



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

IPM works VINEYARDS

*Survey #1: IPM awareness, IPM adoption,
pesticide use and self-evaluation*



TOPICS OF SURVEY #1:



FARMING CONTEXT



FARMERS EXPECTATIONS AND PREFERENCES



CULTURAL PRACTICES: FARM LEVEL



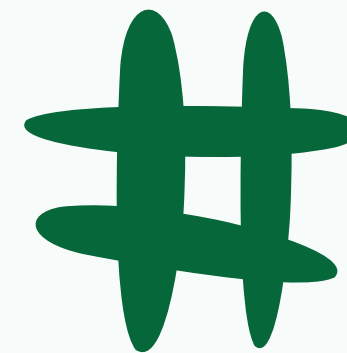
CULTURAL PRACTICES: CROP LEVEL



PEST CONTROL EFFICACY: PERCEPTION OF THE FARMER



COST-EFFICIENCY-PERCEPTION OF THE FARMER: SELF-EVALUATION



NUMBER OF FARMS

27

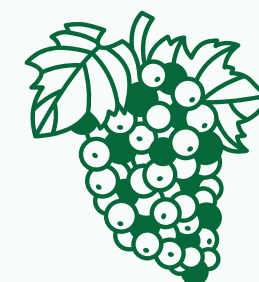


PARTICIPANT COUNTRIES

SPAIN

PORTUGAL

SLOVENIA



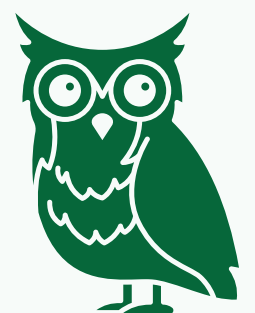
AVERAGE VINEYARD SIZE

166ha



TOTAL ORGANIC FARMS

1



AVERAGE EXPERIENCE OF FARMERS

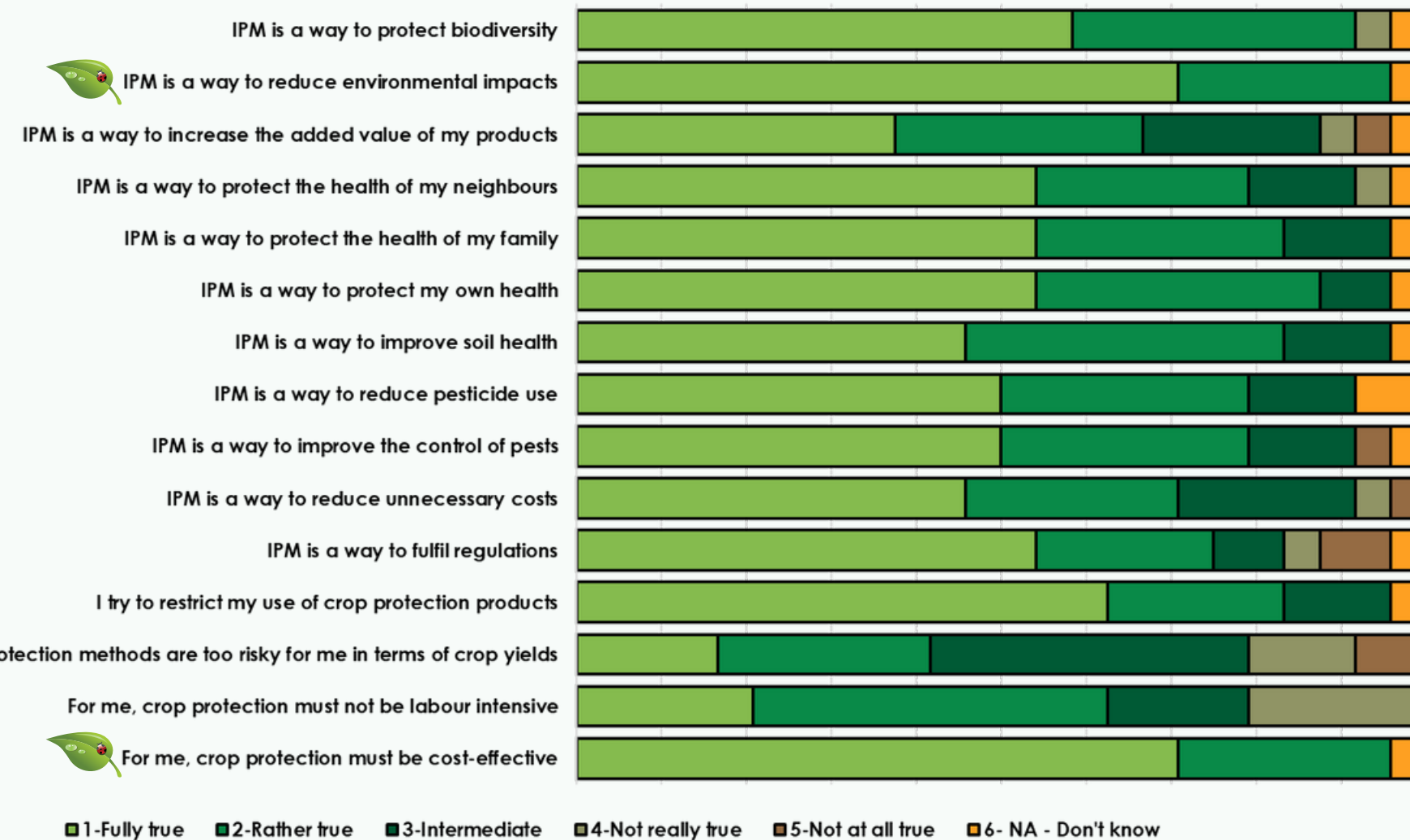
22 YEARS

Farmers' Awareness of IPM and Motivations

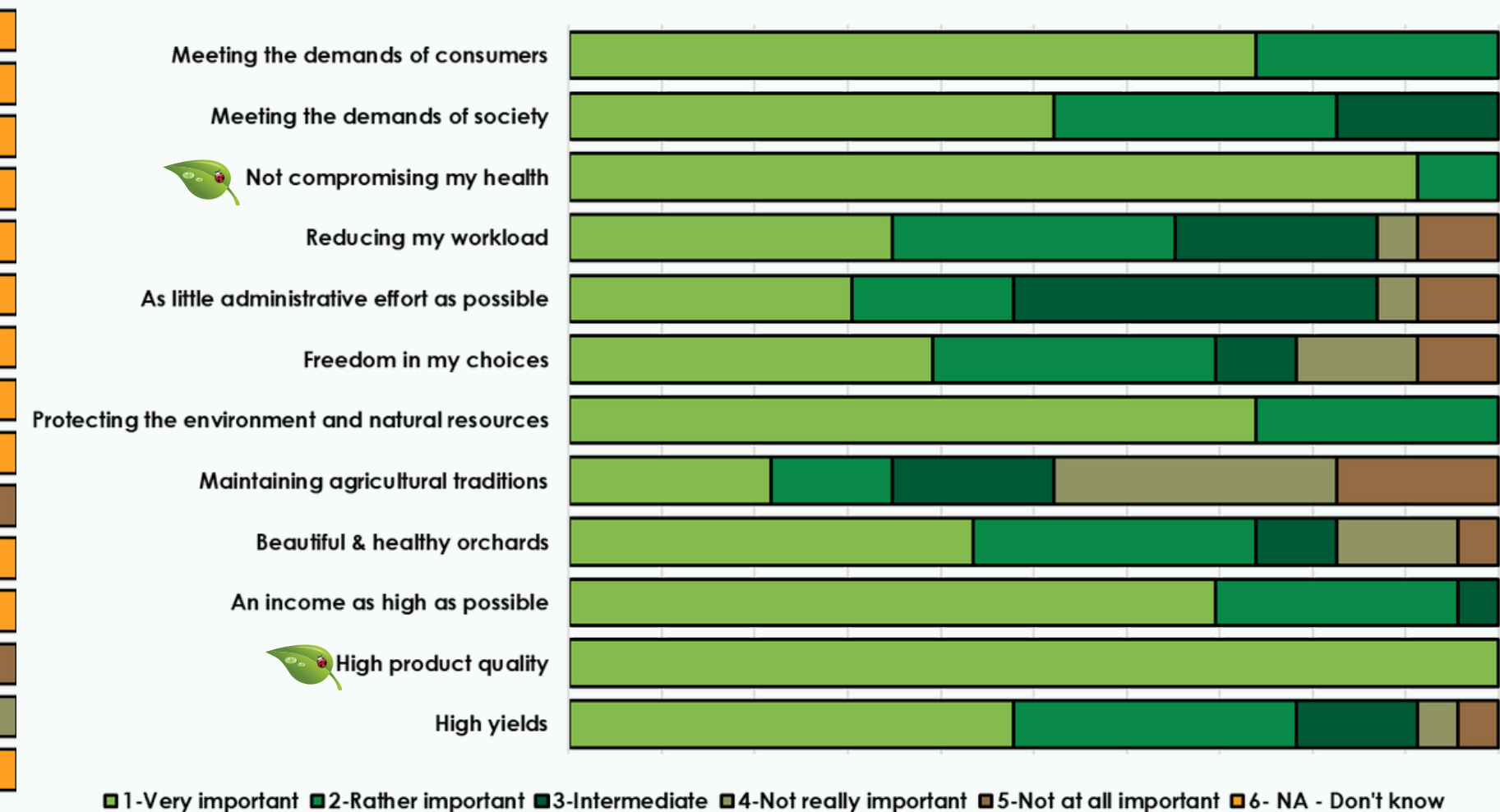


Rating statements from not "Fully true" to "Not at all true" or "Very important to "Not at all important".

