

Weed Beet and Conviso Smart System

Introduction

Just one weed beet or bolter per square metre can reduce sugar beet yields by 11% through shading and competition for water and nutrients. Weed beet can also host pests and diseases such as beet cyst nematode, rhizomania and foliar diseases.

On average 1500 viable weed beet seeds are produced per plant and hence numbers can increase rapidly if weed beet are not adequately controlled. Control costs also rapidly increase with increased numbers and hence a control strategy should be planned before drilling. Delaying cultivations after harvest allows an opportunity for seeds to be eaten by birds and mice. Seed which is ploughed in becomes dormant but can remain viable in the soil for more than 20 years. However, lengthening the rotation can help to reduce the numbers of weed beet in future sugar beet crops.

Where a severe weed beet population is expected, consider delaying drilling to allow weed beet to be controlled in a stale seedbed with a non-selective herbicide. Choose a variety with a low bolting characteristic (particularly when drilling early) or plant an ALS herbicide tolerant (CONVISO® Smart) variety.

Key Points

- One weed beet or bolter per square metre can reduce sugar beet yields by 11%
- On average 1500 viable weed beet seeds are produced per plant and hence numbers can increase rapidly
- Hand pulling is the most effective control method in conventional varieties. Remove plants from the field if flowering is completed
- The CONVISO® Smart herbicide tolerant technology system is an alternative approach to provide effective control of weed beet
- Stewardship of CONVISO® Smart is important to ensure the long term efficacy of the herbicide and taking steps to prevent herbicide resistance developing



← Pre-flowering

Open flower →



← Post
pollination

Maturing
seed →



Before or during flowering weed beet and bolters should be pulled, have stems broken close to root and left on top of the crop to die

After flowering, plants will potentially have set seed and should be removed from the field to prevent mature seed falling into the field

Control methods

Hand pulling

The most effective method of control in crops of conventional varieties. Remove plants from the field if flowering is completed. There is a saying about flowering “If in doubt, carry them out!”. See guidelines above.

Tractor hoeing

Most effective before the weed beet have more than four leaves, as the chance of resetting is reduced.

Weed wiping

Complete by the time roots are of a harvestable size to avoid rotten weed beet reaching the factory or causing contamination in storage.

Cutting

The least effective method but the only real option where levels of weed beet are above 10,000/ha. Using an efficient three cut programme can achieve high levels of control. Fewer cuts will be less effective. At harvest, aim to minimize losses as crowns and whole roots left in the ground can flower and set seed in following crops.

Herbicide tolerant technology - CONVISO® Smart

The CONVISO® Smart herbicide tolerant technology system is an alternative approach which provides effective control of weed beet. The system is based on two components: use of an ALS herbicide tolerant (Smart) variety in conjunction with the dedicated herbicide CONVISO® One, a formulated product containing foramsulfuron and thien carbazone-methyl, an ALS inhibitor herbicide. Knowing the target weed species and correct application timing are key to successful use of this technology.

CONVISO® One should be applied as a single 1.0 l/ha application in 150-300 l/ha water. Timing is based on the key indicator weed species fat-hen which should be at the 4 true leaves stage at application.

CONVISO® Smart Stewardship

Stewardship of CONVISO® Smart is important to ensure the long term efficacy of ALS inhibitor chemistry by taking steps to prevent herbicide resistance developing. The key aspects of CONVISO® Smart Stewardship are outlined in the box below:

- At planting, ensure thorough cleaning out of the drill when switching between varieties – DO NOT mix seeds
- Mark and record each variety location
- Use the recommended full rate
- Apply at recommended growth stage of weeds being treated
- At spraying, thoroughly cleaning the spray tank when switching between CONVISO® One and conventional sprays is essential
- Plan for complete bolter removal from every field, repeat if necessary
- After harvest, ploughing is recommended following CONVISO® Smart sugar beet, monitor groundkeepers that are showing signs of new growth, and treat with a non-ALS based herbicide
- Refer to the CONVISO® One label for tank mix and following crop information
- Breeders specific stewardship guidelines should be adhered to

CONVISO® Smart System – FAQs

How can you distinguish between Smart and conventional seed?

SMART seed has purple inner pelleting whereas conventional sugar beet seed is grey on the inside

Can I mix Smart and conventional seed?

DO NOT mix seed types. Completely clean out the drill when changing between SMART and conventional varieties. Conventional beet will be killed if treated with CONVISO® One

What is the application recommendation for CONVISO® One?

Apply a single application of 1.0 l/ha at cotyledon – 4 true leaves stage of fat-hen (or other weed species present)

What weeds are controlled by CONVISO® One?

Key difficult weeds controlled include: fat-hen (*Chenopodium album*), knotgrass (*Polygonum aviculare*), fool's parsley (*Aethusa cynapium*) and annual mercury (*Mercurialis annua*)

Do I need to clean the sprayer after CONVISO® One??

Always clean the sprayer thoroughly (a proprietary cleaner is recommended) to avoid damage to susceptible crops

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