# IPM CONFERENCE 2024

*Holistic IPM: Reducing pesticide use*

**BRUSSELS · MAY 14TH**

## IPM in action
## Evidence of IPM cost-efficiency: results from our network

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THIS PROJECT HAS RECEIVED FUNDING FROM THE **EUROPEAN UNION' HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME**
UNDER GRANT AGREEMENT N. 817617
UNDER GRANT AGREEMENT N. 101000339

# IPM in action

## Evidence of IPM cost-efficiency : results from our network

The data is collected from the IPMWORKS network farms in all five sectors: arable, vineyards, outdoor vegetables, orchards and greenhouse production

**3 surveys:**

1. A qualitative survey, which established a baseline for IPM awareness, IPM adoption, rough estimate of pesticide use, and self-assessment at the beginning of the project
2. A quantitative survey with a large degree of details on the cropping system, management practices and economics. Provide the ability to calculate indicators for pesticide use and impact and cost-efficiency
3. Follow up on survey 1 to focus on changes during the project in crop management, especially pesticide use

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# Arable field crops

## TOPICS OF SURVEY #1:

- FARMING CONTEXT
- FARMERS EXPECTATIONS AND PREFERENCES
- CULTURAL PRACTICES: FARM LEVEL
- CULTURAL PRACTICES: CROP LEVEL
- PEST CONTROL EFFICACY: PERCEPTION OF THE FARMER
- COST-EFFICIENCY-PERCEPTION OF THE FARMER: SELF-EVALUATION

**NUMBER OF FARMS**

**83**

**PARTICIPANT COUNTRIES**

DENMARK
GERMANY
ITALY
SLOVENIA
THE NETHERLANDS
SPAIN
UNITED KINGDOM

**TOTAL ORGANIC FARMS**

**5**

**AVERAGE ARABLE FIELD SIZE**

**367ha**

**MAIN CROPS**

**WHEAT**
**POTATO**

**AVERAGE EXPERIENCE OF FARMERS**

**26 YEARS**

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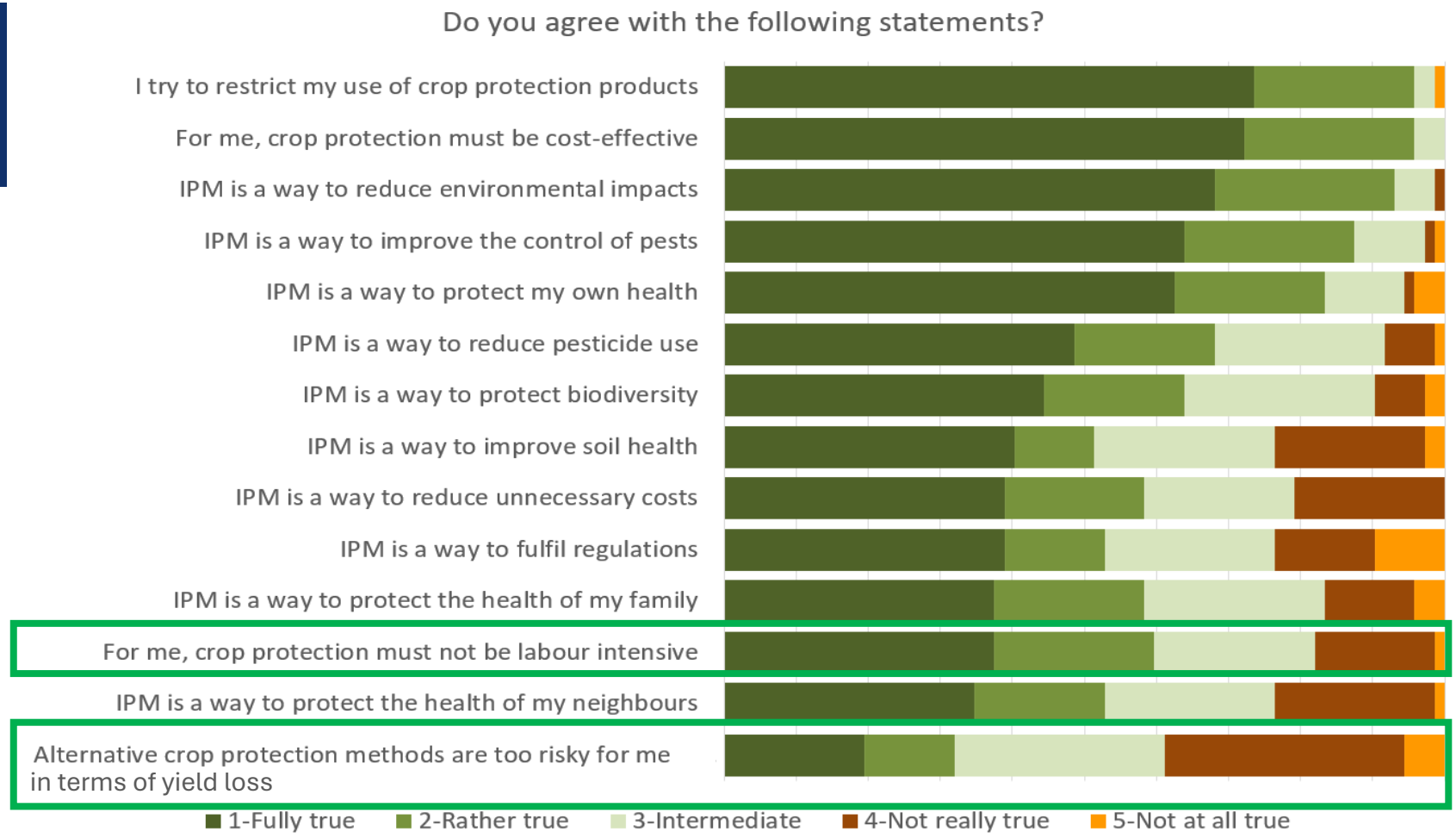
IPM works ARABLE FIELDS




