IPM SURVEYS FACTSHEETS

Arable fields

IPMWORKS - *An EU-wide farm network demonstrating and promoting cost-effective IPM strategies* - is a four-year project (2020-2024) financed by the Horizon 2020 Research and Innovation programme of the EU. IPMWORKS is made up of a consortium of 31 partners from 16 European countries assembled with various types of organizations covering the following roles: Farmers organizations; Applied research, advisory and extension services; Academic research on social sciences; Academic research on agronomy (sensu lato) and environmental science and Training organizations. The project is coordinated by the French National Research Institute for Agriculture, Food and the Environment (INRAE).

INTEGRATED PEST MANAGEMENT

Integrated Pest Management (IPM) is based on a diversity of pest management measures (prevention, non-chemical control, best practices for optimizing pesticide efficiency, etc.). These are combined at the farm level to enable reduced reliance on pesticides, and therefore a decrease in the exposure of the environment and people to pesticides. Rare pioneer farmers throughout Europe are testing such IPM strategies and are succeeding in achieving good outcomes with low pesticide inputs. However the majority of European farmers still rely heavily on pesticides, with major environmental and societal impacts, because most of them have not adopted a comprehensive, farm-level and holistic IPM strategy so far.

FARMERS' AWARENESS OF IPM AND MOTIVATIONS

Farmers' motivations and level of IPM adoption have been investigated through a survey, just after the farmers joined the network.

"I try to restrict my use of crop protection products", "IPM is a way to reduce pesticide use", "As little administrative effort as possible" and "Not compromising my health" are considered to be the most important statements informing about farmers' motivations.

"Maintaining agricultural traditions" are considered the least important factor, indicating that farmers are open to change and adopting new practices that will benefit them now and in the future.

DATABASE

NUMBER OF FARMS: **84**

PARTICIPANT COUNTRIES:
DENMARK
SPAIN
GERMANY
THE NETHERLANDS
ITALY
UNITED KINGDOM
SLOVENIA

TOTAL ORGANIC FARMS: **5**

AVERAGE FARM SIZE: **367 HA**

MAIN CROPS:
WHEAT, BARLEY, OILSEED RAPE, POTATO, SUNFLOWER, GRASS, ALFALFA

AVERAGE EXPERIENCE OF FARMERS:
26 YEARS

IPM STRATEGIES USED

DECISION SUPPORT SYSTEM

DSS does not appear to be a major component of IPM strategies in IPMWORKS arable farms. Progress could probably be done in this area.

VARIETY CHOICE

Choosing wheat cultivars resistant to disease is a major option, particularly in Denmark, Italy, Slovenia... A few IPMWORKS farmers grow mixtures of wheat cultivars to enhance the crop robustness. Potato cultivars resistant to diseases are rather poorly used, because of technological constraints from the industry.

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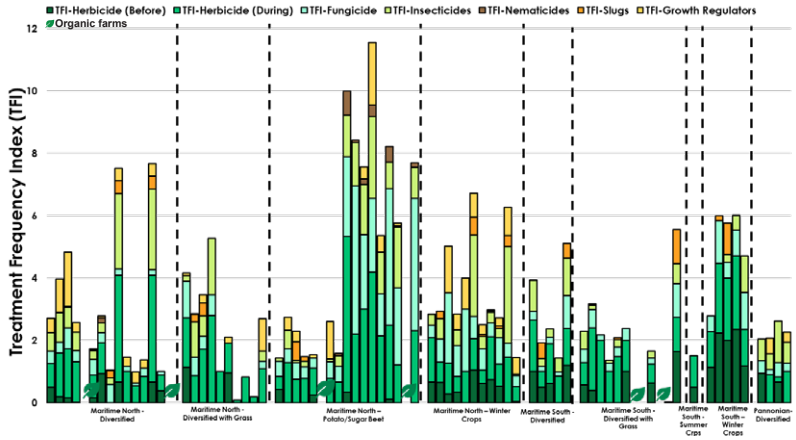
The survey informs about how far the various components of IPM are already implemented by IMPWORKS farmers in arable fields.

PESTICIDE USE



Treatment Frequency Index (TFI).

TFI is used as a metric of frequency and intensity of pesticide use. The TFI was determined based on:

→ The number of treatments

→ Average dose (% recommended dose for target pest)

→ Average % of the treated area

TFI metric shows a large range of pesticide use across farms, that can be attributed to:

→ **Nature of crops (e.g., potatoes and rapeseed are crops requiring high levels of pest/disease control)**

→ **Level of IPM adoption**

IPM INDEX

We tested a new IPM Index calculated from the information collected on crop and pest management.

