

P2.28 Studies of genetic variation in hoverfly and ladybird populations at regional level by using random simple sequence repeat (iSSR) method

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Beneficial species such as predatory hoverflies and ladybirds are known to positively respond flowered plant species in their environment. The effect of flower herbaceous strip closed to vegetable fields was studied on the dispersion of *Episyrphus balteatus* Degeer and *Coccinella septempunctata* L. Whether the response of the aphidophagous predators to control aphids in the fields was already demonstrated, no accurate data's was available on the identification of the predator origin. Either local populations could maintain themselves at the crop field level through the cultivation season, or several arrivals and departures of individuals from different populations could correspond to beneficial density variation in the crop. To assess the spatial and temporal distribution of *E. balteatus* and *C. septempunctata*, their populations were sampled from the Waremme region (Hesbaye, South Belgium) and analysed using iSSR method. After having selected the primers, polymorphic iSSR bands were generated, pairwise distances were calculated between populations according to Nei and Li and, then used to construct radial neighbour-joining dendrograms. Intra- and interpopulation variance coefficients was assessed by analysis of molecular variation (AMOVA). The genetic variability in each population was calculated by analysis of simple concordance. The dispersal behaviour of the two species was shown to be very different. *E. Balteatus* seemed to be attracted by adapted flower strip closed to the fields. Large dispersions of hoverfly was observed while *C. septempunctata* was shown to move in more restricted areas. Several generations of a ladybird populations was found in the field. The predatory ladybeetle presence in the fields through the cultivation season was not to due to the result of successive arrivals.

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