IPM works

IPM DECISIONS

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# Orchards

## TOPICS OF SURVEY #1:

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- PEST CONTROL EFFICACY: PERCEPTION OF THE FARMER
- COST-EFFICIENCY-PERCEPTION OF THE FARMER: SELF-EVALUATION

**NUMBER OF FARMS**
**15**

**PARTICIPANT COUNTRIES**
**ITALY**
**SLOVENIA**

**TOTAL ORGANIC ORCHARDS**
**5**

**AVERAGE ORCHARD SIZE**
**3,65ha**

**TREE SPECIES**
**Olive**
**Apple**

**AVERAGE EXPERIENCE OF FARMERS**
**19 YEARS**

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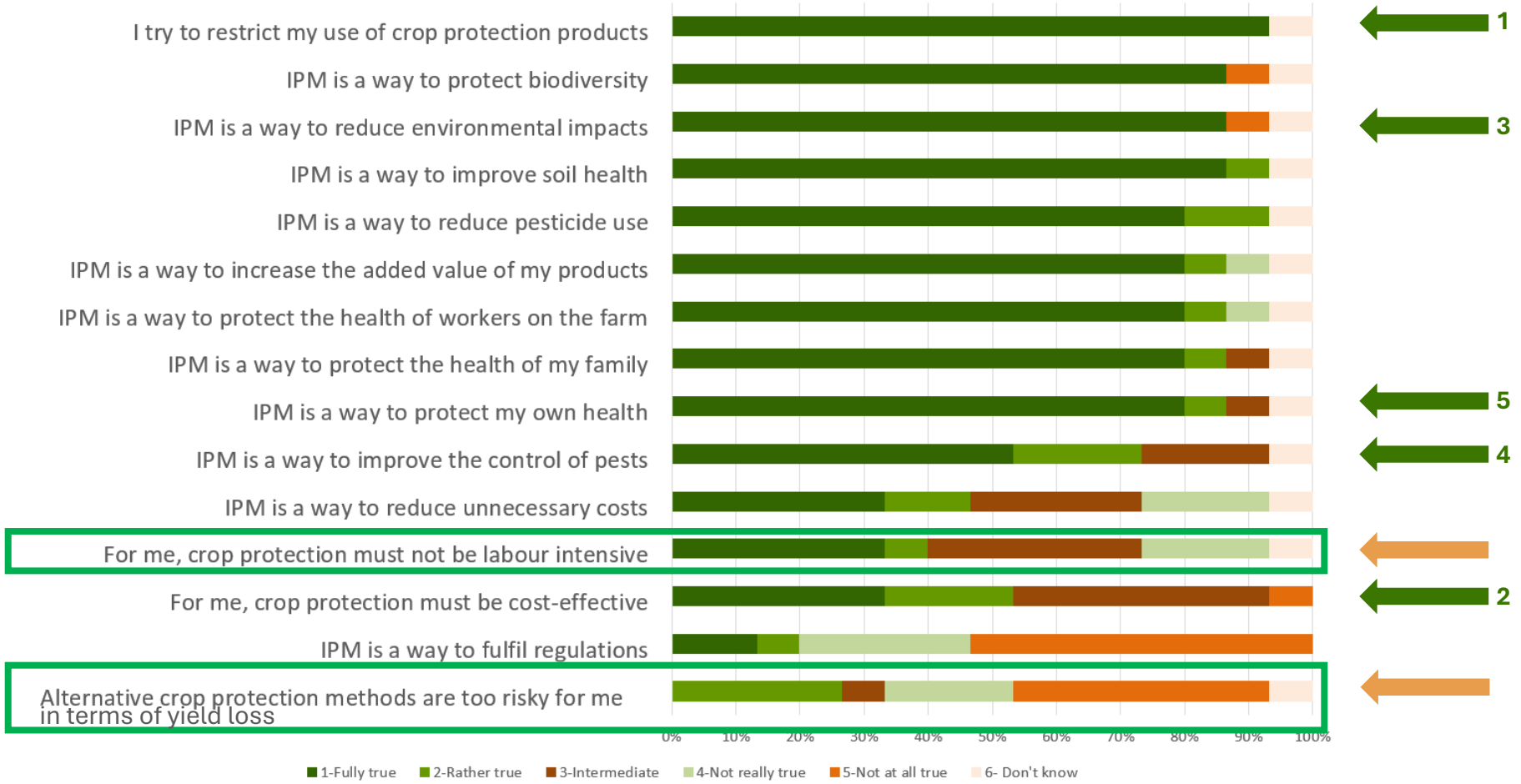
IPM works ORCHARDS

## Do you agree with the following statement?

**Results from arable sector**




IPM works
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# Vineyards

## TOPICS OF SURVEY #1:

- FARMING CONTEXT
- FARMERS EXPECTATIONS AND PREFERENCES
- CULTURAL PRACTICES: FARM LEVEL
- CULTURAL PRACTICES: CROP LEVEL
- PEST CONTROL EFFICACY: PERCEPTION OF THE FARMER
- COST-EFFICIENCY-PERCEPTION OF THE FARMER: SELF-EVALUATION

