

## Trapping of *Lygus rugulipennis* in Norwegian strawberry crops

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### **Background**

The European tarnished plant bug (ETB), *Lygus rugulipennis*, is a highly polyphagous insect pest which in strawberry causes malformation of berries. No effective biocontrol agents or other alternative methods are available. «Softpest Multitrap», a CORE Organic project, aims to develop a semiochemical trap for strawberry that attracts ETB and the strawberry blossom weevil, *Anthonomus rubi*, simultaneously. We investigated the effect of adding a plant volatile from strawberry («PV2») to commercially available sex pheromone traps used to monitor ETB populations. PV2 is an *A. rubi* attractant. We also studied the relationship between ETB trap catches (males) and berry damage.

### **Methods**

Ten sites (6 in strawberry crops, 4 in semi-natural boundary vegetation) in Akershus, south-eastern Norway, were provided with five traps each: two transparent cross-vented collision traps and three green-vented funnel traps. The three funnel traps were baited with PV2 lure only, ETB sex pheromone lure only, and both lures, respectively. Traps were emptied every fortnight from May to October 2013. ETB nymphs were monitored by tap sampling (crop habitat) and sweep-netting (semi-natural habitat). To survey ETB damage, ca 100 berries from each of the six crops were scored on a scale of 1 (no damage) to 4 (totally damaged) just before picking started.

### **Results**

ETB was hardly found in collision traps or in funnel traps with PV2 alone. Very few females were caught in any traps. Traps with both PV2 and sex pheromone tended to catch less than traps with pheromone only. Catches were significantly bigger in strawberry than in semi-natural boundary.

ETB overwinters as adult, with one generation per year in Norway. Catches in the crop peaked at the start of the trapping period, shortly after snow melt. From mid-June catches dwindled and never recovered, meaning that traps caught overwintered males, but not new adults emerging in late summer. The first nymphs appeared in early July, peaking in mid to late July according to tap-sampling and sweep-netting data. In the berry damage assessment the overall percentage of severely damaged berries (score 3+4) was 20.5 %, ranging from 5 to 28 %. More data is needed to investigate the relationship between pheromone catch and nymphs or % damage.

**Conclusions**

ETB sex pheromone traps in Norwegian strawberry must be deployed very early in the season to maximize catches. To trap females or the new generation, other attractants must be added. The *A. rubi* attractant PV2 may act as a slight antagonist in ETB trapping, especially early in the season.

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