

# An organic mixed farm cutting pesticide use thanks to holistic IPM

## The Farm

### Certified organic farm

**Region:** Tuscany (Central Italy)

**Area:** 300 ha in a hilly area including 700 olive plants and 0.4 ha of vineyard and forest

**Specificity:** agritourism (hospitality), high quality organic oil and grapevine production



## The strategy for pest/disease/weed management in winter cereals and forage crops

- Crop rotation including different winter cereals (durum wheat, emmer) + legumes temporary grasslands or annual grasslands + pulses (broad bean, lentil)
- Mechanical weeding (light harrow) in winter cereals in late winter
- No use of fertilizers to lower the weed and disease pressure on crops
- Only legume forage crops for N-fixation and use of legume cover crops
- Forage crops early mowing to control weeds (especially monocot)
- Wheat and other cereal cultivars resistant to diseases and to drought
- Use of annual or perennial forage crops more suitable to low input farming and resistant to drought
- Seed cleaning before sowing to suppress weed dispersal
- On-farm experience with intercropping (sulla and Egyptian clover on durum wheat) and different cover crop mixes (e.g. broad bean and Egyptian clover)

## Results

2021-2022 lentil relay sowing (early March)  
2022-2023 contemporary sowing (late October)

	2021-2022	2022-2023
Weed control	😊 😞	😊 😞
Drought resistance	😞	😊
Frost resistance	😊	😞
Crop establishment	😊	😞
Cost	😞	😊

## Cost-efficiency

Increase in equipment costs: mechanical weeding, higher frequency of soil tillage operations, intercropping operations, seed cleaning and seed cost

Increase in work load: mechanical weeding, higher frequency of soil tillage operations, intercropping operations, seed cleaning

Chemical cost completely cut

Reduction of fertilizer use with better weed control and comparable yields

Increase in market prices (all certified organic)

“Since I turned organic, I do not spray anymore, I feel safer. I did not notice a drop in yields, results are comparable. I cut many costs including pesticides and fertilizers reducing the weed pressure. And I get better prices for organic products. I was already interested in intercropping and I was happy to get involved with IPMWORKS people to conduct field trials on it on my farm”. Simone Bensi, farmer