

PHC2018/03 – Policy summary for the assessment of the potential of the psyllid *Trioza anthrisci* to vector ‘*Candidatus Liberibacter solanacearum*’ (Lso) in Scotland

The aim of this project was to assess the distribution and host plant of the psyllid *Trioza anthrisci*, following a recent finding of this species carrying Lso Haplotype C (which is associated with carrot crops in Scandinavia and Germany) in the Elgin aphid suction trap. As this is a recent finding it is not known whether this species is capable of acting as a vector for the economically damaging potato pathogen Lso Haplotype A or B, the causal agents of Zebra Chip disease, should they arrive in Scotland.

1a - Teams from SASA, Hutton, and Forest Research sampled crops and field borders from East Lothian to Morayshire. A total of 39 sampling events were recorded over a six week period between July and September 2018. *T. anthrisci* were found exclusively in carrot crops near Elgin during the sampling period. Further collections at the same sites gathered enough individuals to set up colonies at two organisations. It is of note that *Trioza apicalis* (the carrot psyllid), which is considered to be the main vector of Lso in carrot crops in Scandinavia, was not found during sampling.

2a – *T. anthrisci* were reared on cow parsley (*Anthriscus sylvestris*) and carrot plants in cages within controlled environment insectaries at SASA and Hutton respectively. Colonies declined and were mostly lost in late December 2018. One small colony remained at SASA by mid-February.

3a – Ongoing results were disseminated to the CPHO and others at a molecular entomology seminar held at SASA on 5 December 2018, and at internal SASA meetings throughout. A psyllid training workshop was also held at SASA on 22-23 January 2019 with seven attendees from Forest Research, Hutton and SASA. Training expertise was provided by SASA and the Natural History Museum. Positive feedback was received from attendees who reported that the specific training objectives had been met.

General conclusions and summary

Sampling of the main carrot growing areas in Scotland indicates that the population of *T. anthrisci* may be relatively local and at low levels, and that this species can be found on carrot crops. These findings will help to inform risk assessments of disease transmission to potato crops. The impact of this finding should be placed in context with the fact that Elgin and surrounds are major high grade potato seed production areas, and therefore carry a risk of rapid spread of Zebra Chip disease should it arrive in Scotland. One colony remains in culture; this could be used in future feeding and transmission studies to further determine risk.

This project has also allowed relevant staff working within the Plant Health Centre to develop new skills, networks and partnerships; increasing capability and improving preparedness in the event of an outbreak.

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