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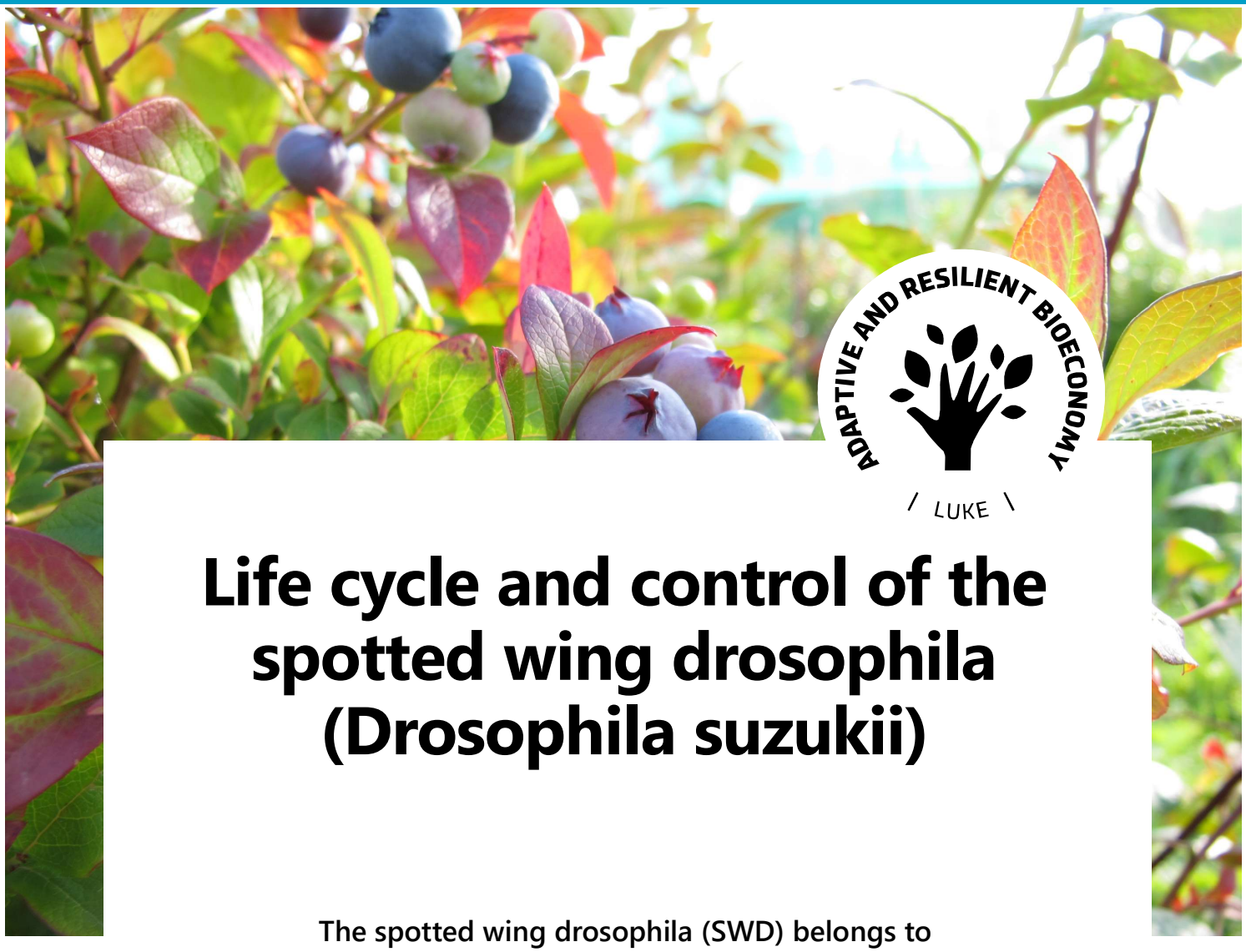
Factsheet