**NUMBER OF FARMS**

**27**

**PARTICIPANT COUNTRIES**

**SPAIN**
**PORTUGAL**
**SLOVENIA**

**TOTAL ORGANIC FARMS**

**1**

**AVERAGE VINEYARD SIZE**

**166ha**

**AVERAGE EXPERIENCE OF FARMERS**

**22 YEARS**

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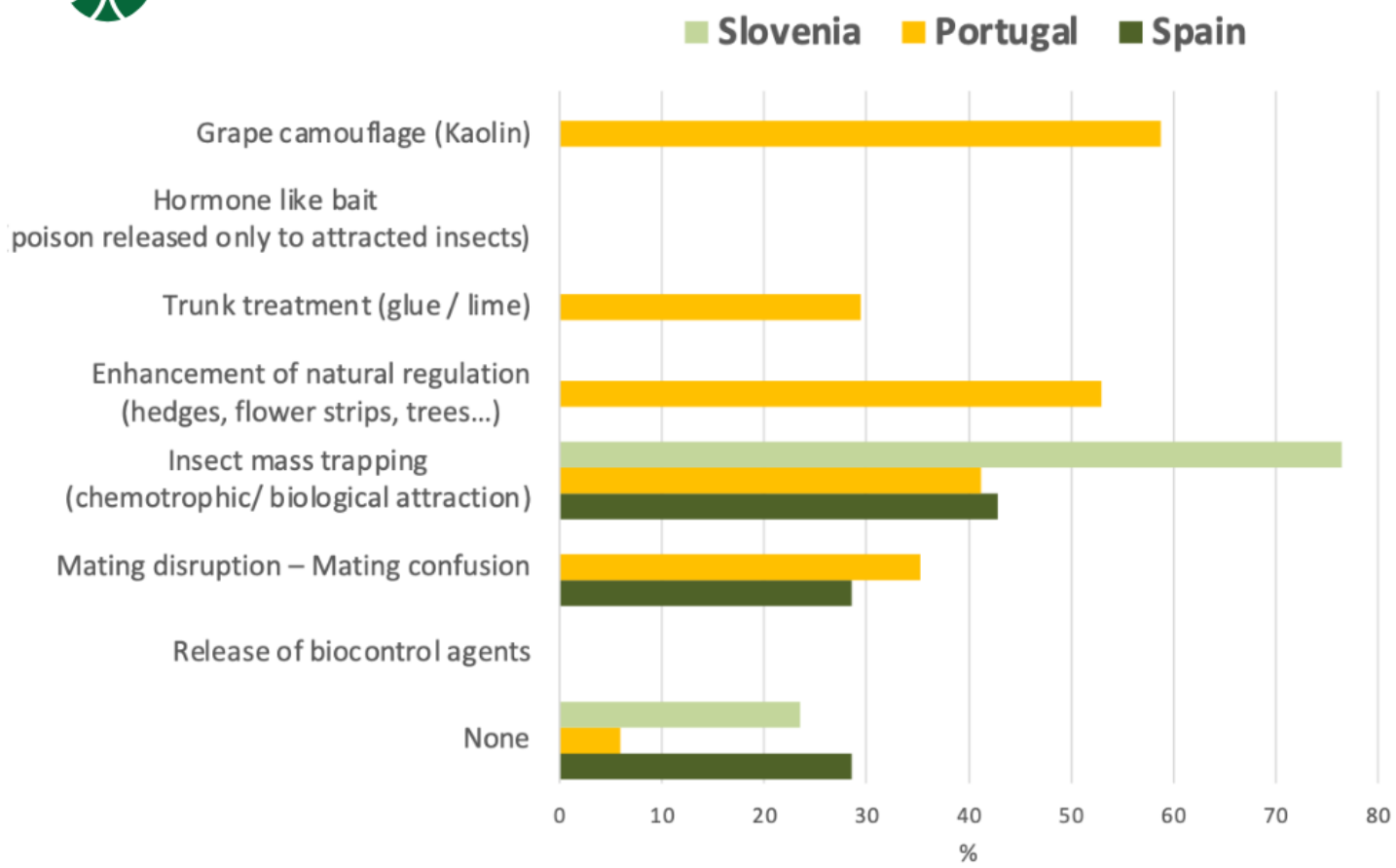
# Biocontrol

