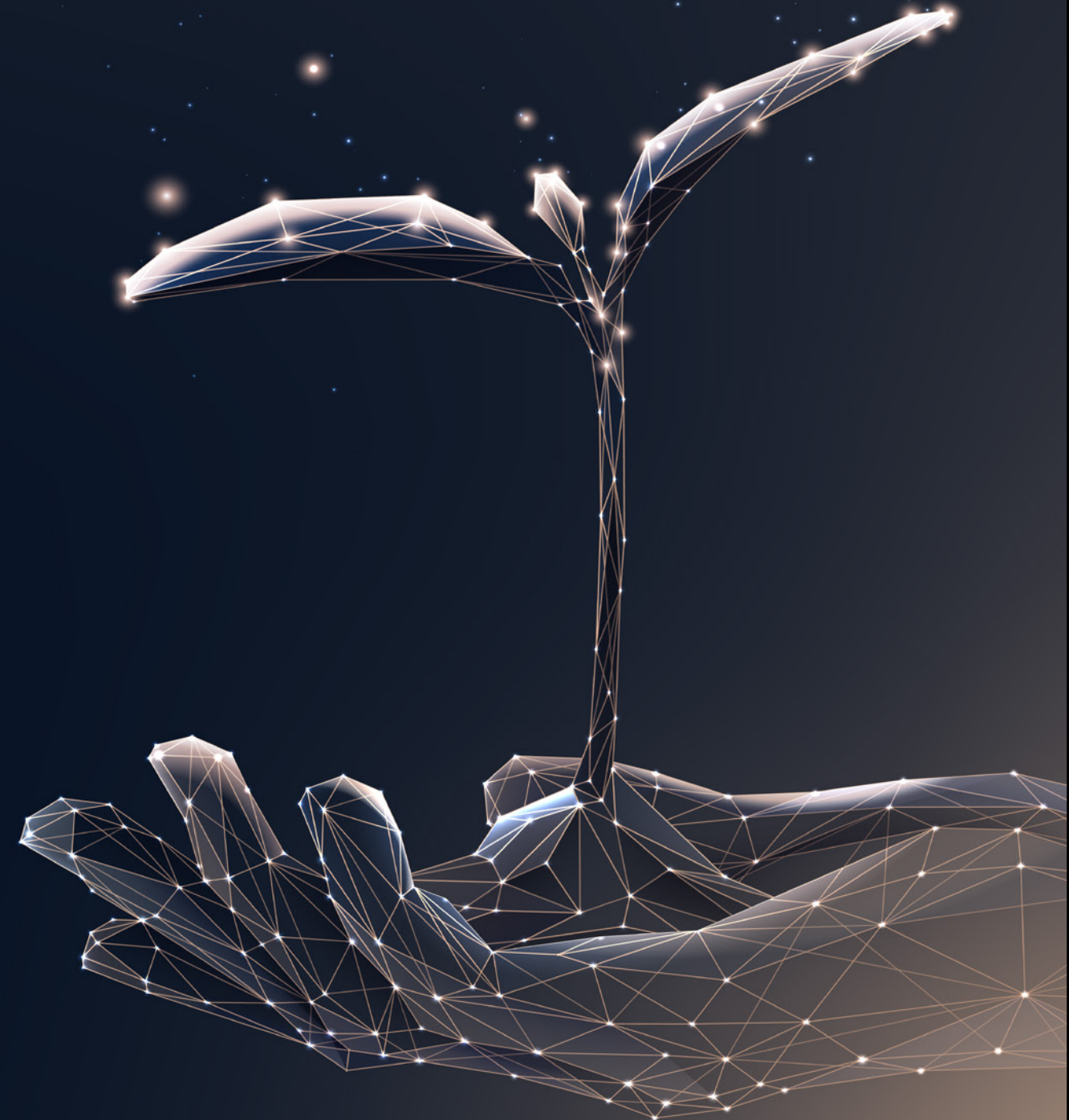




bioMR
2025

Global Biological Crop Input Use Survey - 2025

+ Sentiment Analysis + Valuable Trends & Insights + Cost Effective



AgbioInvestor bioMR 2025

Analytical Market Research

As the agricultural industry changes, new market sectors are emerging, holding significant growth potential for companies positioned to exploit these opportunities.

AgbioInvestor MR's global market research provides unique insights into niche markets where disrupting technology is increasingly altering the agricultural landscape.

With a focus on timeliness and quality and with capabilities across all key crop-growing regions, AgbioInvestor MR leverages our industry expertise together with insightful and detailed information gained through market research to provide powerful insights into crop input usage across key high-value crop markets, enabling a greater understanding of market dynamics and grower product choice.





Objectives



Primary Aim

To understand grower usage (e.g. treated acres, costs, key brands etc.) of Biological Crop Inputs (BCI) in the key crop/country markets, with a view to providing a representative view of the total market for such products in the 2025 agricultural year.

Secondary Aim

To understand grower behaviours and experience of using BCI.

Approach and Study Design



Country Coverage

- ✓ Argentina, Brazil, Canada, Chile, France, Italy, Mexico, Spain, Turkey and USA
- ✓ Key crops harvested in 2024



Target Groups / Screening

- ✓ Growers using Bio Crop Inputs
- ✓ CATI / F2F / Online interviews where appropriate



Questionnaire

- ✓ Quantitative questions to meet Primary Aim
- ✓ Qualitative questions to meet Secondary Aim

Farmer interview length expected to be max 25 minutes

Target Products and Definitions

Survey undertaken with Bio Growers – growers using **Biopesticides** or **Biostimulant** products:

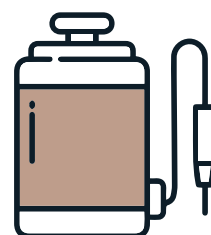
Biopesticides & Associated Products

Biopesticides

- + Microbials (e.g. bacteria, fungi, yeast)
- + Macroimals (e.g. insect pest predators nematodes)
- + Natural Products (e.g. plant oils, plant extracts)
- + Basic substances (e.g. acetic acid, COS-OGA)
- + Pheromones (e.g. insect mating disruptants)

Bio-Aligned

- + Inorganics (e.g. copper, sulphur)
- + Fermentation Products
(e.g. abamectin, spinosad)
- + Hybrids (e.g. chemistry +
biological products)



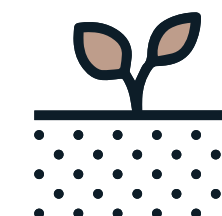
Biostimulants & Speciality Fert.

Biostimulants

- + Seaweed extracts
(e.g. Ascophyllum nodosum extract)
- + Amino acids (e.g. glycine betaine)
- + Plant hormones (e.g. cytokinin, gibberellins)
- + Humic acids (e.g. humic acid, fulvic acid)
- + Microbials (e.g. inoculants, micorhizae)

Speciality Fert.

- + Chelated Micronutrients
- + Soil Conditioners
- + Pre-inoculants



Products for e.g.
Stress Mitigation,
Nutrient Use
Efficiency, quality
improvement etc.
which are not just
fertilisers.