ADAPTIVE AND RESILIENT BIOECONOMY
/ LUKE \

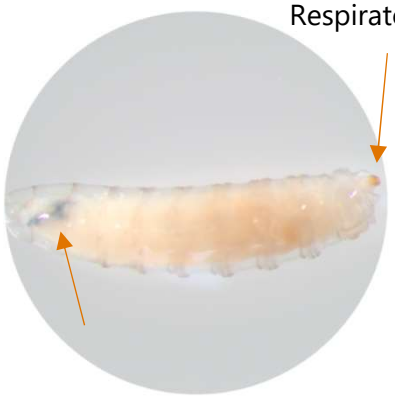
Life cycle and control of the spotted wing drosophila (Drosophila suzukii)

The spotted wing drosophila (SWD) belongs to drosophilid flies like the banana fly, which are often observed in overripe and damaged fruits and berries. Unlike other drosophilid flies, the SWD can lay eggs in intact berries and fruits, as well as in developing unripen berries.

The SWD is very polyphagous and it can utilize most of edible berries and fruits.

The SWD can reproduce rapidly under suitable conditions and cause great economic loss in berry and fruit crops. One possible overwintering adult in Finland has already been found. The introduction of larvae and eggs through imported berries has also been observed as possible.

Male black wing spots



Larve black mouth hooks

Female ovipositor

The life cycle of a Spotted Wing Drosophila from egg to adult can last 10 days at its shortest

The life cycle of a SWD

- SWD fly reproduces best at 16-25°C.
- At temperatures below 10 °C, it is not known to reproduce.
- Cold winter as well as dry and warm summer decrease occurrence.
- Mild winters and proximity to water, as well as sheltered places, like forest edges favor reproduction.
- The flight peak for females is in August-September.
- The female usually lays 100-300 eggs and damages 7-16 berries per day.
- The larva develops inside the berry and often drops to pupate on the ground.
- There may be several generations during the growing season. Generation time at +22 degrees approx. 2 weeks
- Popyphagous, several berries and fruits undergo reproduction, including forest berries

The description of a SWD

- The adult SWD fly is a 2-3 mm in size, red-eyed fly, resembling a banana fly.
- The coloration of the body is yellowish brown and there are uniform, black transverse stripes on the abdomen.
- Males have black spots on the wingtips, but in females those are absent.
- In male foreleg the two sex combs are parallel to the leg while in other drosophilid species sex combs are transversely.
- Females have a strong, black-toothed and serrated ovipositor.
- The egg has two respiratory filament, which can also be visible on the surface of a berry.
- The larvae are 1-4 mm long, white, legless and have black mouth hooks and 2 pcs sharp respiratory filaments at the anal end.
- The egg-laying causes point-like holes in the surface of the berries and fruits.

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Pathways of introduction of the SWD

- Risk products, especially fresh imported raspberries, blackberries, cherries and blueberries
- The origin of the SWD in Asia, but almost all countries where berries are imported are already risk areas
- Larvae and eggs transported within imported berries and fruits can emerge to adults under suitable conditions and spread to surrounding nature or domestic berry farms

Rapid circulation of goods and responsible waste disposal

- Adequate cooling of imported berry lots (1°C to 3°C: 12 h -3d), rapid circulation of goods, avoidance of surplus
- Imported berry and fruit waste can serve as a source of infestation
- Freezing berry and fruit waste before disposal kills the eggs and larvae (-20 °C min 2 d)
- The drainage intervals of bio-waste containers should be kept short during growing season, if not pre-freezing of the berry waste used
- Responsible further treatment of bio-waste: waste must not be dumped in the forest!

SWD pathways and risks

- **Transported with foreign berries and fruits**, among others, in foreign raspberries, bush blueberries and cherries
- **Risks: storage and handling of imported berries and fruit, surplus and waste generated**
- Shop and wholesale bio-waste containers
- Roadside waste bins
- Workers Luncheon boxes and own home composts
- **The best preventative control is the eaten product!**

Further information:
https://gd.eppo.int/taxon/DROSSU/datasheet

Pest identification service:
kasvintuhoojalaboratorio@ruokavirasto.fi

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