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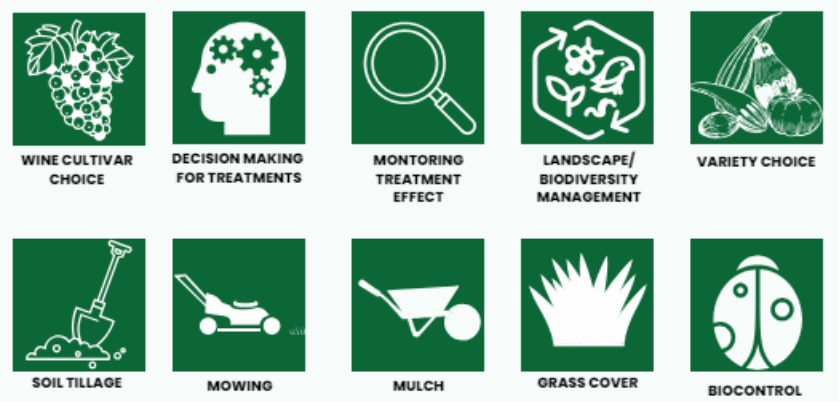
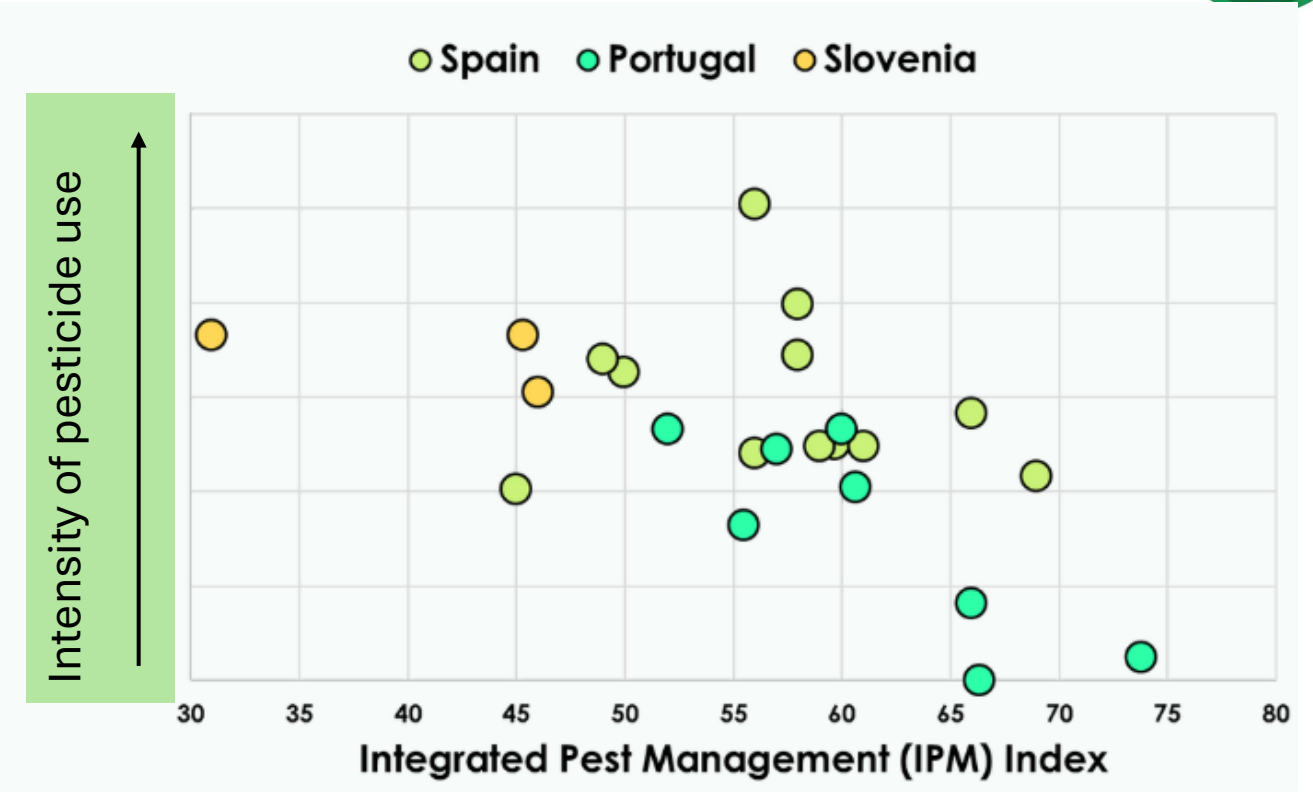
# An IPM index based on the information collected in Survey #1 on crop and pest management

**For all sectors cultural practices were evaluated based on the last 3 cropping seasons.**
**Each practice was scored between 0 and 4.**
**The IPM index is the sum of the weighted scores and ranges from 0 to 80.**