All application types will be considered

(e.g. seed treatment,
foliar, soil), whilst
bio users will also be
asked for information
on conventional
products used in
the program to
understand position
of bio products within
hybrid programs.

Questionnaire



Screening

Growers must:

- ✓ Be responsible, involved in choice or make decisions for Crop Inputs
- ✓ Have cultivated one of the target crops
- ✓ Have used any biological / natural pesticides or biostimulants in 2024

Quantitative Section

Aims to collect information on key quantitative measures:

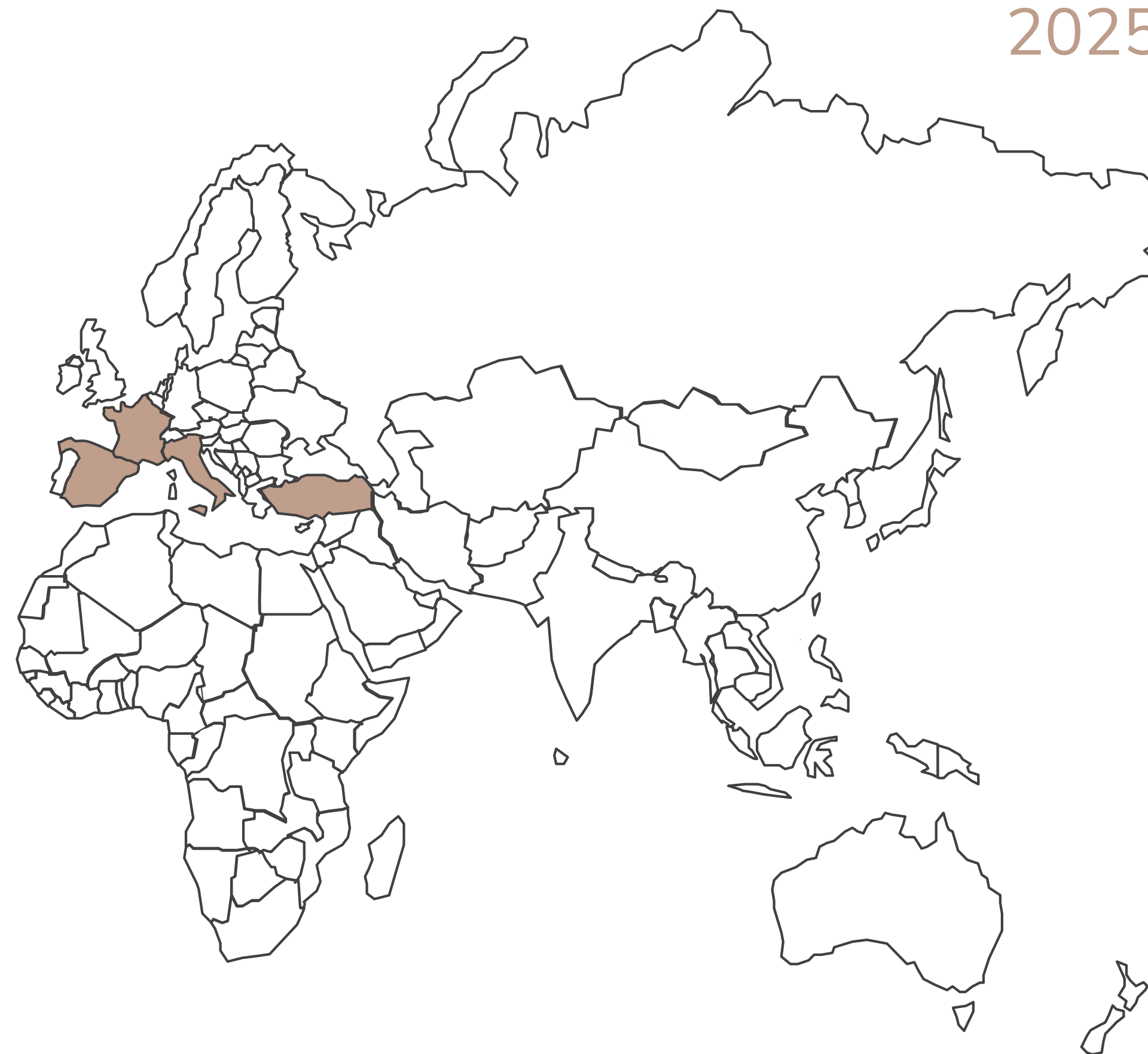
- ✓ Crop Area cultivated
- ✓ Product/Brand used
- ✓ Treated Area
- ✓ No Applications & Application Rate
- ✓ Cost
- ✓ Reasoning for application (Open)
- ✓ Satisfaction (Scale 1-5) and satisfaction reasoning (set answers)

Qualitative Section

Series of short open questions about why growers used bio inputs, whether would use again, what characteristics valued most and where recommendations came from.



Countries Overview



10
**10 Countries
Surveyed**

Crop/Country Matrix



Region	Almond	Banana	Citrus	Coffee	Cotton	Horticulture	Maize	Oilseed Rape	Olives	Pome/Stone	Potato	Soybean	Sugarcane	Tomato	Tree Fruit/Nuts	Tree Nuts	Vine	Wheat	Total
Argentina			50				100			50		150	50					100	500
Brazil		100		150	250	500	250					800	200		250				2500
Canada						100		100		100	100							100	500
Chile						150	50				75				125		100		500
France							75	75							75		75	100	400
Italy			100			100	75		75	100				100			75	75	700
Mexico						100	150						100		100		50		500
Spain	50		50			200	100		100	100	100						100	100	900
Turkey					100	150	50								150		50		500
USA					50	100	200			50		200				50	50		700
Total	50	100	200	150	400	1,400	1,050	175	175	400	275	1,150	350	100	700	50	500	475	7,700

Note: No. surveys subject to finding number of bio users.

Country: Argentina

A mixture of field crops and specialties makes Argentina a complex market to survey. Biostimulants are anticipated to be important in field crops, notably Soybeans (e.g. inoculants) and perhaps Wheat, with biological / natural pesticides likely to be relatively more important in pome / stone (e.g. pheromones, granuloviruses for Lep. control) and citrus (e.g. inorganics).

Crop Group	Crop	Cut-Off Size	No. Interviews
F&V	Citrus	>5 Ha	50
Field Crops	Maize	>50 Ha	100
F&V	Pome/Stone	>5 Ha	50
Field Crops	Soybean	>150 Ha	150
Plantations	Sugarcane	>20 Ha	50
Field Crops	Wheat	>100 Ha	100



Sampling Plan

Sample Broken Down by
Key Province Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**July To
June**



Start Month

May



Country: Brazil

Brazil grows a diversity of specialty and field crops, however it is a standout market for strong growth of bio options in a field setting. Field crops are targeted alongside some specific specialties of interest. Seed treatments (e.g. for nematode control) as well as inoculants may be important in soybeans, with a variety of microbial products likely to be of importance in other crops.

