



# Biocontrol – An International Perspective

16 May 2024



# What is Biocontrol?

Examples of successful implementation of Biocontrol



Invertebrates



Semiochemicals



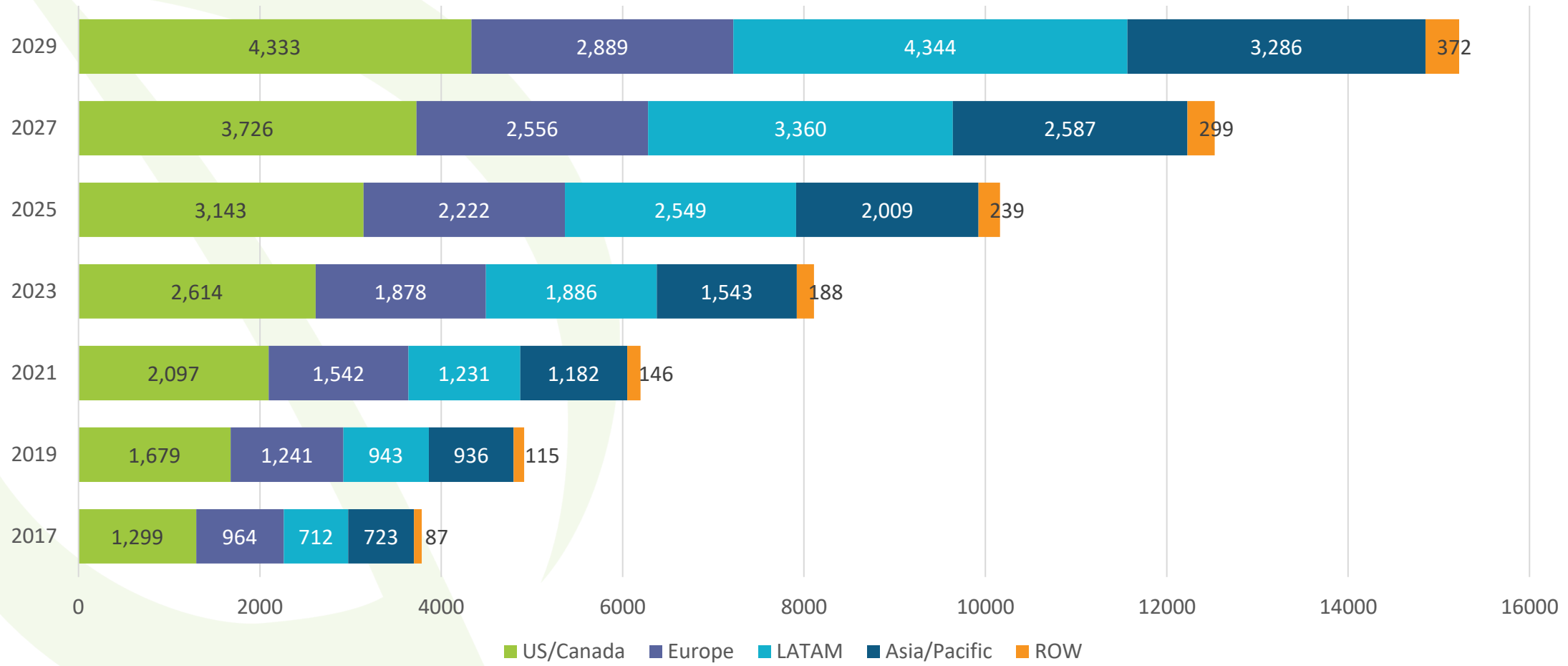
Microbials



Natural substances

# Globally the Biocontrol (Biocontrol PPPs and Invertebrates) has doubled in 6 years and is predicted to double again by 2030