**Topics included in the IPM index for vineyards:**

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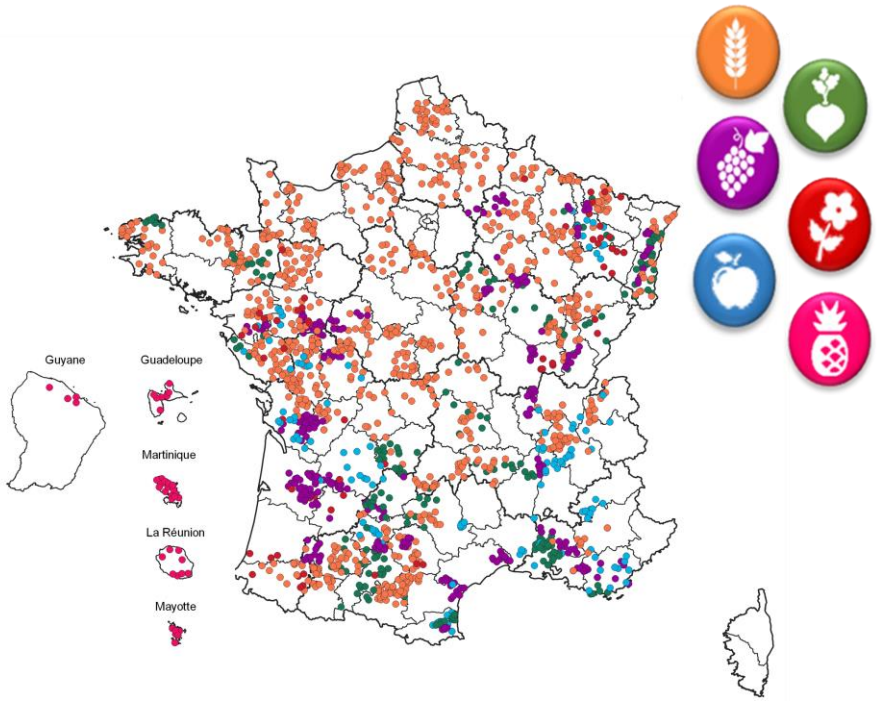
# Expected results from survey #2, which is not analysed yet

## *example from the French DEPHY network*




**Launched in 2010**

**2100 volunteer farmers**
6 agricultural sectors *arable crops, vineyards, orchards, vegetables, ornamentals, tropical crops*

**Same objective and methodology as IPMWORKS**

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# Expected results from survey #2, which is not analysed yet

## *example from the French DEPHY network*

**Development of the Treatment Frequency Index (TFI) from initial practices in 2010 to 2018-2020 [number of farms]**

| | | |
|---|---|---|
| | **Arable field crops [774]: -26% ***** | **2.6 → 1.9** |
| | **Vegetables [159]: -33% ***** | **3.5 → 2.3** |
| | **Viticulture [415]: -24% ***** | **10.4 → 7.9** |
| | **Orchards [145]: -35% ***** | **15.3 → 10** |

*** the change is statistically significant

Farms with low TFI in arable crops always combine several management measures, e.g.

- Temporary grasslands
- Crop diversification
- Cultivar diversification
- Cereal delayed sowing dates
- Reduced doses/precision spraying
- Soil tillage – alternating ploughing
- Moderate fertilisation

*(Lechenet et al., Agricultural Systems 2016)*

IPM works
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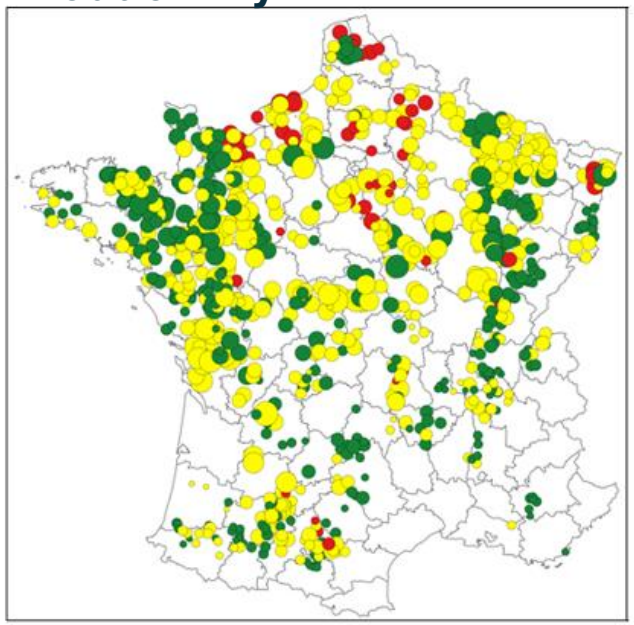
# Expected results from survey #2, which is not analysed yet