Crop Group	Crop	Cut-Off Size	No. Interviews
Plantations	Banana	>2 Ha	100
Plantations	Coffee	>5 Ha	150
Field Crops	Cotton	>150 Ha	250
F&V	Horticulture	>1 Ha	500
Field Crops	Maize	>10 Ha	250
Field Crops	Soybean	>100 Ha	800
Plantations	Sugarcane	>50 Ha	200
F&V	Tree Fruit/Nuts	>2 Ha	250



Sampling Plan

Sample Broken Down by
Key State Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



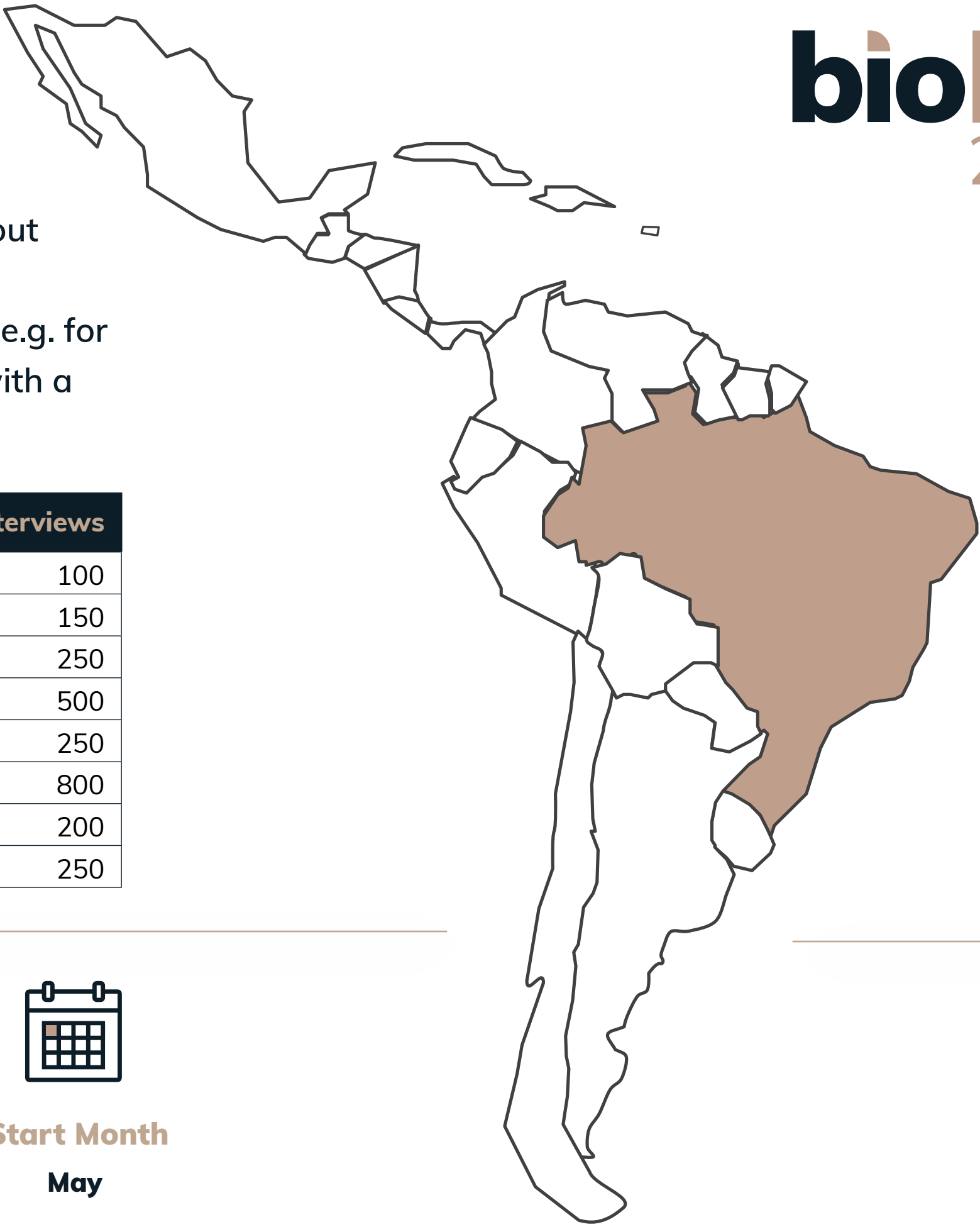
Agricultural Year

**July To
June**



Start Month

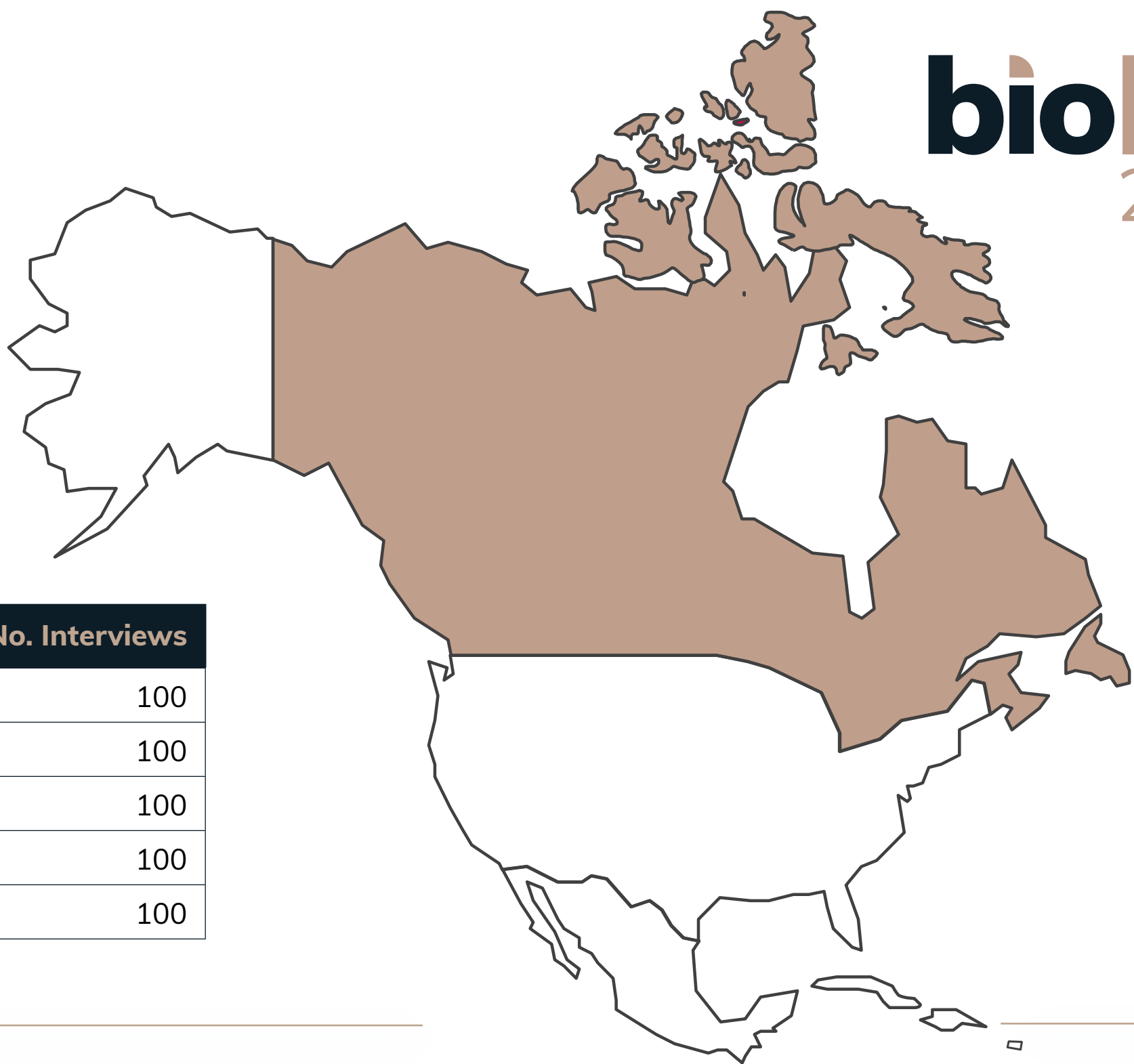
May



Country: Canada

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Much of the Canadian crop protection market is focused on broad acre crops, however specialties such as pome fruit and berries are important for biological use despite being grown on lower acreages.



Crop Group	Crop	Cut-Off Size	No. Interviews
Field Crops	Wheat	>50 Ha	100
Field Crops	Canola	>50 Ha	100
F&V	Potato	>10 Ha	100
F&V	Pome / Stone Fruit	>2 Ha	100
F&V	Horticulture	>2 Ha	100



Sampling Plan

Sample Broken Down by
Key State Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**October To
September**



