

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

## PROJECT DELIVERABLE REPORT

Deliverable 2.1: Report on gaps in biological knowledge and  
priority experimental list (workshop minutes)



**Fruit Flies In-silico  
Prevention & Management**

**FF•IPM**

### **Project Title:**

**In-silico boosted, pest prevention and off-season focused IPM against  
new and emerging fruit flies ('OFF-Season' FF-IPM)**

SFS-2018-2

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## 1 Summary

The primary purpose of this delivery is to ensure effective operational alignment between the scope of the empiric studies on FF biology conducted under WP2 and the need to obtain critical informative feedback required to execute various tasks of the FF-IPM project, in particular, biologically-relevant parametrisation of the models which will be used to guide the R&D operations of WP5 & WP6 - development of improved FF prevention and management strategies and model-based advisory services.

To accomplish this goal, several workshop-type meetings (in person and remote) were organised. The purpose and general informative requirements of the key models (CLIMEX, DYMEX, PESTonFARM) used in the FFIPM project, as well as the arrangements to ensure biological relevance and consistency of all modelled processes - were discussed during the kick-start meeting held in September 2019 in Volos, Greece.

On 6<sup>th</sup> November 2019,

a Skype tele-conference was organised, attended by all involved parties, to update on the tasks and assign specific roles to the Project partners and Task leaders. During WP5 & WP6 stakeholder workshops and field-visits to the local IPM sites (9-14 December, Greece), the collected materials and the arrangements to accommodate the 'modelling' needs within the plans of WP2 were discussed in detail by the leaders of WP2 and WP6: N. Papadopoulos (UTH) and S.A. Lux (inSilico-IPM).

Thorough literature review was conducted by C. Moraiti (UTH), E. Bali (UTH), G. Papadogiorgou (UTH) M. Karsten (SU), H. Maclean (SU), H. Delatte (CIRAD) and D. Nestel (ARO). The review covered aspects of the biology (behaviour, development, survival etc.) of the target fruit fly species (*Ceratitis capitata*, *Bactrocera dorsalis* & *B. zonata*), which are of relevance to the project scope, and which will be simulated by the respective models employed in the FF-IPM project. For the PESTonFARM model, S.A. Lux (inSilico-IPM) assembled a comprehensive table of the biological parameters and processes simulated by the model, briefly outlined the state of art, identified the key gaps in knowledge, and formulated concise suggestions for the gap-filling research to be considered and incorporated, as much as feasible, into the work plans of WP2. For CLIMEX and DYMEX, D. Kriticos (CSIRO) provided a brief description of parameters used, gaps in knowledge and needs for additional information. The overall D2.1 report was assembled by S.A. Lux (inSilico-IPM) in close cooperation with N. Papadopoulos (UTH).

Three Annexes containing details of the Literature review will be also uploaded on the FF-IPM website. The assembled literature base (PDF copies) of sometimes difficult to find papers, analysis of the state of the art and identification of knowledge gaps, supplemented with suggestions for empiric remedy (gap-filling experiments) constitutes a valuable compendium that will guide FF-IPM operations over four years of the project lifetime. In addition to submitting D2.1. on the EC Funding and Tenders Portal, it will be deposited on the FF-IPM website (in its "private" restricted access section) to ensure easy access for project partners. Furthermore, it will constitute the basis for the publication a number of conceptual papers. Ultimately, it will also serve as a reference to document the progress made by the project.