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ESR 11- Work Package 4

**(Intl.) Secondment Report**

**PCFruit (RSF), Sint-Truiden, Belgium**

**Duration: Apr-May 2018**

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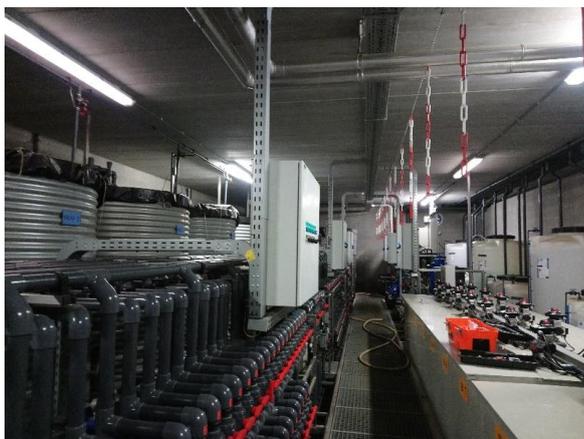
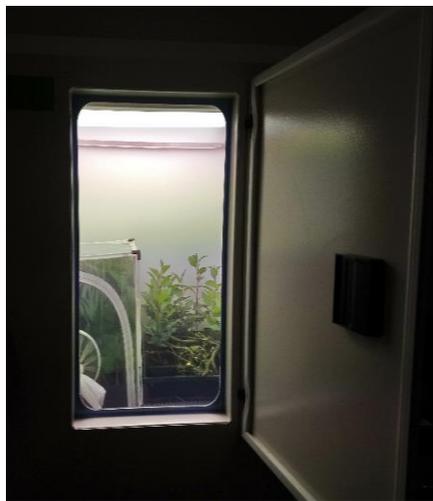
Golnaz attended her secondment at PCFruit (RSF) in Belgium during April-May 2018, as one of the partner research institutes within the INSPIRATION (Managing soil and groundwater impacts from agriculture for sustainable intensification) Innovative Training Network project.

PCFruit is a research institute which is not only active in conducting cutting edge experiments and advance research projects into fruit and small fruit farming, but they also provide farmers with advices on efficient spray application in fruit growing and plant protection, as well as best timing, amount, and type of fertilizers/ pesticides/ herbicides across Flanders (Dutch speaking part of Belgium). In addition, their novel yet simple biofilter which is designed to mitigate pesticides by passing the wastewater through layers of soil, coconut chips, potting soil, and straw, is a perfect example of moving toward sustainable intensification. Here, the layer of the soil is taken from a field with pesticide application thus it is already enriched with bacteria developed in response. The treated water can then be reused for various applications.

Many site and field visits were also conducted to identify dominant pollutant(s) of concern and elucidate which farming practice(s) contributed to the contamination in drains.

Besides, the data and information collected during this secondment helped with developing real life case studies of how agriculture may contribute to impairment of water quality. This project has developed a Decision Support Tool (DST) for selection of locally sourced media for nutrient mitigation at farm scale. This tool was then tested to provide worked examples of its practicality in a different geographical location and under different farming conditions.

This novel DST has been developed for the first time and is part of the deliverable from Work-package 4 in INSPIRATION project and enables operators across the world to choose the most appropriate type of locally sourced media for the mitigation of nutrients at any site (e.g. Nitrate, Ammonium, or Dissolved Reactive Phosphorus), considering the geographical-specific condition into account (i.e., cost to bring the media to the farm and availability of the media to the farmer).



Research facilities at site, greenhouses, monitoring equipment, R & D department, and pesticide bioreactor



Pear and Apple Farms and drainage network at place