Monitoring of aphids in sugar beet fields and trial fields, a basic tool to understand virus yellow epidemics in the post neonic era

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Introduction

A basic understanding of the sugar beet yellows epidemics has become a crucial know how tool to allow good disease management for farmers**,** breeding companies and sugar beet institutes in the current frame of the neonics ban. Therefore, the monitoring of aphid visits has become important again. In this project the standard aphid collection protocol developed by the Dutch General Inspection Service (NAK) for the aphid and virus management in seed potato fields was applied to a large number of sugar beet trials and fields in Europe.

Fig. 1 Yellow water pan to trap aphids in sugar beet.

Materials & methods

At thirteen locations yellow water pans (figure 1) to trap aphids were set up into sugar beet yield fields. At five locations yellow water pans were set up inside sugar beet fields, close to commercial seed potato fields with yellow water pans and suctions traps to compare numbers of aphids in the different trap systems. Winged aphids were regularly collected between April and August 2019 and morphologically identified by NAK.

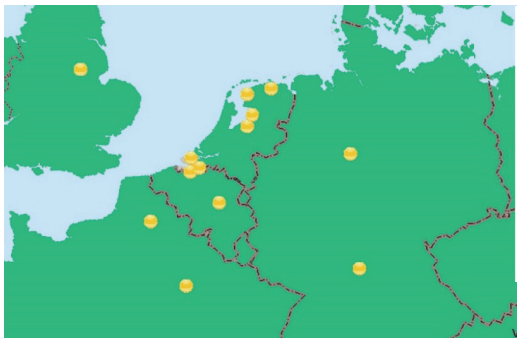

Fig. 2 Locations of yellow water pans.

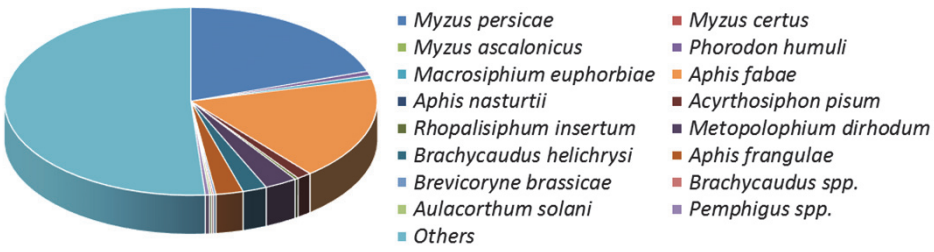

Fig. 3 Total number of *Aphis fabae* and *Myzus persicae* caught in the 13 yellow water pans.

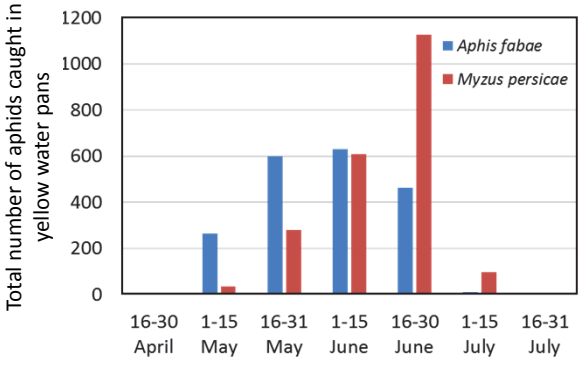

Fig. 3 Total number of different aphid species caught in the yellow water pans (n=13) in sugar beet between April and July 2019.

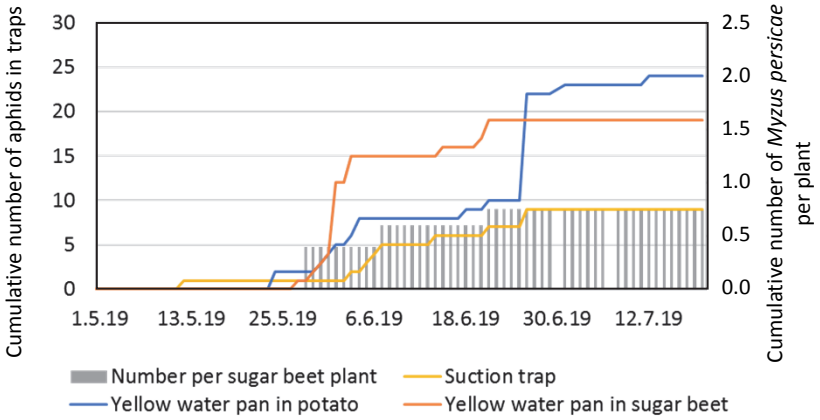

Fig. 4 An example of a comparison of the number of *Myzus persicae* in a suction trap, in the yellow water pan in a seed potato field, in the yellow water pan in a sugar beet field (closely located to each other) and the number counted in the sugar beet crop per plant (Tollebeek (NL), 2019).

Conclusions

- *Myzus persicae* and *Aphis fabae* were the most dominant species in the yellow water pans in sugar beet.
- Most of the aphids were caught in June
- Yellow water pans couldn't predict time of spraying

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