



O.38 - Evaluation of tools to manage whiteflies in European tomato crops

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Whiteflies and whitefly-transmitted viruses present some of the most intractable constraints to European tomato production. The main objectives of the Tomato Case Study (TCS) were to: identify where and why whiteflies were a major limitation, collect information related to whiteflies and associated viruses; establish which management tools are available; identify key knowledge gaps and research priorities. Two whitefly species are pests of the tomato in Europe. *Bemisia tabaci* is widely distributed, *Trialeurodes vaporariorum* is ubiquitous. Biotypes B and Q of *B. tabaci* are widespread and problematic. Tomato crops are particularly susceptible to Tomato yellow leaf curl disease (TYLCD) and high incidences were associated to its vector, *B. tabaci*. Unlike other tomato pest species, the ranked importance of *B. tabaci* correlated with levels of insecticide use, showing *B. tabaci* to be one of the principal drivers behind chemical control. Confirmed cases of resistance have been reported to almost all insecticides. IPM based on biological control (IPM-BC) is applied in all the surveyed regions and was identified as the strategy consuming fewer insecticides. Other IPM components include greenhouse netting and TYLCD-tolerant tomato cultivars. Sampling techniques differ between regions, decisions are generally based upon whitefly densities and do not relate to control strategies or growing cycles. IPM-BC is the recommended strategy for a sustainable agriculture. However, some limitations for a wider implementation such as lack of biological solutions for some pests, costs of beneficials, low farmer confidence, costs of technical advice and low pest injury thresholds were identified. Research priorities to promote IPM-BC are proposed.