OBJECTIVES

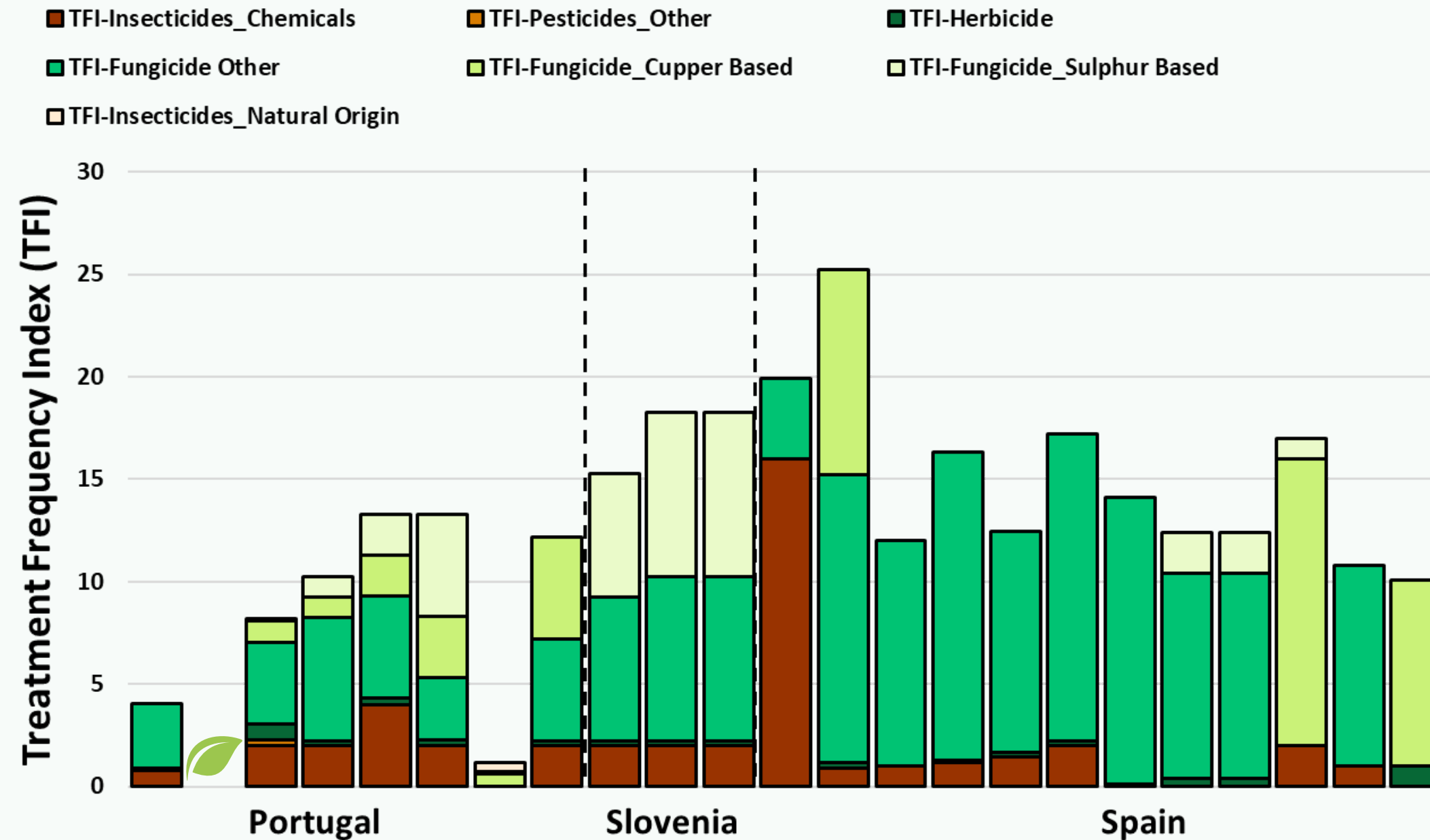


MOTIVATIONS



"IPM is a way to reduce environmental impacts", "For me, crop protection must be cost-effective", "Not compromising my health" and "High Product quality" is considered to be the most important statements for IPMWORKS farmers. Farmers do not consider alternative crop protection methods to be too risky in terms of crop yields.

Pesticide Use



Organic farms

High-impact chemical pesticides are shown in dark colours at the bottom. Low-impact natural pesticides are shown in light colours at the top.

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 treated area (default = 100)

