

## Industry strategies for the control of Virus Yellows in Sugar Beet

2020 2022 2024 2026 2028 2030

### Support traditional seed breeding programmes

First partially VY tolerant variety “Maruscha KWS” available on the industry Recommended (seed) List (yield drag compared to elite varieties). Partial tolerance to Beet Mild Yellowing Virus (BMYV).

Additional varieties with partial (BMYV) & Beet Yellows Virus (BYV) tolerance, but with continued yield drag relative to the susceptible alternatives.

Continued development and introduction of partially tolerant/resistant varieties with less yield drag compared to elite varieties onto the industry Recommended List.

### Gene Editing

Genotype/phenotype evaluation, data mining and gene mapping towards identification of genes to be silenced.

Carry out initial pilot edits ahead of trial-scale volumes. Screen progeny to ensure VY resistance expresses in practice without detrimental traits. Escalate to field-trials to ensure performance in field conditions.

Multiplication into commercial volumes ahead of progress through National List and Recommended List trials.

### Improved seed germination

Improved knowledge exchange to optimise mature plant resistance by advancing crop development to 12-leaf stage. Communicating best practice on soil health, cultivations & drill operations.

Improved pellet coatings to aid germination and faster crop establishment. Assessment of soil and foliar nutrient/microbiological applications to advance early leaf development. Development of precision nutrient application techniques such as placement.

### Innovative grower practices and IPM

Technical support to drive knowledge exchange to improve crop husbandry and hygiene measures, including development and application of Integrated Pest Management (IPM).

Further testing of evolving & novel IPM approaches to ensure robust strategies can be applied in the field effectively.

### Sustainable spray programme

Fonicamid and acetamiprid fully-approved. Emergency Authorisations for sustainable 3-spray programmes.

Work with commercial companies to trial new aphicides under field conditions towards full approval of a 3-5 established sustainable spray programme.

### Cover crops

Field trials to determine how cover crops & camouflage methods can deter aphids feeding on sugar beet plants.

Further field trials exploring the merits of alternative cover/companion crop species and optimised means of cover/companion cropping benefit delivery.

Work with commercial companies to deliver companion/cover cropping products to growers capable of deterring aphid pressure in sugar beet plants.

### Seed treatments

Cruiser derogation to allow for development of practices / seed varieties / sustainable sprays. Continued evaluation of alternative seed treatments and targeted preventative chemistry/biology capable of delivering young plant protection whilst encouraging beneficials.