Start Month

August

Country: Chile

Chile is an important exporter of fresh produce to developed markets like the EU and USA. Vine, tree fruit and horticultural produce are all important, and crops in which there is a strongly developing market for biostimulants and biopesticides from local and foreign entities.

Crop Group	Crop	Cut-Off Size	No. Interviews
F&V	Horticulture	>0.5 Ha	150
Field Crops	Maize	>2.5 Ha	50
Field Crops	Potato	>1.5 Ha	75
F&V	Tree Fruit/Nuts	>2.5 Ha	125
F&V	Vine	>2.5 Ha	100



Sampling Plan

Sample Broken Down by
Key Province Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



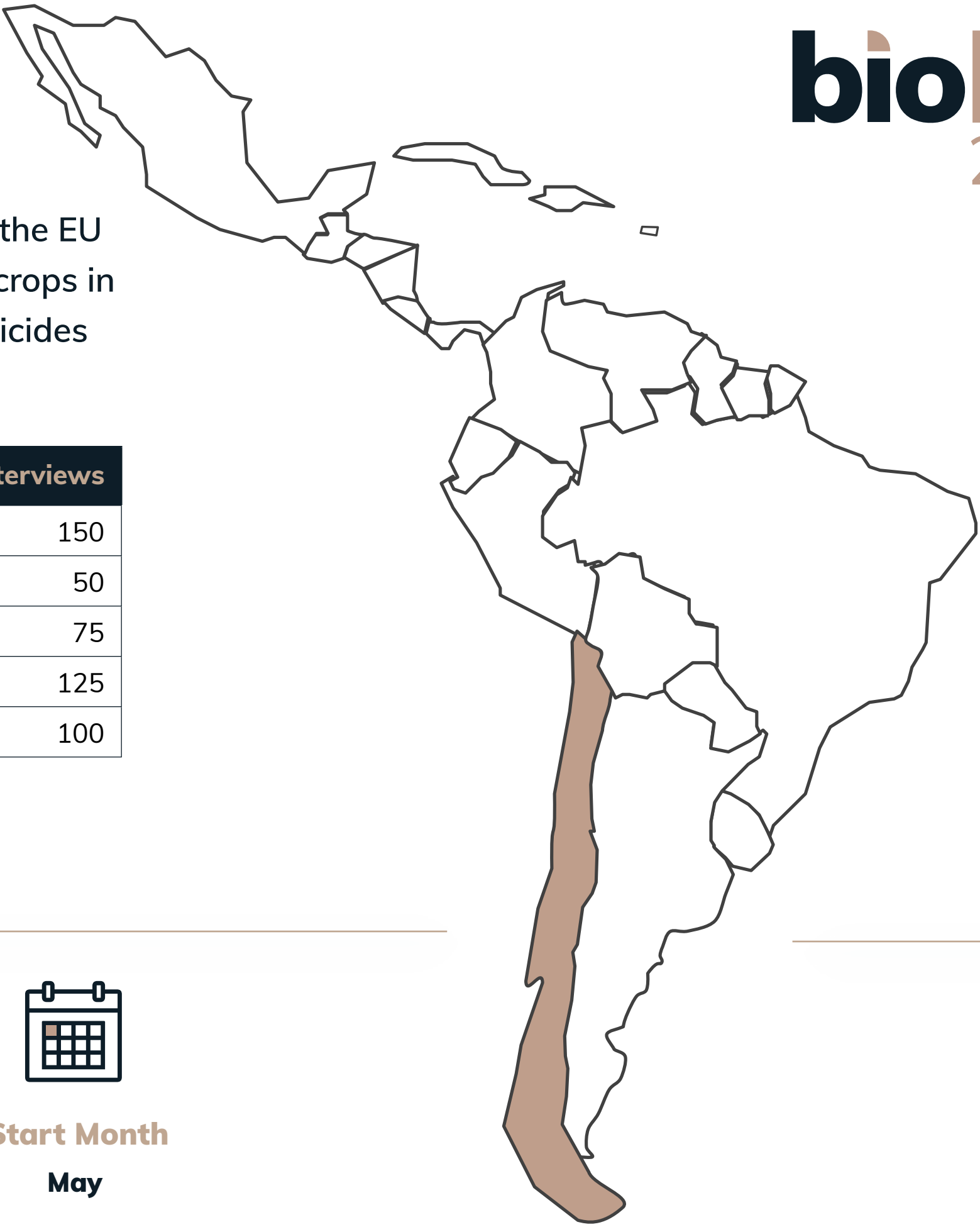
Agricultural Year

**July To
June**



Start Month

May



Country: Mexico

Mexico is an important producer of a range of fruits and vegetables, with maize the most important field crop, with the majority for local consumption. Biopesticides and biostimulants used in the Mediterranean region of Europe find suitability in Mexico in part due to similar crops and climate, and European companies have invested significantly in a position within the country.