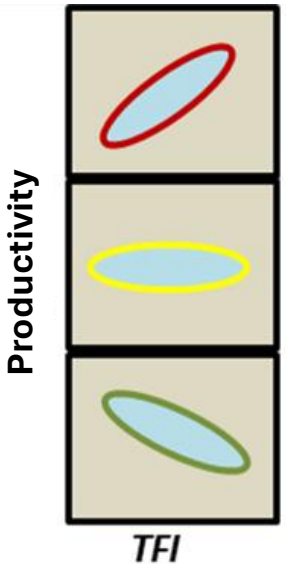
## *example from the French DEPHY network*

***Sector : Arable Field Crops***

Cost-efficiency of IPM, the correlation between pesticide use and performance
*Does low TFI = low productivity?*

**Productivity**






**No difference or higher productivity with lower TFI: 94% of sites**

*Lechenet et al., Agricultural Systems 2016*

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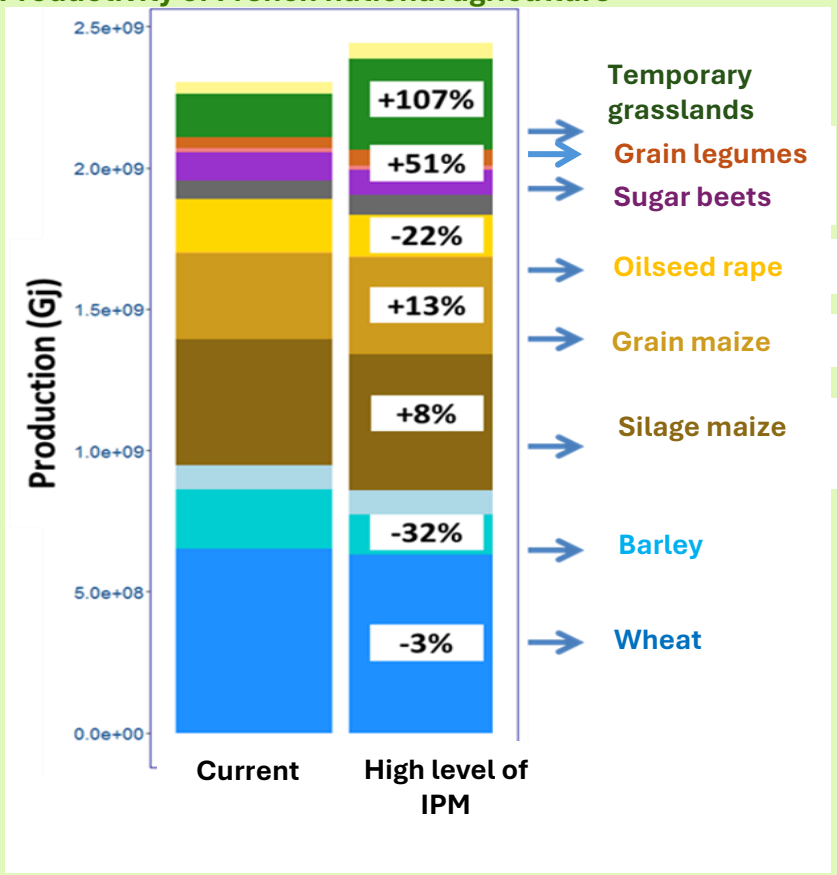
# Expected results from survey #2, which is not analysed yet

## *example from the French DEPHY network*

Scenario of general adoption of IPM-based systems at the country level – France

***Assumption:*** *all French farmers adopt strategies similar to the DEPHY network farmers with the lowest pesticide use in the same context/cropping situation*
*≈ 40% reduction in TFI*

**Productivity of French national agriculture**




**≈ + 6%**

*Lechenet et al, Nature Plants 2017*

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# THANK YOU!

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