Regional Market Value

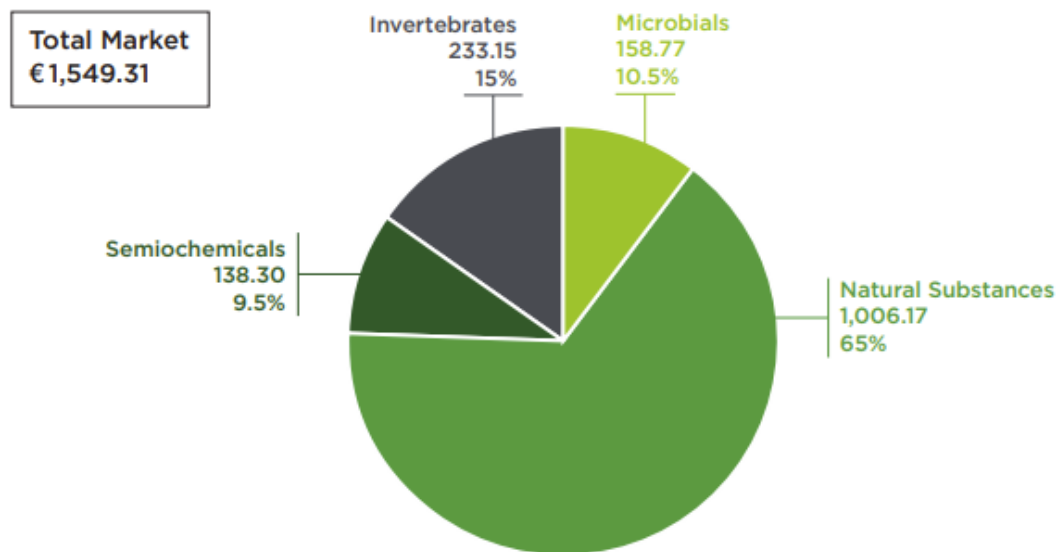


Source: DunhamTrimmer

*All data collected in this report is FY 2022.*

Natural Substances and Invertebrates make up about 80% of the European Biocontrol Market. Both segments are proportionally larger than in other global regions. Conversely, Microbials have a much smaller share of the market in Europe than in other regions, while Semiochemicals are roughly equal.

## Total European Biocontrol Market 2022 (€ Million)\*



This data reflects reported revenue from IBMA Active Members (manufacturers) only. It does not include non-IBMA member data.

# 5983

Total Number of Employees from among IBMA Active Member Companies that work in the European Biocontrol Market\*

# 562

Total Number of Employees from among IBMA Associate Member Companies that work in the European Biocontrol Market\*

# 6545

Total Number of IBMA Member Employees that work in the European Biocontrol Market\*

\* Values assume a proportionate number of employees (based on revenue) for non-responding companies.

# The Biocontrol market is growing in the EU where the majority of submissions are Biocontrol

## 2022 European Biocontrol Market: Growth by Categories (€ Million)

The European Biocontrol Industry has experienced impressive growth since 2016, doubling in size.

The Annual Growth rate in the first 3 years was 17% but declined to 8% in the last 3 years.

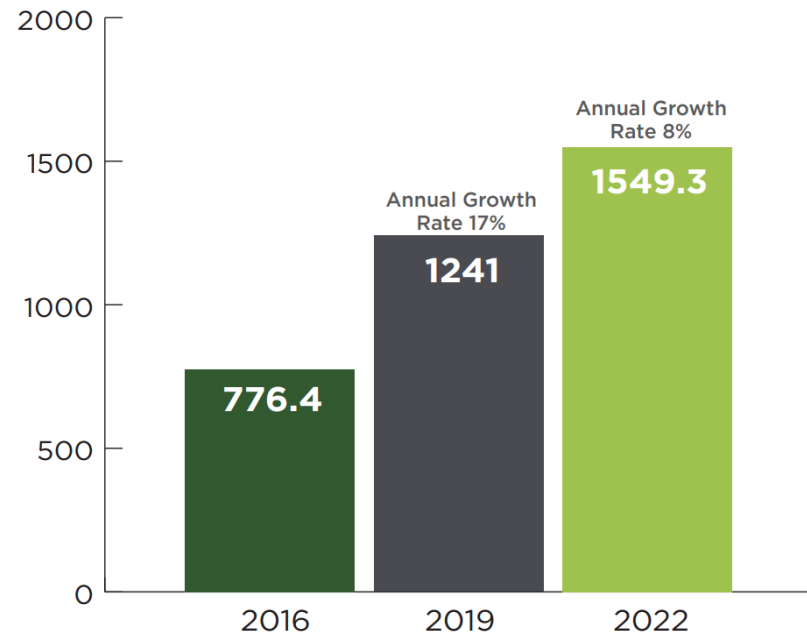
Biocontrol growth in Europe in the past 3 years (2019-2022) has slowed for the biocontrol plant protection products.