Spatial Management | *Variety choice* | *Monitoring treatment effect* | *Soil tillage* | *Number of growing seasons* | *Choice of pesticides* | *Landscape Management*

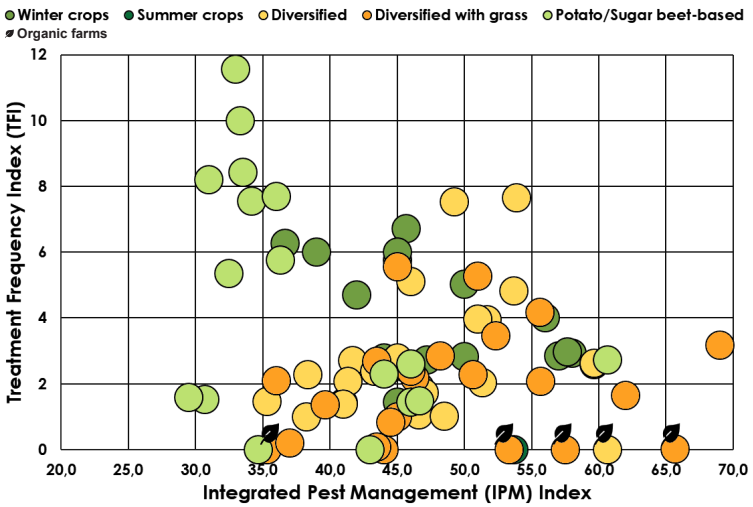
Mechanical weeding | *Decision making for treatments* | *Rotation diversity* | *Companion crop* | *False/stale seedbed* | *Sowing/ planting date* | *Fertilizer use*

The IPM index is computed as the sum of scores accounting for the various components of IPM strategies (crop rotation, cultivars, soil tillage, biocontrol, mechnaical weeding, DSSs...).

The IPM index ranges [0-84]

The level of IPM adoption varies across farms, and this explains part of the pesticide use.

Farms with grasslands in the United Kingdom and Germany tend to display a low TFI.



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SELF-EVALUATION

WEED CONTROL | **DISEASE CONTROL** | **PEST CONTROL**

Farmers consider weed, disease, and pest control similar to better compared to neighbor farmers whatever the level of IPM adoption. IPM is efficient for weed, disease, and pest control.

WORKLOAD | **EQUIPMENT COST** | **GROSS MARGIN**

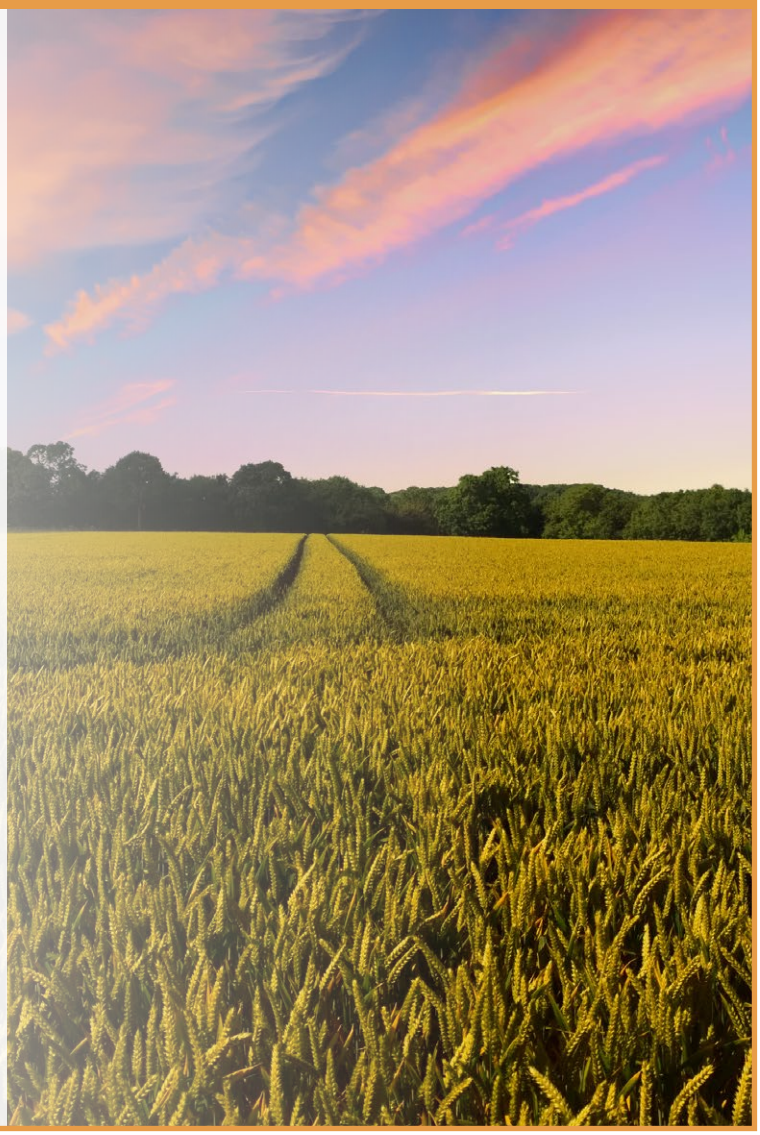
No clear impact of IPM adoption on workload/ha.

No clear impact of IPM adoption on equipment costs.

Most IPMWORKS farmers think they have similar or higher gross margins as compared to neighbors. **IPM is cost-effective.**

CONCLUSION

The IPMWORKS network of farmers in Arable Fields displays a large range of practices, wih various levels of IPM adoption. The more IPM is adopted, the less pesticides are needed, without any impact on economic outcomes. Further progress in IPM adoption can be done with the help of IPMWORKS hub coaches.



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