Crop Group	Crop	Cut-Off Size	No. Interviews
F&V	Horticulture	>2 Ha	100
Field Crops	Maize	>5 Ha	150
Plantations	Sugarcane	>5 Ha	100
F&V	Tree Fruit/Nuts	>5 Ha	100
F&V	Vine	>5 Ha	50



Sampling Plan

Sample Broken Down by
Key Province Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**October To
September**



Start Month

May

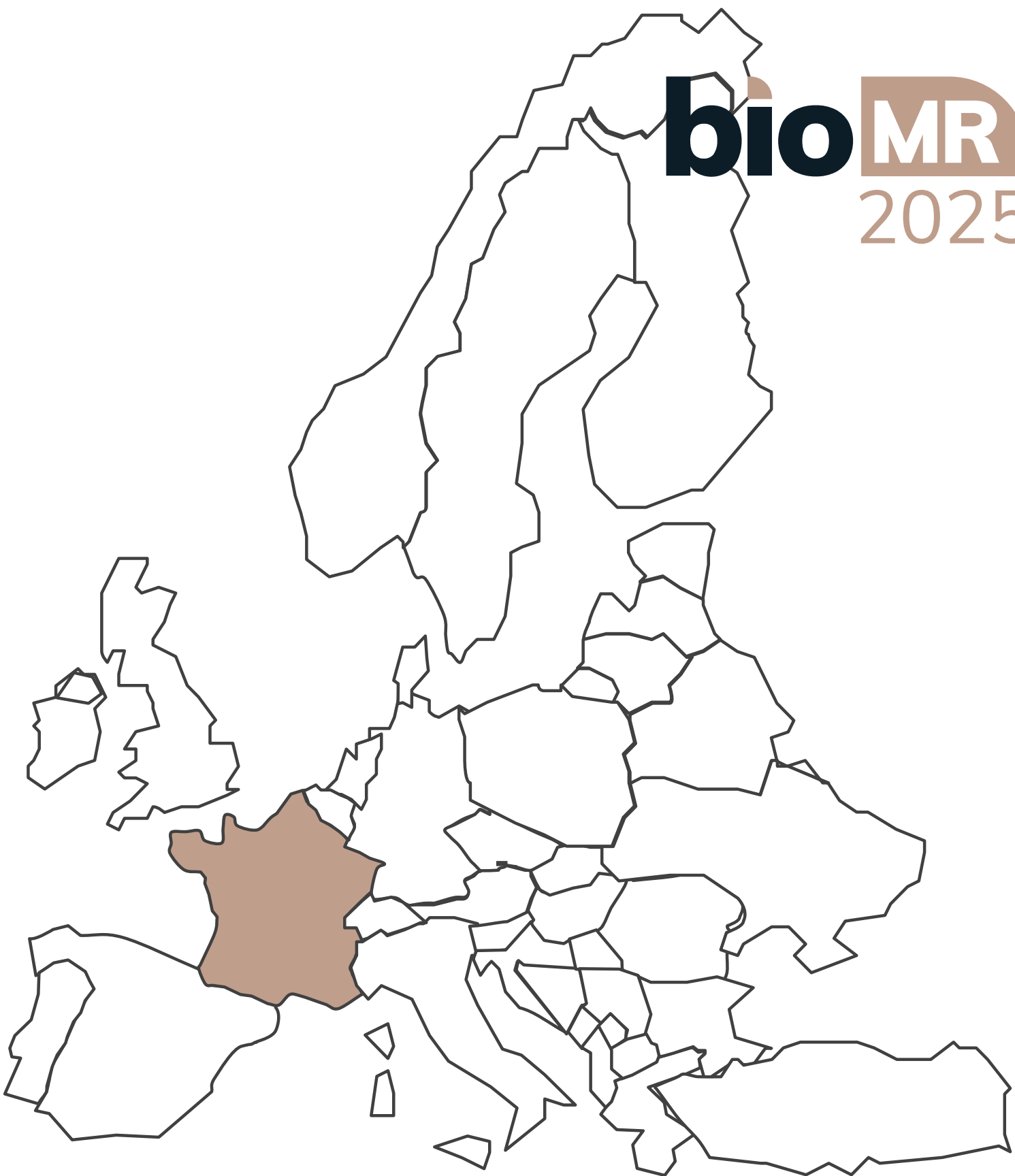


Country: France

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France is a leader in adoption of the macrobial Trichogramma for insect control in maize, whilst a number of bio options are positioned for control of key vine and pome / stone fruit pests. Biostimulants are expected to have grown substantially in recent years, with wheat and oilseed rape expected to be growth markets from a low historical base.

Crop Group	Crop	Cut-Off Size	No. Interviews
Field Crops	Maize	>15 Ha	100
Field Crops	Oilseed Rape	>10 Ha	150
F&V	Tree Fruit/Nuts	>2 Ha	100
F&V	Vine	>10 Ha	100
Field Crops	Wheat	>30 Ha	50



Sampling Plan

Sample Broken Down by
Key State Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**October To
September**



