How I implement IPM

Details of a holistic IPM strategy with low pesticide input in a European farm

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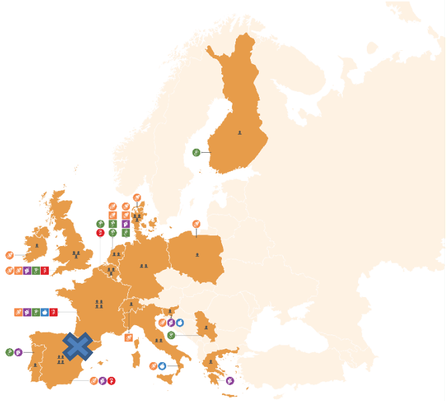
My farm

PEDO-CLIMATIC CONTEXT

- Loamy clay
- Cold winter, dry summers. Usually wet autumns and spring (not in 2022 and 2023).

MAIN PESTS

- Yellow rust
- Lolium



AGRONOMICAL CONTEXT

- Wheat-Barley-Wheat-Alternative
- 160 ha
- No tillage

SOCIO-ENVIRONMENTAL CONTEXT

- Full time farmer
- No certifications
- Attending trainings in IPM every year

OBJECTIVES AND MOTIVATIONS OF THE FARMER

Trying to reduce the use of pesticides whilst maintaining high productivity and profitability

My strategy

Reduced no. of insecticides and molluscicides
Use of thresholds and DST
No insecticides for spring pests

N Resistant varieties

N Sowing date delay

N Resistant varieties

N Sowing date delay

Wheat → **Barley** → **Wheat** → **Vetch/Faba bean** → **Fallow land**

Reduced no. of Fungicide sprays
Avoid sensitive varieties, justified treatments

Chemicals and biocontrol
Insecticides and other pesticides*

Fungicides*

Herbicides*

*In green = low risk PPPs
* In blue = biocontrol agents

Reduced use of herbicide.
Sowing date delay

N **NO TILLAGE**
Better control of Lolium

Key measures

- **The usual strategy based on pesticides has been strengthened with the use of preventive solutions such as resistant varieties and sowing date delay. This has improved the control of Lolium.**
- **The use of fungicides is reduced through the use of resistant varieties and more carefully planned treatments.**
- **Considering increasing the length of the rotation and including another alternative crop in the rotation: oilseed rape.**

Legend N **New solution** ~~**Solution**~~ **Abandoned solution** **Non systematic solution**

My results

Evolution trend on the farm

Pests control

Very good	Medium	To improve
Bromus Aphids *Avena loca*	*Lolium* (better delating sowing)	

Evolution of use of pesticides

Very good	Medium	To improve
Fungicides Not using molluscicides. Sometimes not insecticides	Herbicides	

Sustainability indicators

Very good		Medium		To improve	
"Complexity" of the cropping system	↗	Use of sustainable energy	=	Use of products that are dangerous or toxic to the environment	=
Use of dangerous or toxic products for the user	↘↘	Distribution of work over the year	↗	Use of conservation biological control [landscaping]	=
Level of overall satisfaction of the farmer and his entourage	↗	Actual mechanization load	↗		
Semi-net margin	=	Energy costs	↗		
Use of chemical fertilizers	↘	Use of fossil energy	↗		
		Equipment usage time	↗		
		Pesticides costs	↗		

Key conclusions

- **Very small trial plots can make the management of the farm difficult**
- **The most difficult pest to control is Lolium. It is important to implement agronomic solutions that disrupt the ryegrass cycle: rotation with alternating crops from different seasons, false seed-bed and delaying the sowing date, etc.**
- **The use of fungicides decreses with changing climatic conditions and the use of tolerant wheat varieties.**

Legend

In green = positive trend
In red = negative trend
In black = comparable

= Comparable

↗ Increase
↘ Decrease

↗↗ Significant increase
↘↘ Significant decrease

Environmental indicators
Social indicators
Economical indicators

Our feedback

> I am increasing the knowledge regarding IPM and the needs that I have on my farm. That is the key to reduce problems with pests and weeds.

Victor Guillén (Spain)

Farmers have realised that it is not possible to control pests using a strategy that it is only based on the use of pesticides.

The management has been strengthened with the use of other alternative measures such as alternative crops, resistant varieties, sowing date delay and other agronomic measures.

> Farmers are optimising the use of pesticides and improving every year in the management of their farm.

Javier Torrecilla (Spain)

It is necessary to work more on the development of efficient and profitable alternative techniques for arable crops.

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