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

- climatic conditions
- Level of IPM adoption

Integrated Pest Management Index



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

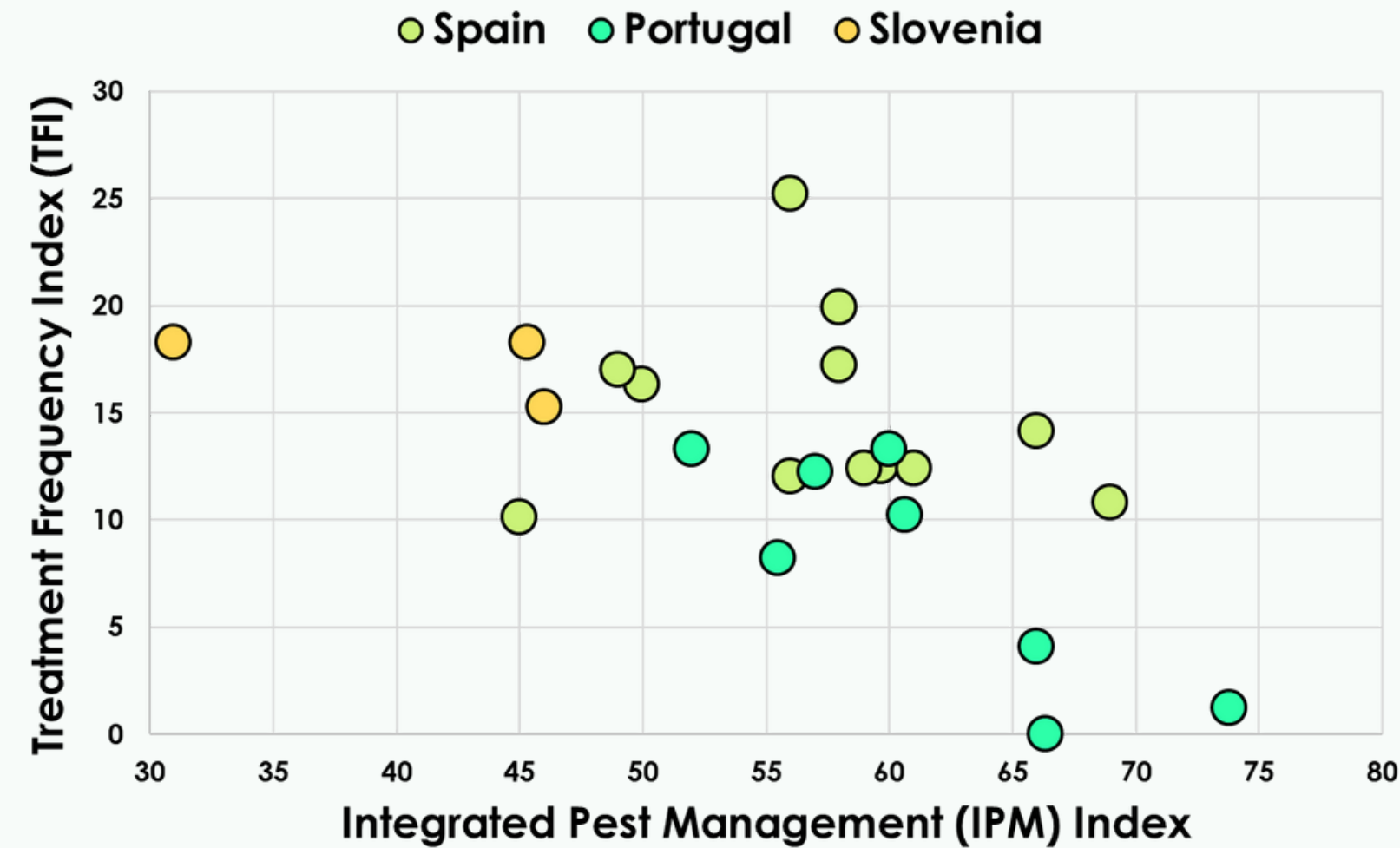