Start Month

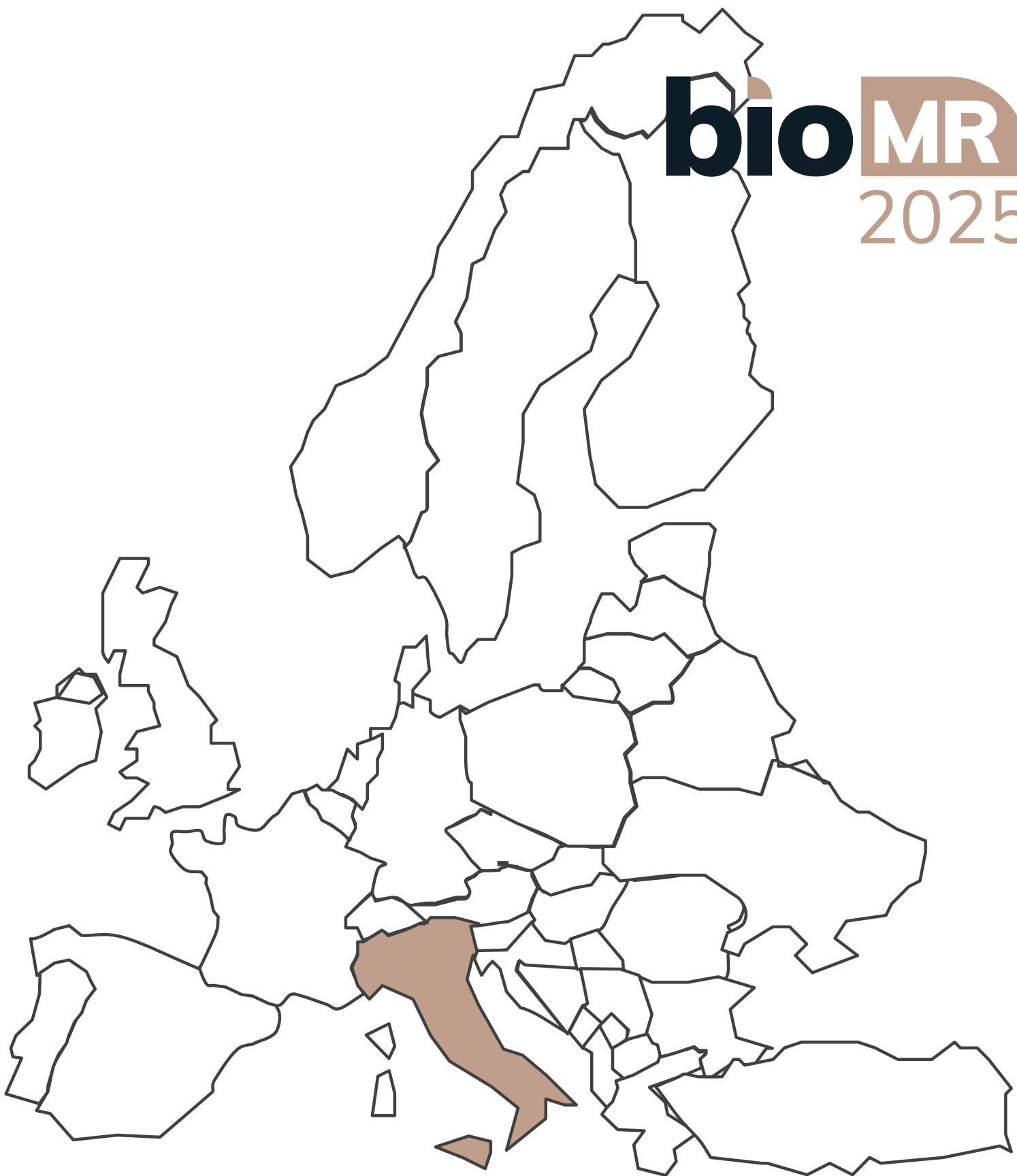
September

Country: Italy

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Italy is a leading specialty crop producer, with significant acres of tomato, vine, citrus, horticulture and olives. Biostimulants are expected to be of strong importance in Italy.

Crop Group	Crop	Cut-Off Size	No. Interviews
F&V	Citrus	>2 Ha	100
F&V	Horticulture	>2 Ha	100
Field Crops	Maize	>20 Ha	75
Plantations	Olives	>2 ha	75
F&V	Pome/Stone	>2 Ha	100
F&V	Tomato	>1 Ha	100
F&V	Vine	>5 Ha	75
Field Crops	Wheat	>20 Ha	75



Sampling Plan

Sample Broken Down by
Key NUTS Region Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**January To
December**



Start Month

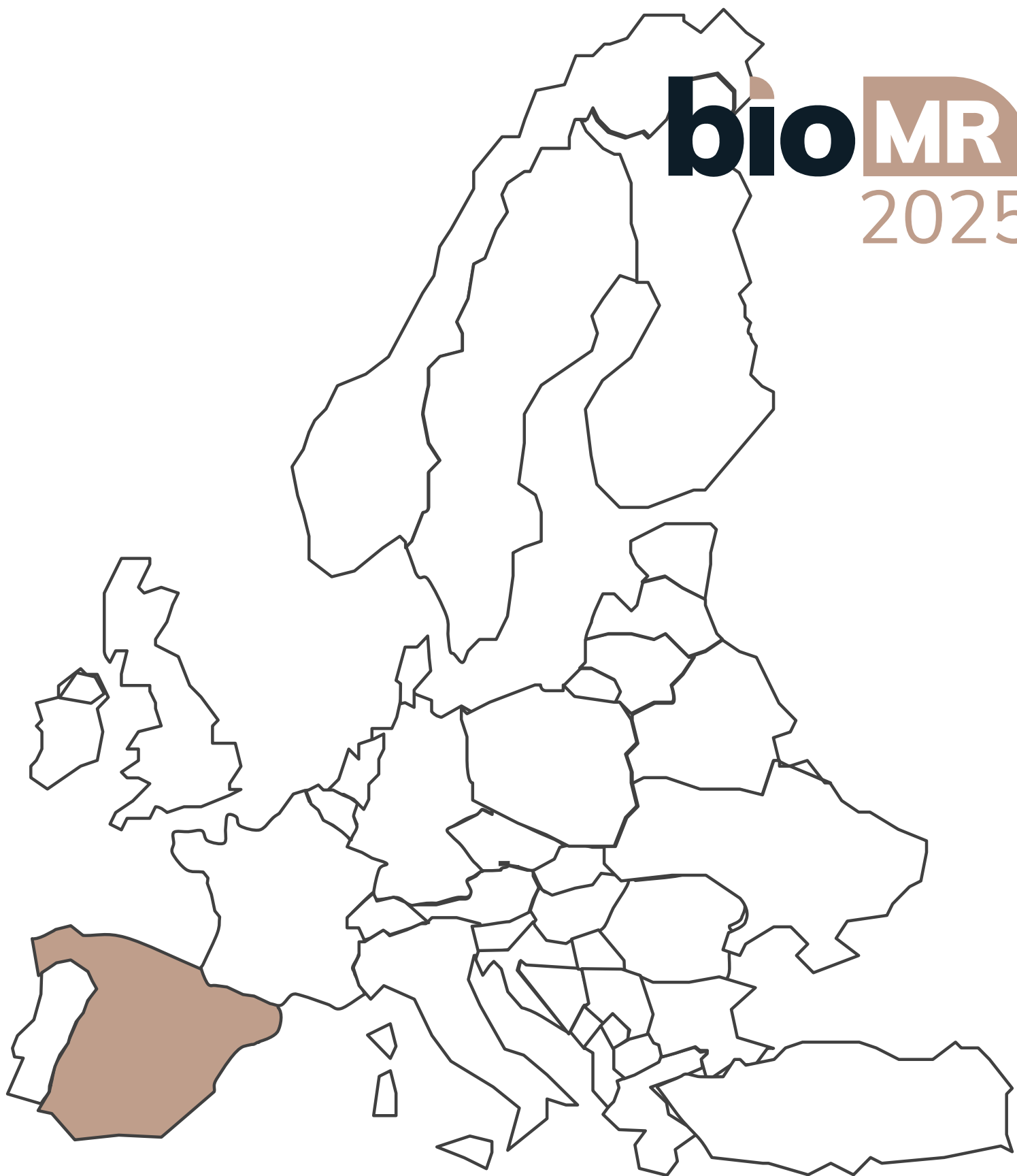
September

Country: Spain

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2025

Pilot studies in Spain have shown the importance of the country for biopesticides and biostimulants in a range of crops. Specialty crops are of key importance, whilst field crops like maize and wheat are expected to only have increased in importance for biostimulants.

