VERSION FOUR - UPDATED MARCH 2026

Industry strategies for the control of Virus Yellows (VY) in sugar beet

	2020	2022	2024	2026	2028	2030 onwards
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).		New seed working model brings VY tolerant varieties to market sooner to accelerate adoption – novel ratings.	Additional varieties with partial tolerance and improved yield performance than first generation tolerant varieties.	Continued development and adoption of tolerant varieties with less yield drag compared to elite varieties onto the Recommended List.	
Gene Editing (GE)	Genotype/phenotype evaluation, data mining and gene mapping towards identification of genes to be silenced.		Innovate UK grant awarded for collaborative project between British Sugar, The John Innes Centre and Tropic Biosciences. Viral target genes identified enabling GEiGS® silencing solutions to be generated and validated (in cells).	Further Innovate UK funding granted to enable project expansion. Viral silencing efficiency of GEiGS® solutions validated in plants. Development of sugar beet transformation platform.	Generation of GE plants and validation in small scale. Progeny screened to ensure VY resistance expresses without detrimental traits. Escalate to field trials and multiply into commercial volumes ahead of starting National and Recommended List trials.	
Improved seed germination and rapid establishment	Improved knowledge exchange to optimise mature plant resistance by advancing crop development to 12-leaf stage, including best practice on soil health, cultivations and drill operations.		Giving growers access to improved pellet coatings to aid germination and faster crop establishment. Continued 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 Integrated Pest Management (IPM)	Technical support to drive knowledge exchange to improve crop husbandry and hygiene measures, including development and application of IPM. Field trials to determine how cover crops & camouflage methods can deter aphids feeding on sugar beet plants.		Further field trials exploring merits of alternative cover/companion crops including endophytes, beneficial hosts, camouflage and deterrents. Evaluate the viability of deterrents (coloured dyes and AgriOdor™).	• Further testing of evolving and novel IPM approaches to ensure robust strategies can be applied in the field effectively. • Utilising compounds derived from mature sugar beet to limit VY infection. • Integrating best IPM practices and promoting appropriate use of aphicides. • Work with commercial companies to deliver companion/cover cropping products to growers capable of deterring aphid pressure in sugar beet plants.		
Sustainable spray programme	Flonicamid and acetamiprid fully-approved. Emergency Authorisations for sustainable 3-spray programmes.		Trialling new (*to industry*) sugar beet aphicides.	• Work with commercial companies to trial new aphicides under field conditions towards full approval of a 3-5 established sustainable spray programme. • Reviewing threshold for spray/treatment.		
Aphid forecasting, monitoring and reporting	Aphid forecasting is undertaken using the Rothamsted Research model which accurately predicts Virus Yellows incidence. The BBRO's Yellow Water Pan network monitors and informs growers of local aphid pressure.		Ongoing work to improve specificity and regionalisation of forecasting, alongside weekly monitoring and reporting during late spring and summer months.		Explore and analyse the impact of integrating hyperspectral cameras to improve monitoring of aphids at field level. Continuation of monitoring and reporting to growers.	
Knowledge exchange	Knowledge exchange between whole industry to continue throughout the year: sharing the latest Virus Yellows research, advising on best-practice solutions to implement on farm, and promoting actions towards quicker establishment and earlier mature plant resistance.					