Topics included in IPM Index

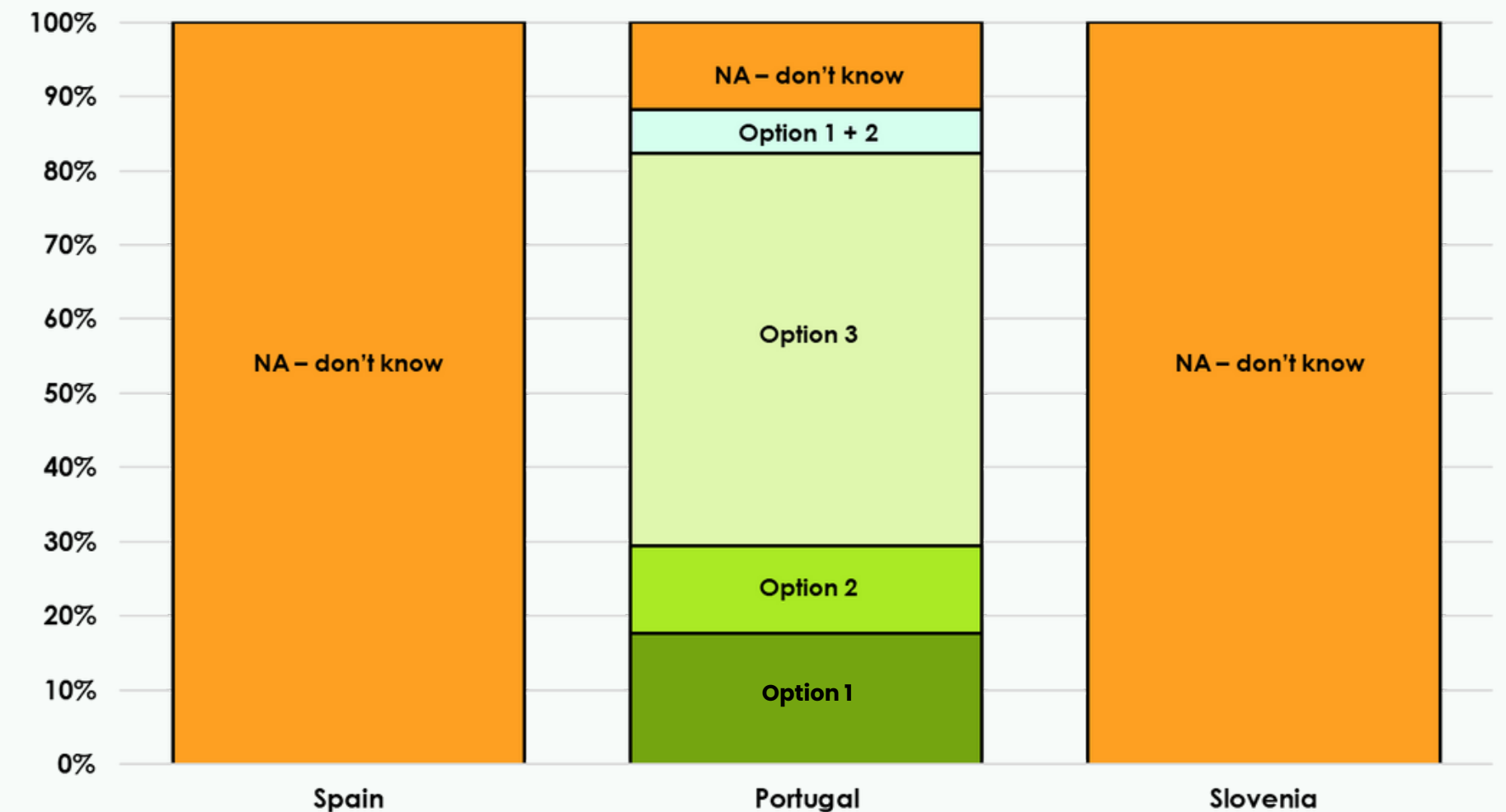
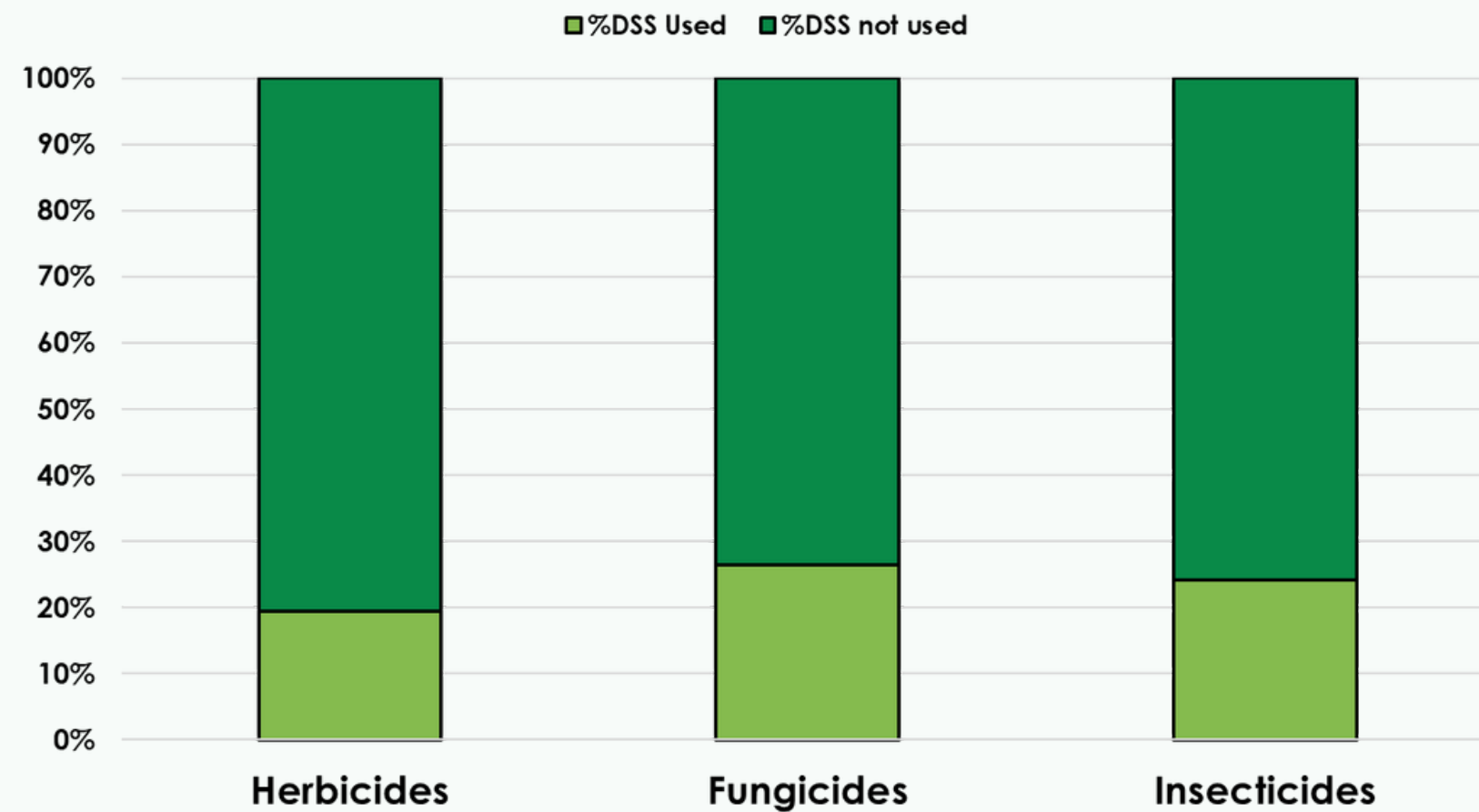
Cultural practices at the crop and farm levels were evaluated based on the last 3 cropping seasons.

