugar beet, fodder beet and beet destined for the AD plants.

Pre-emergence use of EFECKT/OBLIX 500/ETHOFOL

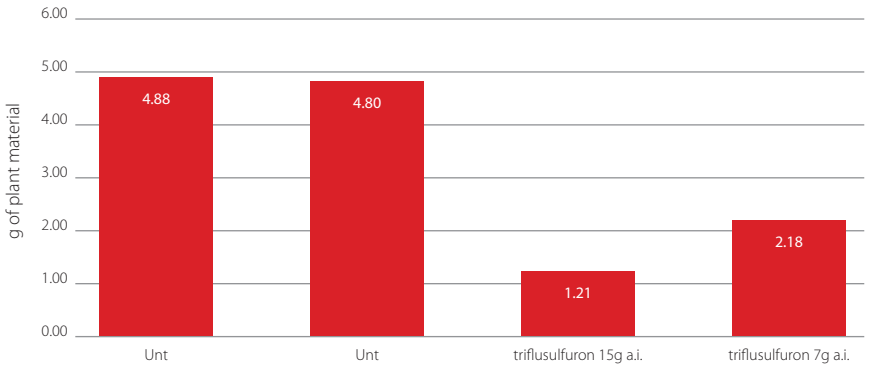
- Maximum individual dose of **EFECKT/OBLIX 500/ETHOFOL** is 2.0L product/hectare before crop emergence. Maximum total dose pre-em is 2.0L product/hectare/crop.

Post-emergence use of EFECKT/OBLIX 500/ETHOFOL

- Maximum individual dose of **EFECKT/OBLIX 500/ETHOFOL** is 0.6L product/hectare before crop leaves meet between the rows. Maximum total dose post-emergence is 1.2L product/hectare/crop.

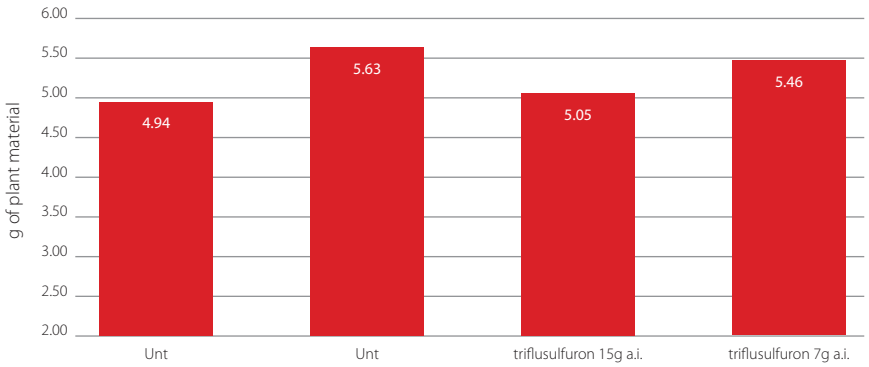
It is worth remembering that **SHIRO** (triflusulfuron-methyl) will have some effect on ALS sensitive black-grass so it is worth including in post-emergence programmes, Graph 1. However, it will not be effective on ALS resistant strains of black-grass. Graph 2. The population of black-grass within a field is likely to contain a mixture of strains, resistant and sensitive to ALS chemistry. **SHIRO** (triflusulfuron-methyl) is generally applied from the T2 timing onwards and always with an adjuvant oil. However **SHIRO** can be applied from the fully cotyledon stage of sugar beet or fodder beet, but take care if frosts are forecast and choose tank mix partners carefully.

Graph 1. Effect of SHIRO (triflusulfuron-methyl) on sensitive black-grass (Rothamsted strain)



Source:ADAS/J.Lowe 2014
Pot Screen 3 reps

Graph 2. Effect of SHIRO (triflusulfuron-methyl) on resistant black-grass (Peldon strain)



Source:ADAS/J.Lowe 2014
Pot Screen 3 reps

The main active for black-grass control post-emergence should be **CENTURION MAX** (clethodim), the inclusion of a water conditioner such as X-Change can be useful and should be added to the spray tank first. Key points to consider when using **CENTURION MAX** are:

- Try and apply **CENTURION MAX** prior to any ethofumesate or triflusulfuron-methyl containing products as these can affect the growth of the black-grass. The black-grass should be actively growing to get optimum control from **CENTURION MAX**.
- **CENTURION MAX** can be applied from the fully expanded cotyledon stage of the beet up until row closure, earlier timings are preferable from when the black-grass has 3 leaves and is actively growing.
- DO NOT tank mix **CENTURION MAX** with any other herbicide product as this can reduce the level of control of the black-grass.
- Stewardship guidelines for **CENTURION MAX** (clethodim) for sugar beet are available at **www.arystalifescience.co.uk** (now part of UPL) and as always consult the label for full details on correct use.

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Photo 2. Volunteer OSR

Photo 3. Black bindweed

Specific restriction for ethofumesate

To protect groundwater the maximum total dose must not exceed 1.0kg ethofumesate per hectare in any three year period. This equates to 2.0L/ha of **EFECKT/OBLIX 500/ETHOFOL** BUT remember that ethofumesate is included in a number of other products that may be used on beet crops, see Table 2 below for information on UPL products.

Where **XERTON** (ethofumesate) is applied to winter wheat, this also counts towards the maximum total dose over a three-year period, as does any application of ethofumesate containing products to herbage seed crops. **XERTON** contains 417g/L of ethofumesate and only has approval for use on winter wheat and cannot be applied to beet crops.

Table 2. UPL beet herbicides that contain ethofumesate

Product	ethofumesate content (g a.i./L)	Other actives included in product
BETASANA TRIO	115	phenmedipham and desmedipham
BETA-TEAM	150	phenmedipham and desmedipham
OBLIX MT	150	metamitron
PHEMO	51	phenmedipham and metamitron
TEAMFORCE	100	phenmedipham
TRILOGY	115	phenmedipham and desmedipham
VOLCANO	150	metamitron

The next beet bulletin will be on Friday 3 May.

If you require further technical information on the UPL beet product range then please contact me at **pam.chambers@upl-ltd.com**.

BASIS points for the technical information provided by this series of updates are CP/67237/1819/g.
To claim them email assistant@basis-reg.co.uk.

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