In contrast, the growth in invertebrate biocontrol has continued to nearly double.

The difference in growth rates reflects the difficult and slow regulatory process for biocontrol plant protection products compared to invertebrate biocontrol.

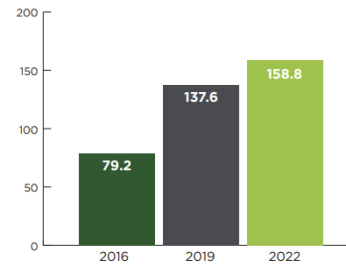
### Total Market

% CHANGE SINCE 2016: 100% ↑  
% CHANGE SINCE 2019: 20% ↑



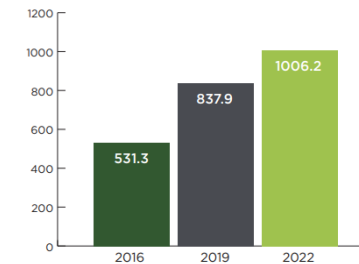
### Microbials

% CHANGE SINCE 2016: 100% ↑  
% CHANGE SINCE 2019: 15% ↑



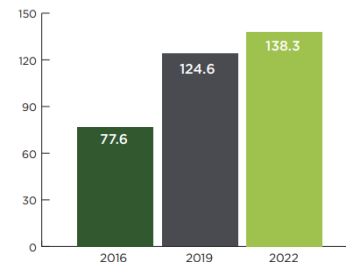
### Natural Substances

% CHANGE SINCE 2016: 89% ↑  
% CHANGE SINCE 2019: 20% ↑



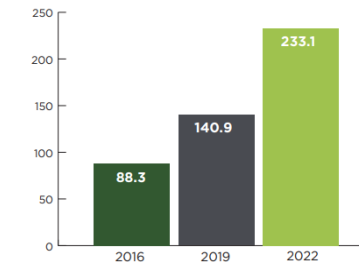
### Semiochemicals

% CHANGE SINCE 2016: 78% ↑  
% CHANGE SINCE 2019: 11% ↑



### Invertebrates

% CHANGE SINCE 2016: 164% ↑  
% CHANGE SINCE 2019: 65% ↑



# UN COP Climate and Biodiversity Targets create a new policy environment

NEWS ARTICLE | 4 May 2023 | Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO)

## Report from Global Network on Food Crises shows highest number of people facing acute food insecurity since 2017



The UN's latest global assessment report on biodiversity and ecosystem services highlights the responsibility of human activities in the massive loss of biodiversity.



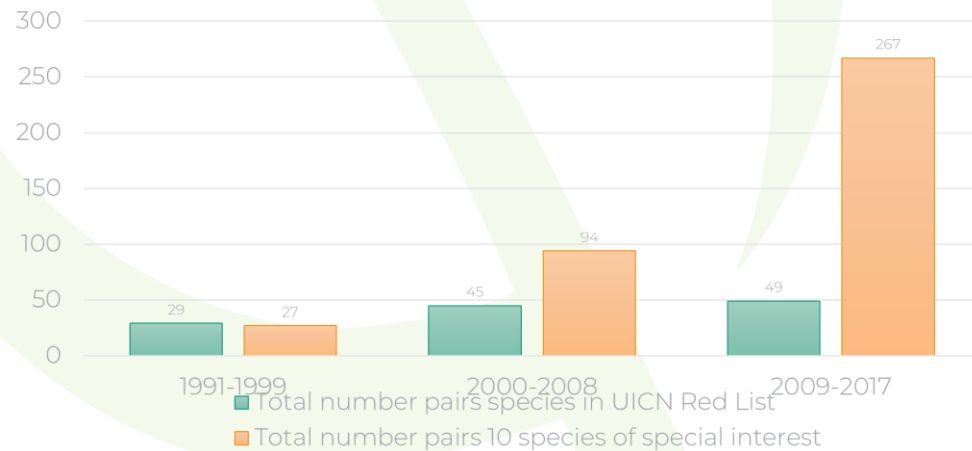
**UN COP biodiversity and climate targets result in national horizontal policy targets to halt biodiversity decline and mitigate climate change**