IPM practices included in the index were e.g. *use of Decision Support Systems, mechanical weeding, cover crops, mowing, mulching, use of biocontrol solutions, protection of wildlife at the landscape scale...*

Each practice rating was then scored between 0-4. The IPM index is the sum of the weighted scores and ranges [0 - 80].



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



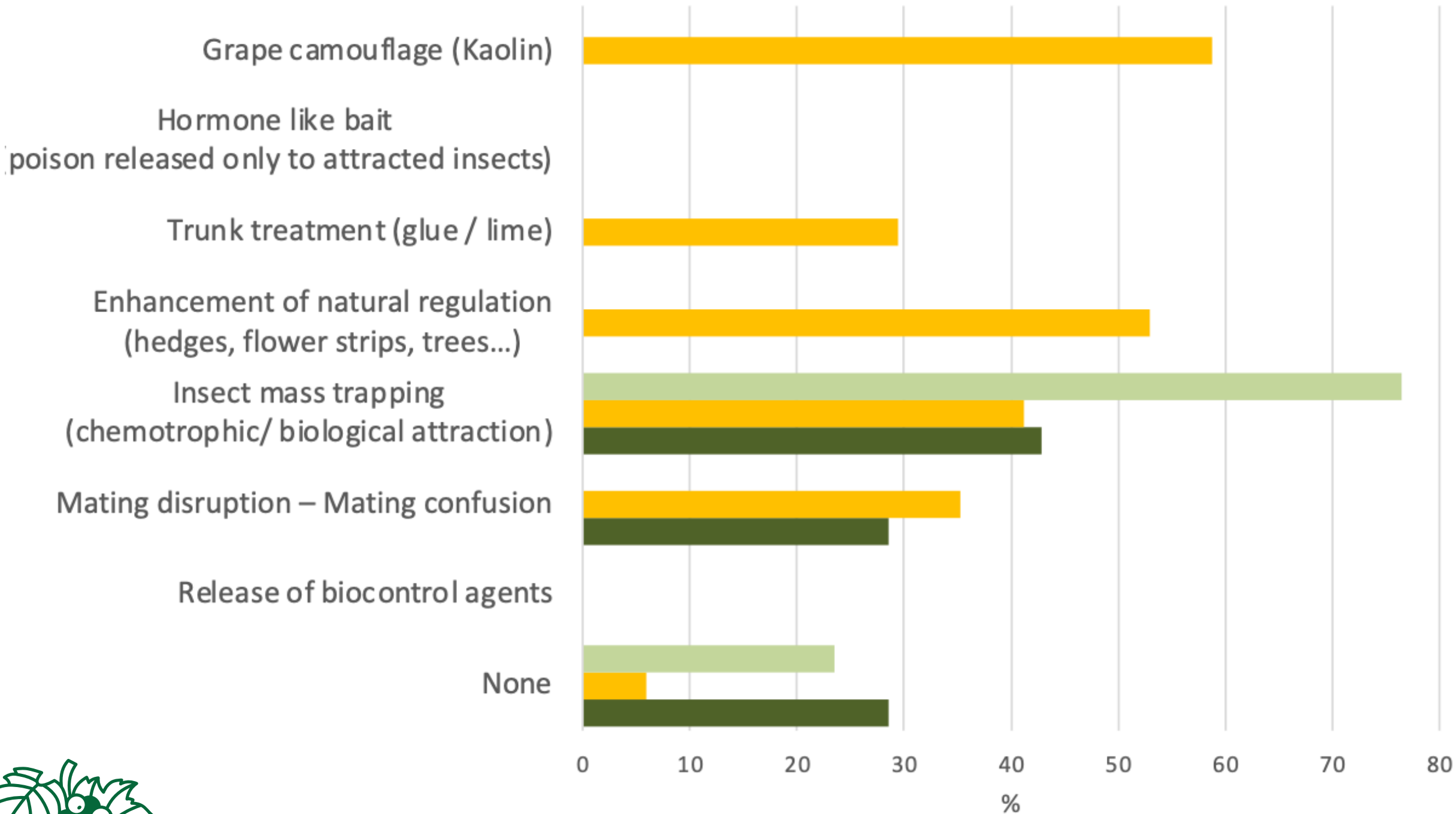
Farmers cited Decision Support Systems (DSS) for the implementation of herbicides, fungicides, insecticides, nematicides, slug control, and growth regulators, but still with quite a low frequency.

