

Eco-weed control: a participatory experiment on PGS organic vegetable farms in Hanoi and Hoa Binh provinces

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Weed problem and weed control in PGS organic vegetable farms

➤ Weeding is the most labour time consuming including:

Hand weeding

Soil tillage

Intercropping

➤ Missing:

Mulch by crop residue

Good seedling quality



Objectives

Overall:

To increase farmers' labour day income through enhancing crop growth and suppressing weeds by applying good nursery practice and mulching with crop residues



Specific objectives

- Implementing experiments of good nursery practice, mulching with crop residues, minimizing soil tillage with farmer's participation in PGS organic vegetable farms.
- Monitoring experiment performance with farmer's participation (for weed control; crop growth and productivity/quality; labor for nursery practices and transplanting ;and plant growth and development; soil improvements including earth worms, color and smells...).
- Synthesizing experiment data to produce final technical report and videos (for public dissemination)

Activities

Activity n°1:

- Choosing project sites: two locations - Hanoi and Hoa Binh to diver natural and social economic conditions and minimize risks.
- Assessment of existing local vegetable systems (seasonal weed problems and control; sowing and/or nursery practices soil preparation practices).
- Discuss with farmers to choose crops for experiments that will have more value for farmers (i.e., weed control labor) as well as environment (soil physical disturbance).

Activities

Activity n°2: Experiment design

Control: farmer practices

T1: good nursery practices + mulch with crop residue

T2: good nursery practices + mulch with crop residue + minimizing soil tillage.

Two crop season: Feb-May; Jul/Aug – Nov, 2023

Tentative experiment layout



Activities

Activity n°3: Data collection and analysis

- Inputs including labour, seeds, compost
- Output: crop yield, product quality (hardness, colour), income per area and labour day income
- Crop performance and weed growth, labour on weeding
- Soil improvent: colour, **bulk density**, smell

Expected output

- An eco-weedmanagement technical menu.
- A set of experiment data
- A final technical report
- A video containing pictures and parts of monthly videos during experiments will be made in both Vietnamese and English for public dissemination.
- A technical paper is expected to be published in international journal.

Risk management

- The largest potential risk that could be encountered during the experiment is flooding in rainy-summer season in the North Vietnam, we design expt. with 4 replications and two locations.
- If a large-scale flooding happens that badly hit all the experimental replications in province, we will restart the new cropping cycle (if budget still available, meaning that the flood happens at the beginning of the experiment).



Thank you
for your attention!