Crop Group	Crop	Cut-Off Size	No. Interviews
F&V	Almond	>1 Ha	50
F&V	Citrus	>1 Ha	50
F&V	Horticulture	>1 Ha	200
Field Crops	Maize	>10 Ha	100
Plantations	Olives	>3 Ha	100
F&V	Pome/Stone	>1 Ha	100
Field Crops	Potato	>1 Ha	100
F&V	Vine	>3 Ha	100
Field Crops	Wheat	>15 Ha	100



Sampling Plan

Sample Broken Down by
Key NUTS Region Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**January To
December**



Start Month

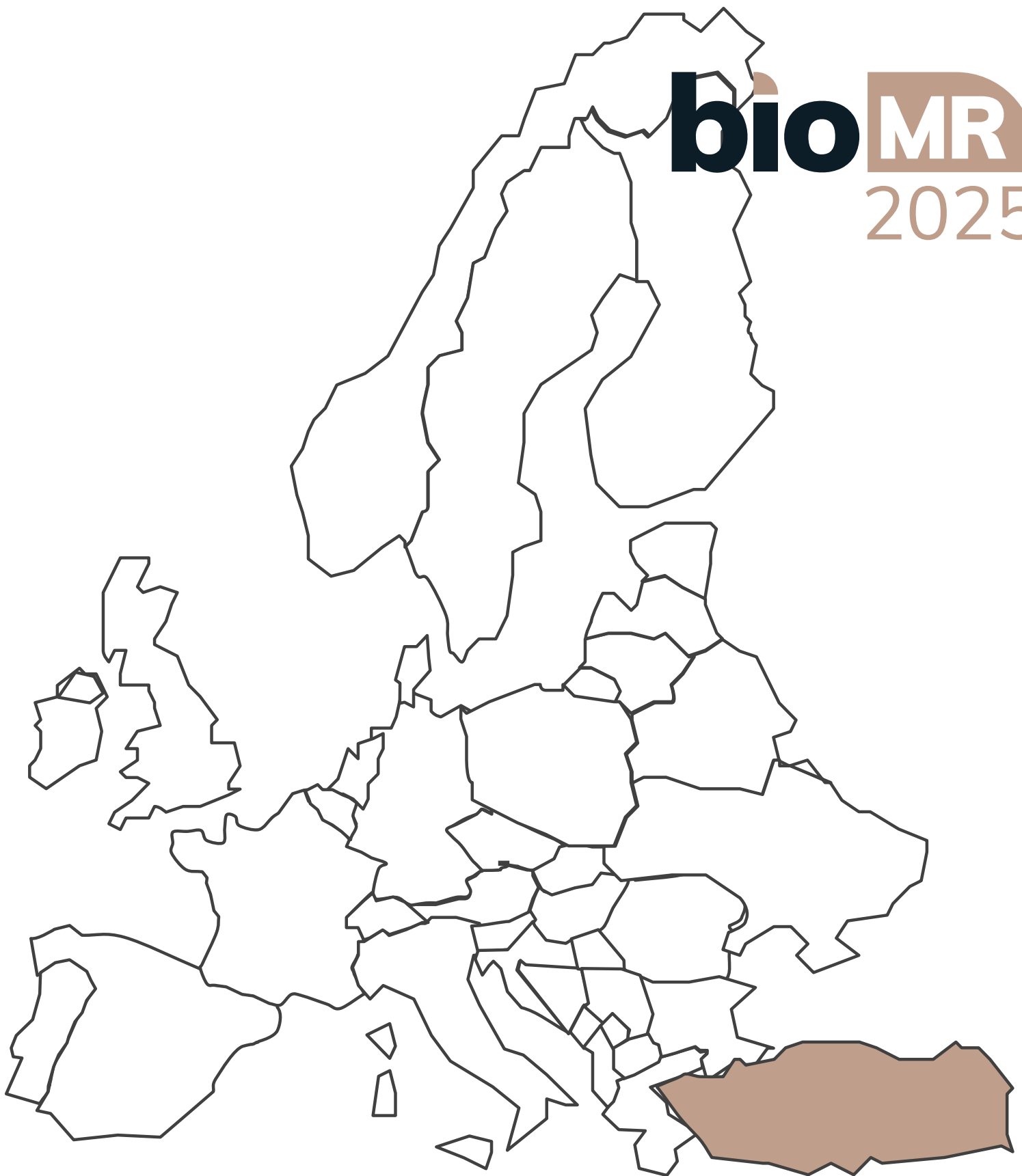
September

Country: Turkey

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2025

Turkey cultivates a wide diversity of crops, however agriculture is in a less developed state than some of the key European markets. It is relatively unknown how important biostimulants and biopesticides are, with the survey expected to go some way towards addressing these unknowns.

Crop Group	Crop	Cut-Off Size	No. Interviews
Field Crops	Cotton	>5 Ha	100
F&V	Horticulture	>1 Ha	150
Field Crops	Maize	>2 Ha	50
F&V	Tree Fruit/Nuts	>1 Ha	150
F&V	Vine	>1 Ha	50



Sampling Plan

Sample Broken Down by
Key NUTS Region Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**January To
December**