- **Option 1** Cultivar(s) resistant to major diseases
- **Option 2** Cultivar(s) resistant to major pests
- **Option 3** Cultivar(s) sensitive to all major pests and diseases

Constraints on vineyards make the use of resistant cultivars difficult.

The survey informs about how far the various components of IPM are already implemented by IMPWORKS farmers in vineyards. Progress could probably be made on the generalisation of Decision Support Systems

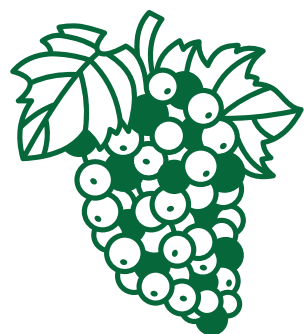
■ Slovenia ■ Portugal ■ Spain



Biocontrol is widely adopted by IPMWORKS farmers in the vineyard sector, particularly in Portugal, but also in Spain and Slovenia.

Insect mass trapping is the most popular approach, in the three regions.

Other biocontrol solutions used are grape camouflage with kaolin, trunk treatment, and enhancement of beneficials around the vineyards (Spain), and mating disruption (both in Spain and Portugal)



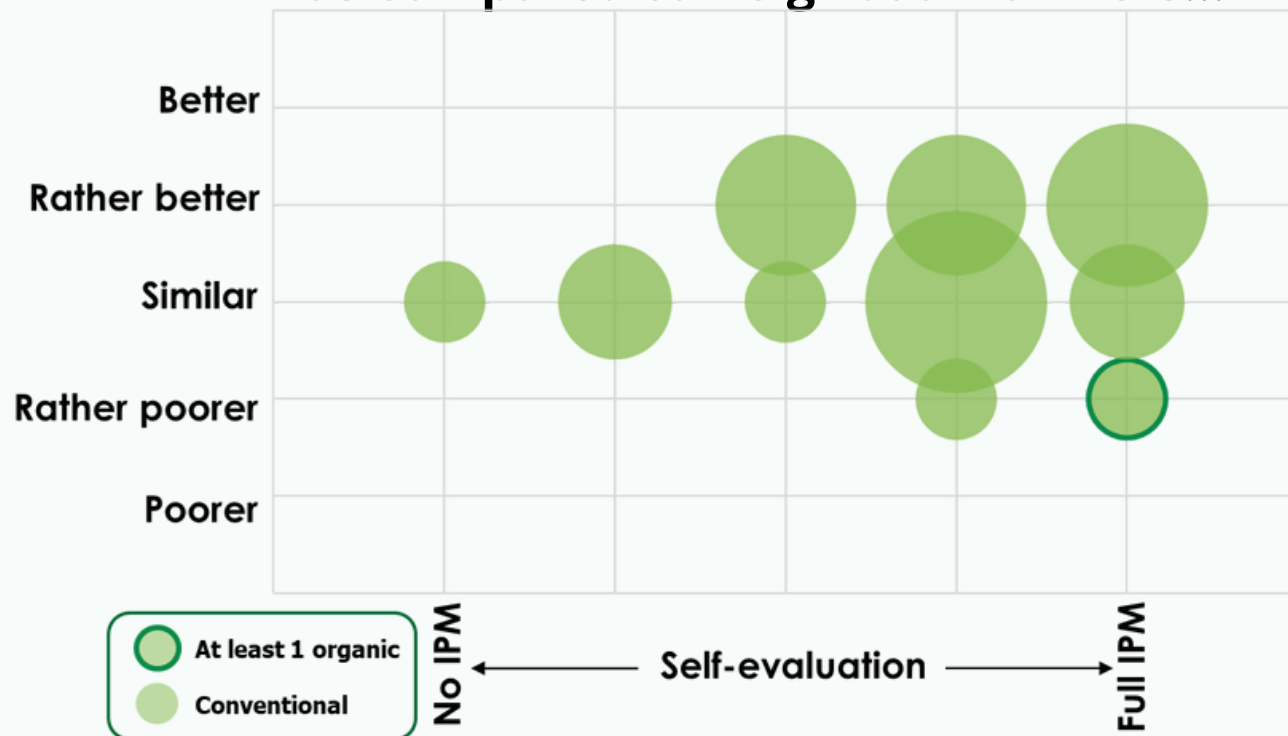
Self-evaluation

WEED, DISEASE AND PEST CONTROL

Self-evaluation of the quality of the weed, disease and pest control as compared to other farmers in the area. Results are presented as a function of self-evaluation in IPM adoption.

Quality of Weed Control

as compared to neighbour farmers...



Farmers consider weed control to be similar or better than neighbour farms, whatever the level of IPM adoption.
IPM is efficient for weed control.

