

HortEco project

First workshop on “Improvement of soil quality and reduction of agrochemical use in vegetable production systems: onion crop as a model” (ANII_FMV_3_2018_1_148038)

On 20th May, 30 people, among farmers, technicians and researchers, met to discuss how to make the technology of green manure and reduced tillage viable in organic vegetable production.



A workshop in the framework of the HortEco (NWO-WOTRO -no. W08.250.304) and ANII_FMV_3_2018_1_148038 project “Mejora de la calidad del suelo y reducción del uso de agroquímicos en sistemas hortícolas: el cultivo de cebolla como modelo”, was held in Centro Regional Sur

(CRS), Experimental Station of the Faculty of Agronomy (Universidad de la República del Uruguay).

The project aims to develop in a participatory way, alternatives to make viable the technology of green manure and reduced tillage in onion production without using herbicides and synthetic fertilizers. With this technology, we are looking for reducing soil erosion, improving soil quality, reduce weed pressure, but at the same time achieving good yields and avoiding the use of agrochemicals. The idea was born during a workshop with farmers in December 2017. In this workshop opportunities and bottlenecks for agroecological transitions were discussed and this technology was proposed as promising but still very difficult to be implemented successfully in organic and agroecological systems.

During two growing seasons, we will sow a green manure of *Setaria italica* and *Vigna unguiculata*, and we will test the effect of the type of soil management (conventional vs., reduced tillage) combined with applications of native efficient microorganism (NEM) (yes vs. no), on weed pressure, soil quality, nutrient dynamics, soil biological activity, onion crop growth and development, and onion yield. During the first season, the experiment will be carried out in CRS, while in the second season the experiment will be conducted also in two commercial farms. A discussion group composed by farmers, technical advisers and

scientist will follow the experiments in both seasons providing advice and ideas on how to carry different management activities and discussing results.

This workshop was the first, with the objective of sharing the experiment plan, visit the experiment and see the development of the green manure. We discussed around two questions: i. How to manage the end of the cycle of the green manure without using herbicides, what to do, how and when; ii. How to manage nutrient supply during transplanting and the first period of the onion crop, using NEM and other alternatives.

It was a very productive instance. The management plan of the experiment was modified according to new ideas emergent from the discussion. We changed the plan about tools and moments to kill the green manure crop, prioritizing weed suppression effect over nutrient supply.

All participants were excited with the content and the participatory methodology proposed by the project and are motivated for next group meetings.