

## Session 6

### Poster 127

#### **Are sown flower strips an efficient tool to limit viral epidemics and aphid colonization in melon crops?**

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The melon aphid *Aphis gossypii* is a serious pest on melon crops causing leaf-curling, stunting and even plant death when colonization is intense. It is also an efficient vector of four viruses frequently observed on melon crops in France: *Cucurbit aphid-borne yellows virus* (CABYV, Polerovirus, Luteoviridae), *Cucumber mosaic virus* (CMV, Cucumovirus, Bromoviridae), *Watermelon mosaic virus* (WMV, Potyvirus, Potyviridae) and *Zucchini yellow mosaic virus* (ZYMV, Potyvirus, Potyviridae). The management of aphids and viruses is all the more challenging that the evolution of the regulation (plan Ecophyto 2018) imposes a progressive reduction of the usage of the phytosanitary products. Innovative strategies are needed to control these bioagressors. The bibliography suggests that the management of field margins could contribute to regulate the populations of aphids and/or their viral load. Indeed, flower strips can participate in aphid biological control by favoring natural enemies and strips of non-host plants can protect crops from non-persistently aphid-transmitted viruses by allowing aphids to probe on healthy plants and thus to lose their virus load before reaching the crops. A pluriannual (2011-2015) and multidisciplinary experiment allowed an evaluation of the potential role of sown flower strips to decrease the risk of aphid colonization and the risk of viral epidemics in melon crops.

**Keywords:** *Aphis gossypii*, conservation biological control, *Cucumis melo*, integrated pest and disease management