Quality of Disease Control

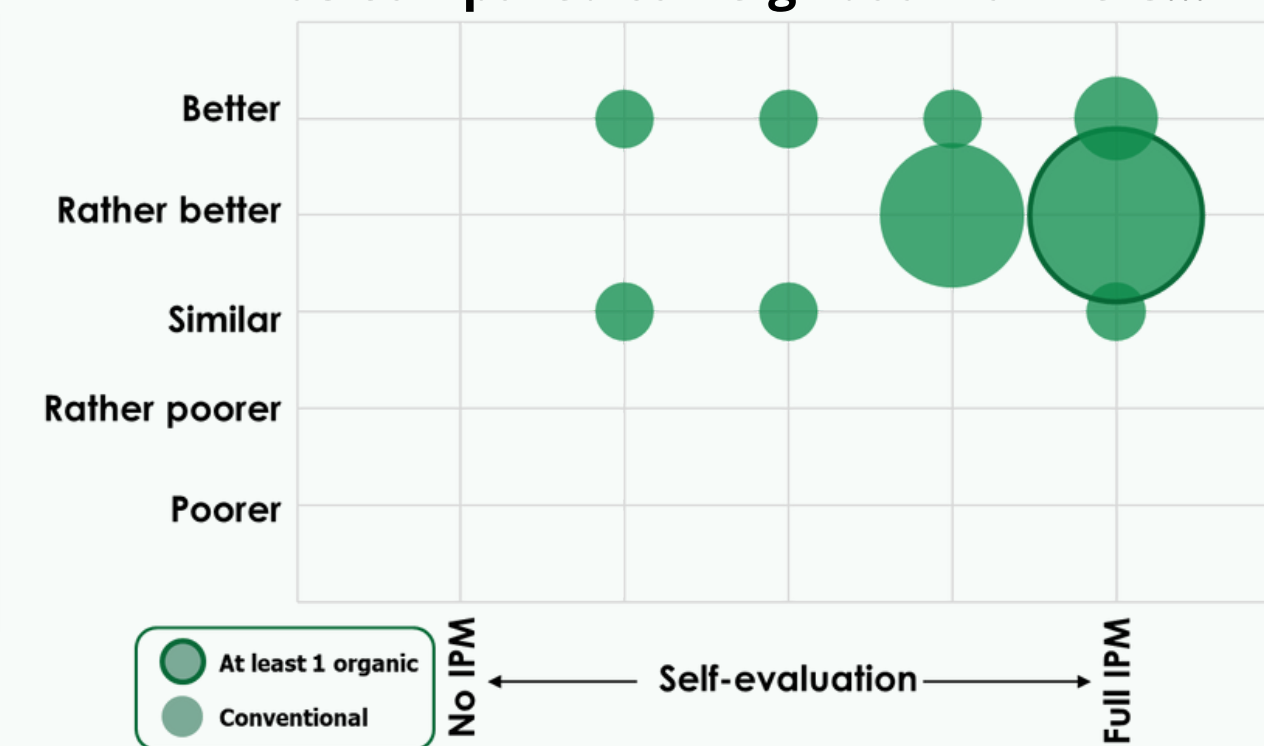
as compared to neighbour farmers...



Farmers consider disease control to be better than neighbour farms, whatever the level of IPM adoption.
IPM is efficient for disease control.

Quality of Pest Control

as compared to neighbour farmers...



Farmers consider pest control similar to better compared to neighbour farms, whatever the level of IPM adoption.
IPM is efficient for pest control.

Self-evaluation

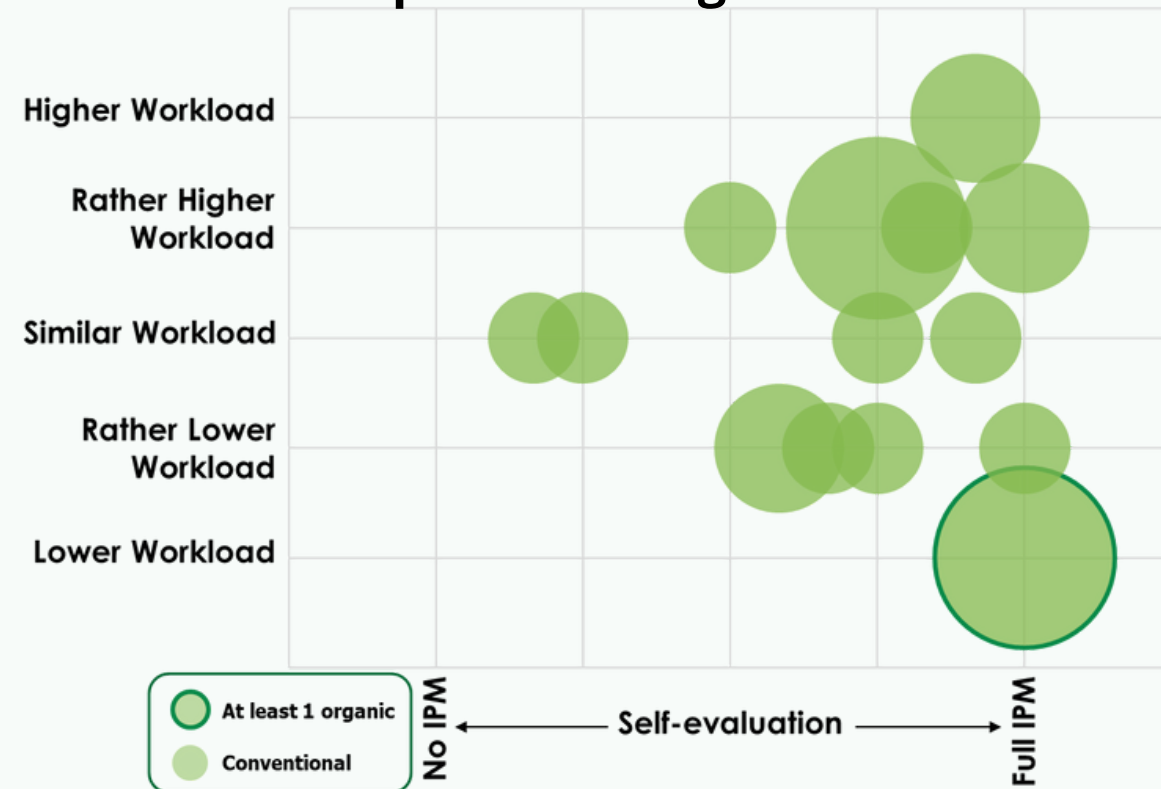
FARM PROFITABILITY

Self-evaluation of workload/ha, equipment costs, and gross margin as compared to other farmers in the area. Results are presented as a function of the self-evaluation of IPM.



Workload / ha

as compared to neighbour farmers...

