

SoildiverAgro project

Adoption of new management practices to increase crop production and quality



THE WHAT AND WHY

Conventional farming often has a negative impact on biodiversity

Conventional farming practices often have significant impacts on soil biodiversity. This impact highlights the importance of transitioning towards more sustainable agricultural methods that promote soil health and biodiversity conservation. However, farmers are hesitant to enter into more “alternative” biodiversity

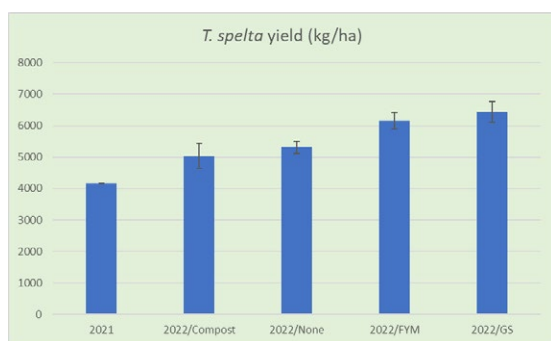
supporting management systems like agroecological farming, which focuses on sustainable agricultural practices integrating ecological principles, due to the fact that they believe that it is unproductive and unprofitable and an option that would require massive subsidies.

HOW IS THE CHALLENGE ADDRESSED

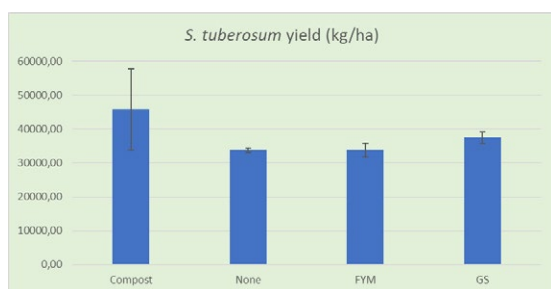
An agroecological way of wheat and potato production can produce sufficient yield

A field experiment was organised by Pomona, a farm following the agroecological principles. The objective was to test different sources of locally produced organic fertilizer to increase the SOM content, ameliorate the soil's structure and improve plant health and development. But the experiment can also provide information on yield and thus income. In organic farming the average yield of *T. spelta* (new types) is normally between 4 to 6 ton/ha. After the first (no different treatments yet applied) and second year of the experiment (different treatments applied),

the yield of the spelt was 4,17 and 5,74 tons/ha (with some variation between the treatments) respectively. During the following cropping cycle, potato was produced. For potatoes it is normal to have in Belgium a yield of >40000 kg/ha. The overall yield of potato on the experimental agroecological site was 37708 kg/ha with again some differences between the treatments. So, the results all are close to the expected yield. These preliminary results suggest that an agroecological way of crop production can be profitable.



1. Mean *T. spelta* yield per treatment if any for the years 2021 and 2022. Whiskers represent standard deviation. None = no organic fertilizer applied, FYM = farm yard manure, GS= grass silage. (ILVO)



2. Mean potato yield per treatment of the year 2023. Whiskers represent standard deviation. None = no organic fertilizer applied, FYM = farm yard manure, GS= grass silage. (ILVO)



3. Pomona agroforestry field experiment following an agro-ecological way of crop production. Crop: *Triticum spelta*. Trees: mix of nut and fruit producing trees. (ILVO) FYM = farm yard manure, GS= grass silage. (ILVO)

KEYWORDS

Agroecological farming, biodiversity, crop yield

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