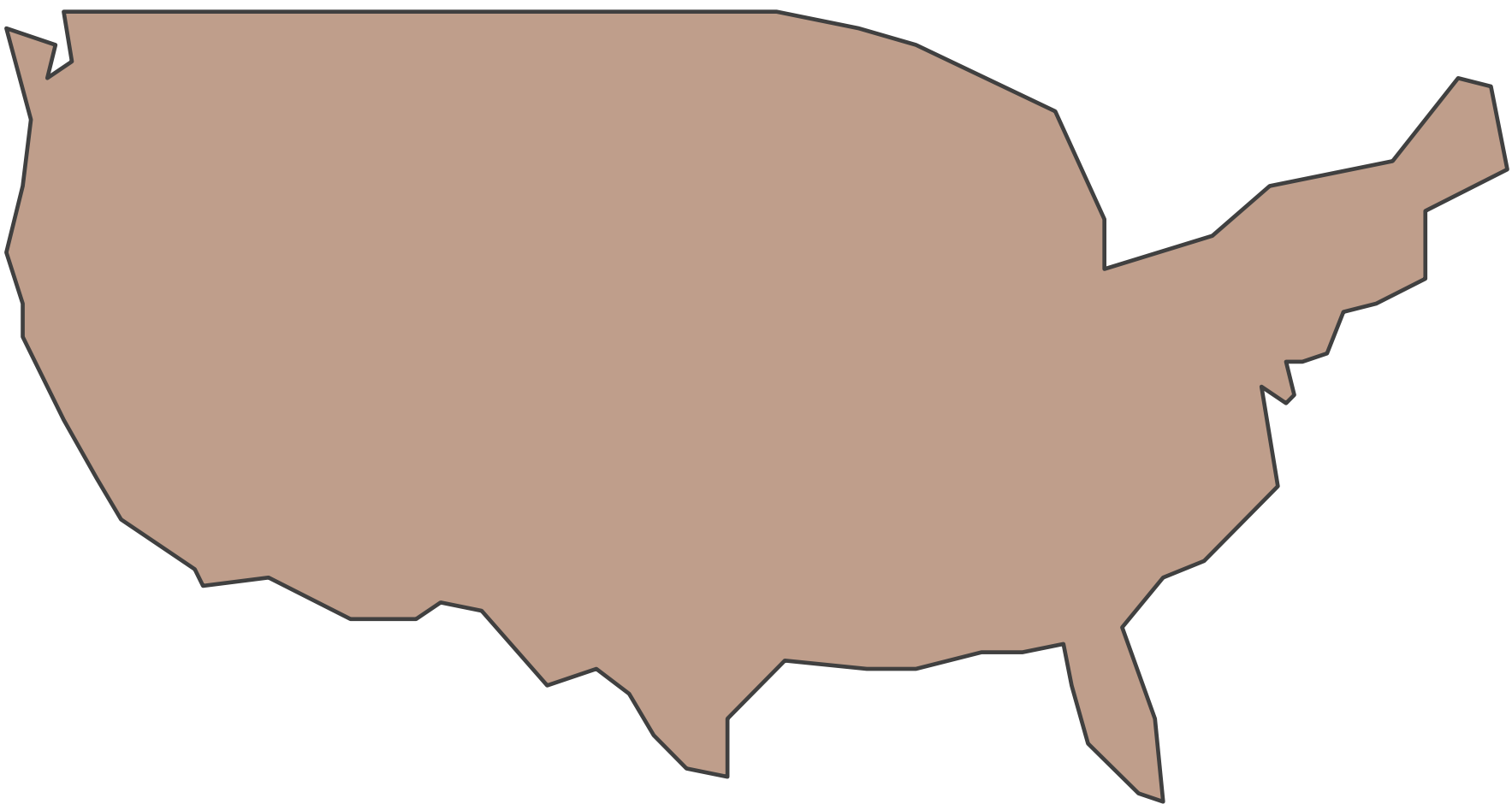
Start Month

Autumn

Country: USA

The USA has seen significant development of biological crop inputs, with specialties in the likes of California being of key importance, and Soybean, Maize and Cotton increasingly important for seed treatments and biostimulants.

Crop Group	Crop	Cut-Off Size	No. Interviews
Field Crops	Cotton	>25 Ha	50
F&V	Horticulture	>1 Ha	100
Field Crops	Maize	>200 Ha	200
F&V	Pome/Stone	>5 Ha	50
Field Crops	Soybean	>150 Ha	200
F&V	Tree Nuts	>2 Ha	50
F&V	Vine	>1 Ha	50



Sampling Plan

Sample Broken Down by
Key State Acreages



Interview Type

CATI - Computer-assisted
telephone interviewing



Agricultural Year

**January To
December**



Start Month

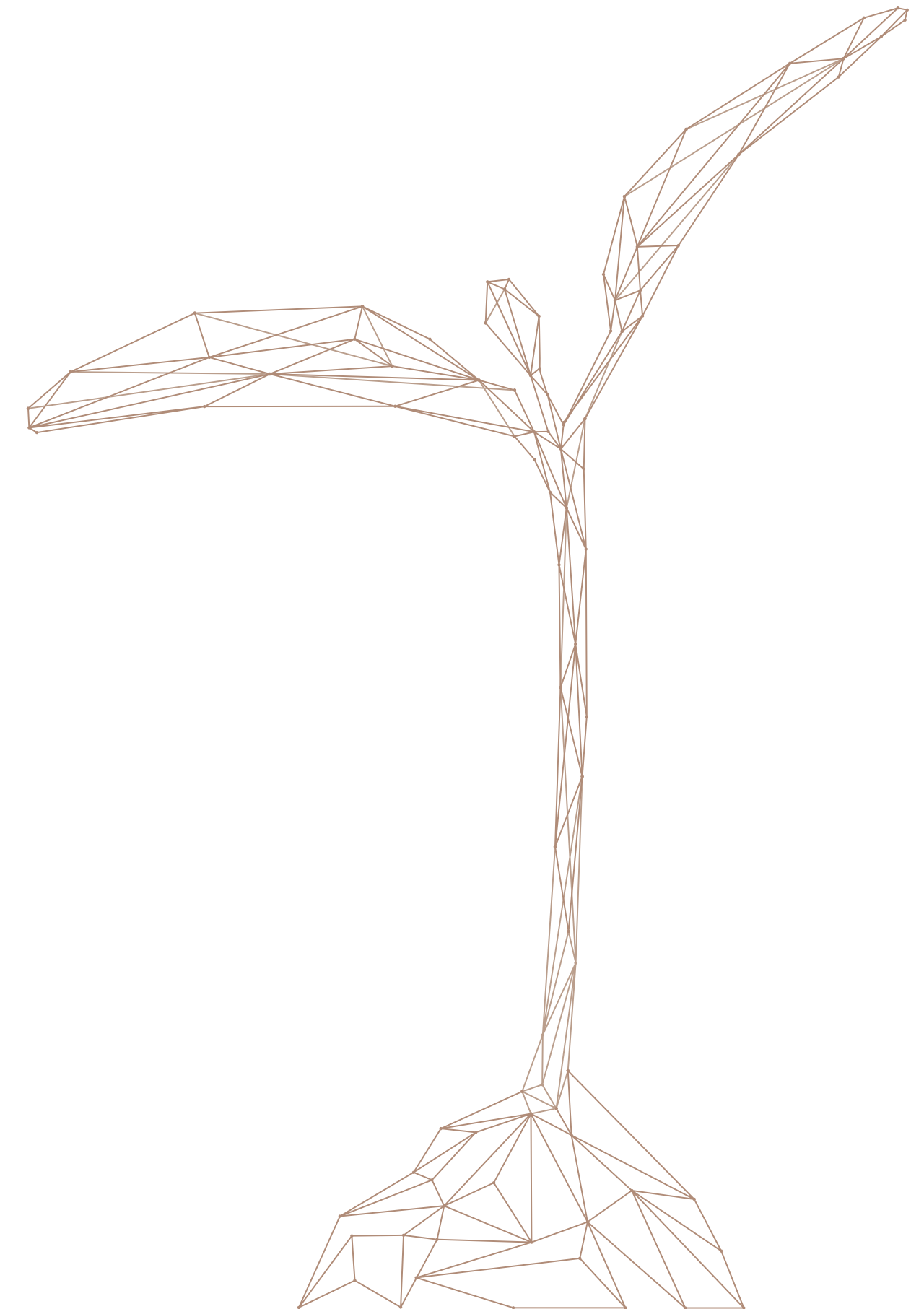
**November /
December**

Study Caveats

Study depends upon surveying growers using bio products.

The low % of growers using these products makes reaching these growers more difficult and increases the survey effort required. In some cases, there may be a re-prioritisation of survey effort between crops if not enough growers can be found to meet the allocated quota.

Seed Treatment product information is likely to depend upon the route of purchase – more grower information is likely with products treated on-farm than via the industry, as growers may not know what ST was applied to the bag. In these cases, assumptions may be made on the basis of Seed Company (e.g. Becks and MBI agreement).



Deliverables Overview

Data

- ✓ Cleaned and extrapolated data for each country
- ✓ Raw data in cleaned and normalised form
- ✓ Sentiment analysis for qualitative questions

Reporting

- ✓ Executive summaries
- ✓ Slide deck with key findings
- ✓ Power BI dashboard for investigating data

	A	B	C	
1	Country	Survey Crop	Application Type	Label
2	Spain	Vine	Foliar	Foliar
3	Brazil	Soybean	Foliar	Foliar
4	USA	Vine	Foliar	Foliar
5	Spain	Horticulture	Foliar	Foliar
6	USA	Maize	Foliar	Foliar
7	Brazil	Soybean	Foliar	Foliar
8	USA	Vine	Foliar	Foliar
9	France	Vine	Foliar	Foliar
10	Spain	Olives	Foliar	Foliar
11	Brazil	Soybean	Soil	Foliar
12	Brazil	Citrus	Foliar	Foliar
13	Italy	Vine	Foliar	Foliar



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