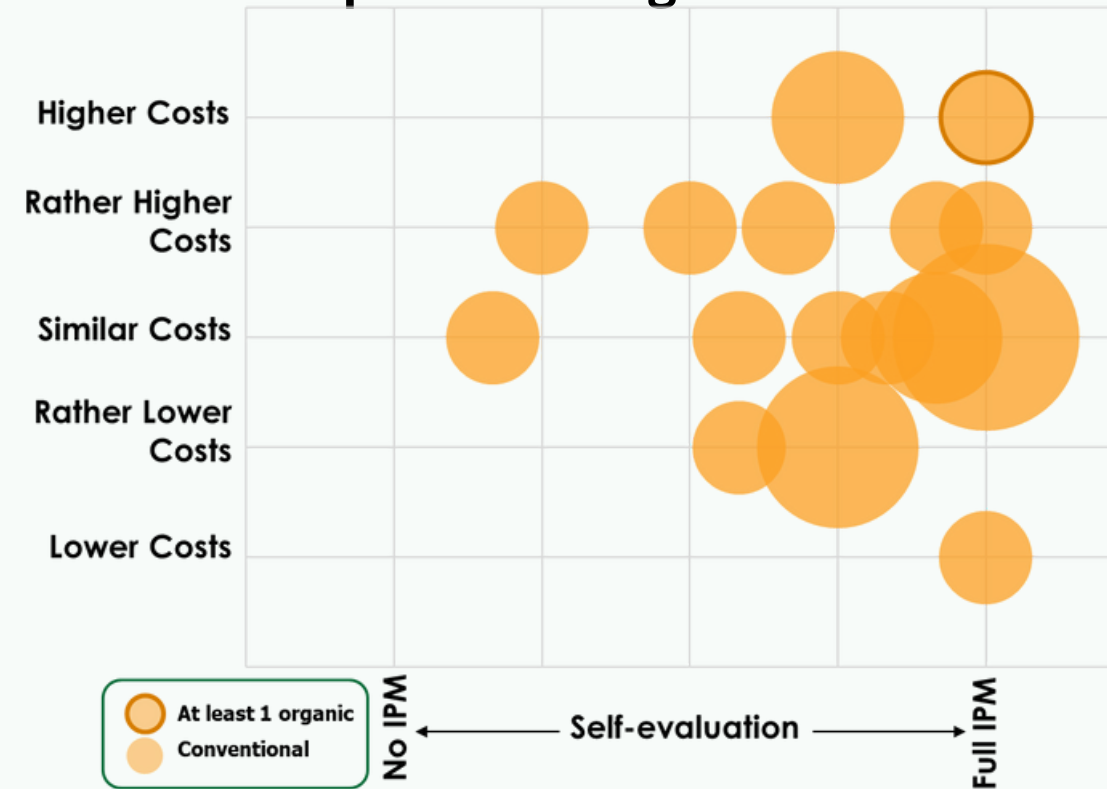


No clear impact of IPM adoption on workload/ha.



Equipment Costs

as compared to neighbour farmers...

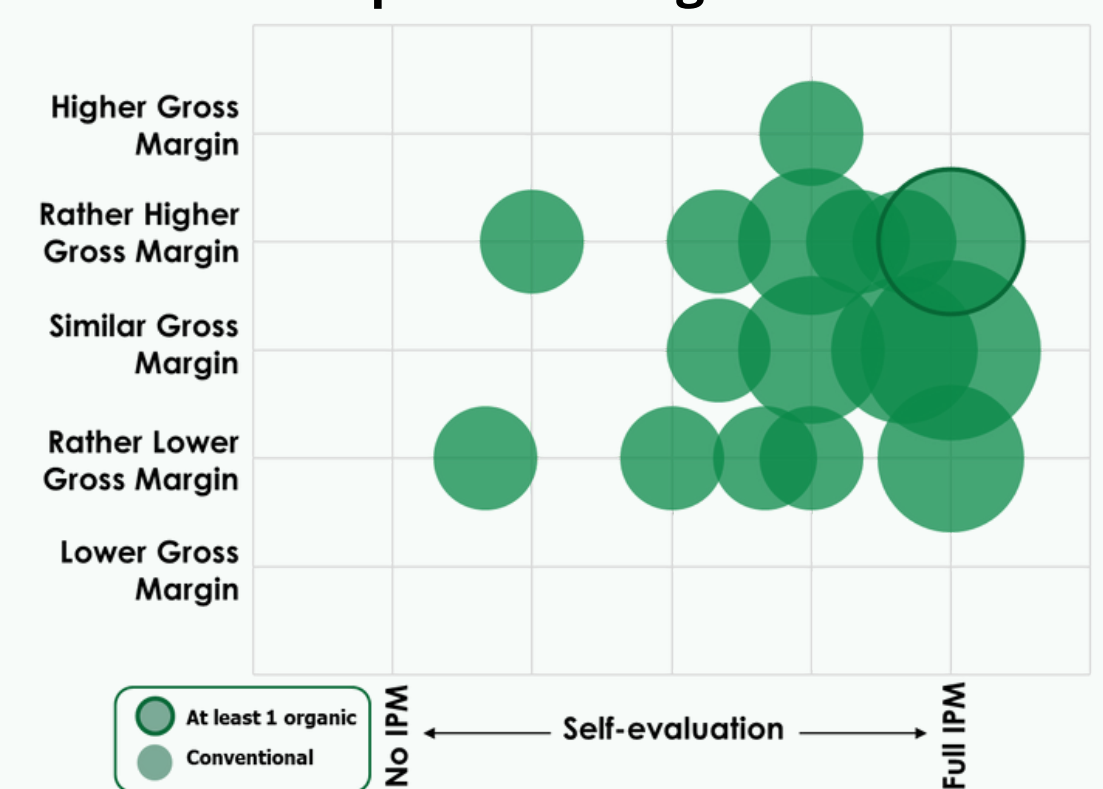


No clear impact of IPM adoption on equipment costs.



Gross Margin

as compared to neighbour farmers...



**No clear impact of IPM adoption on gross margin.
IPM is cost-effective !**



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