# Biologicals have a key role to play in mitigating climate and halting the biodiversity decline

Switching to mating disruption in Albufera increased nesting aquatic birds 10 x



Evolution of nesting aquatic birds



Switching to biologicals – second most effective climate (GHG) mitigation action on farm



# How to meet the need for biocontrol?







01

Many biocontrol solutions exist worldwide but implementation varies across different countries

02

EU authorisation process is very long

03

Novel biocontrol technologies do not always have a clear regulatory pathway

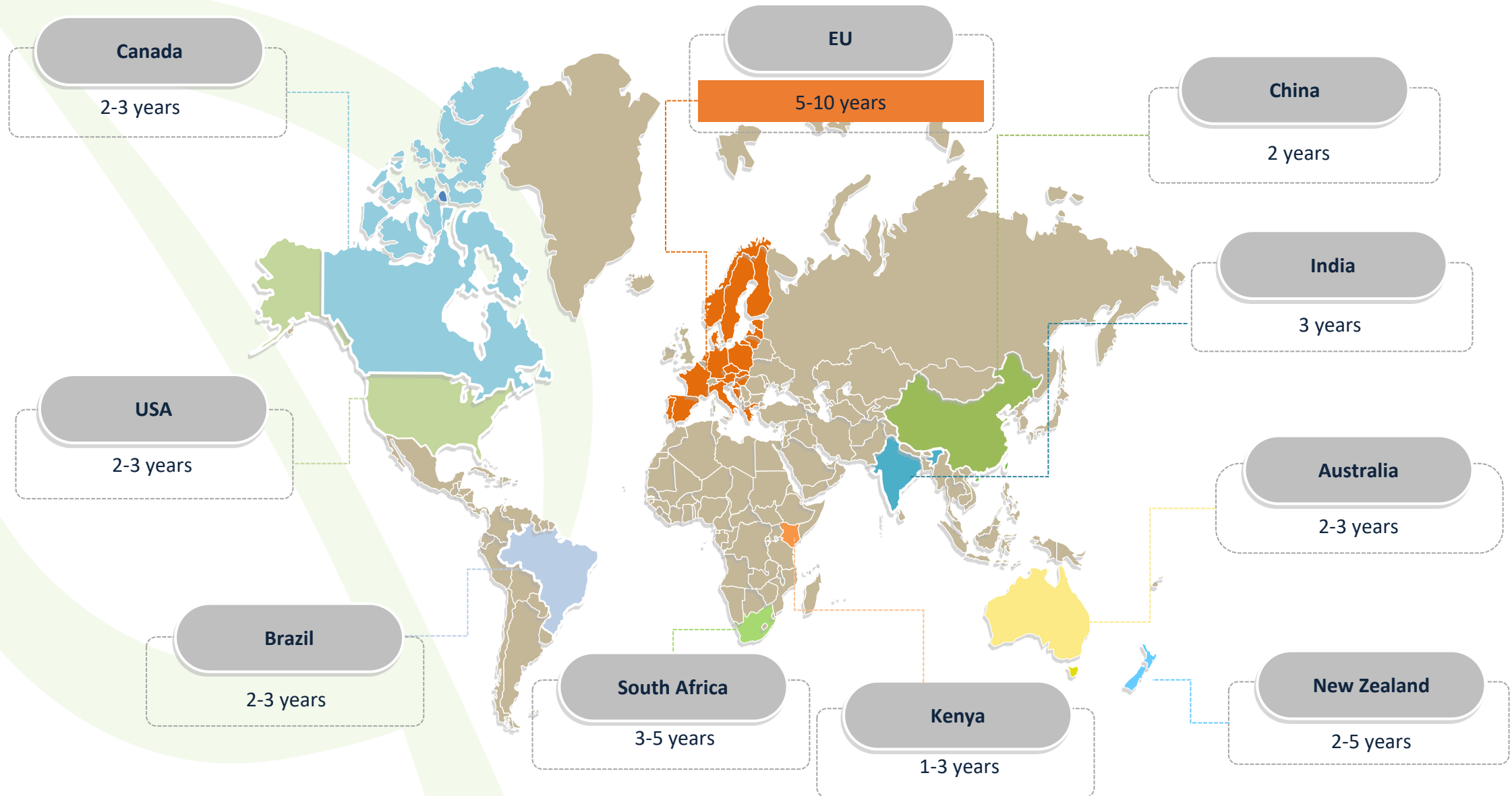
04

Knowledge transfer and sharing with and between farmers for implementation

# Biocontrol authorisation

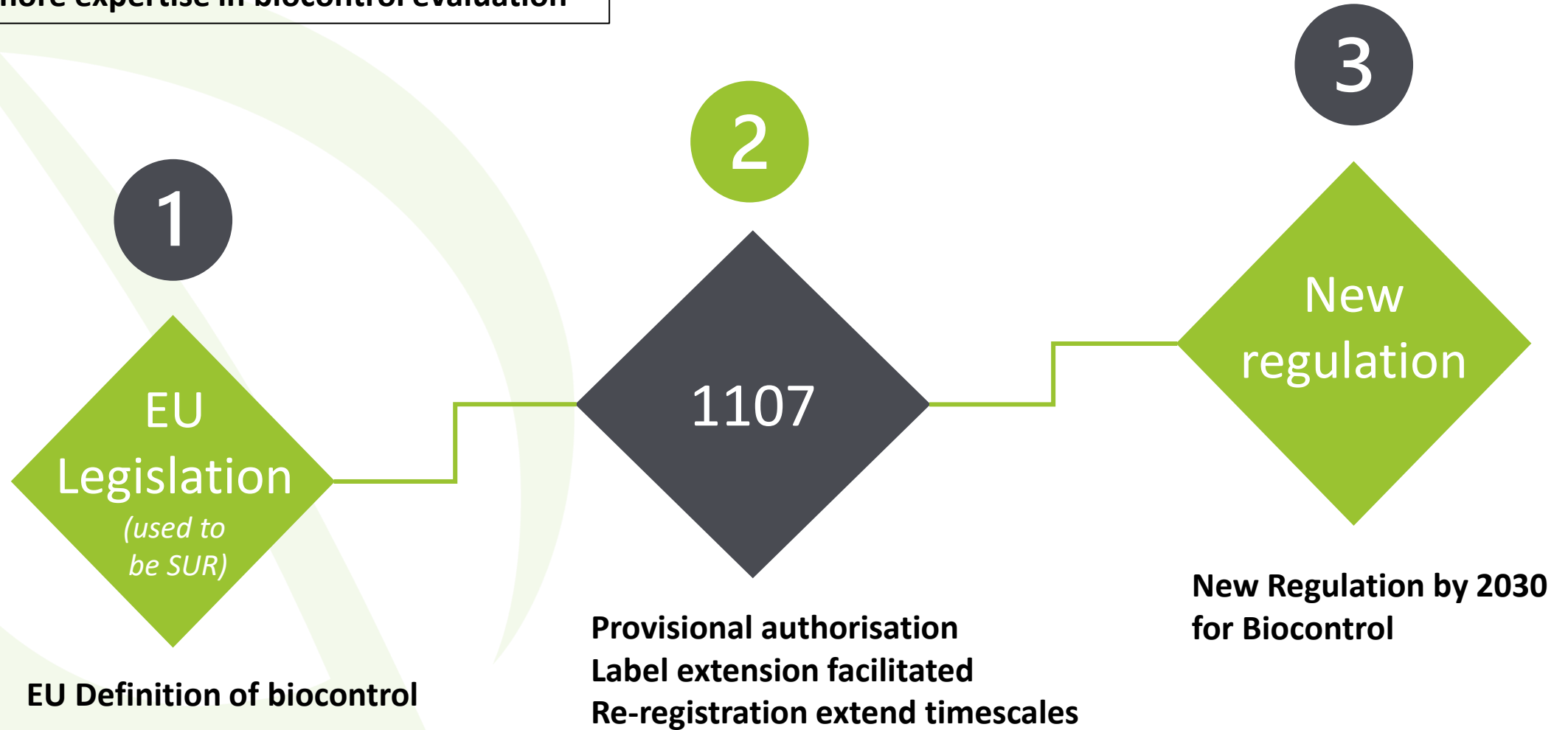


# Faster biocontrol authorisation is needed in EU



# Three steps to speeding up authorisation

.....And more expertise in biocontrol evaluation



**Cross Party and Member State Support for Biocontrol – All biocontrol amendments in the SUR**

# February 2024 : Farmer protests led to withdrawal of the Sustainable Use Regulation

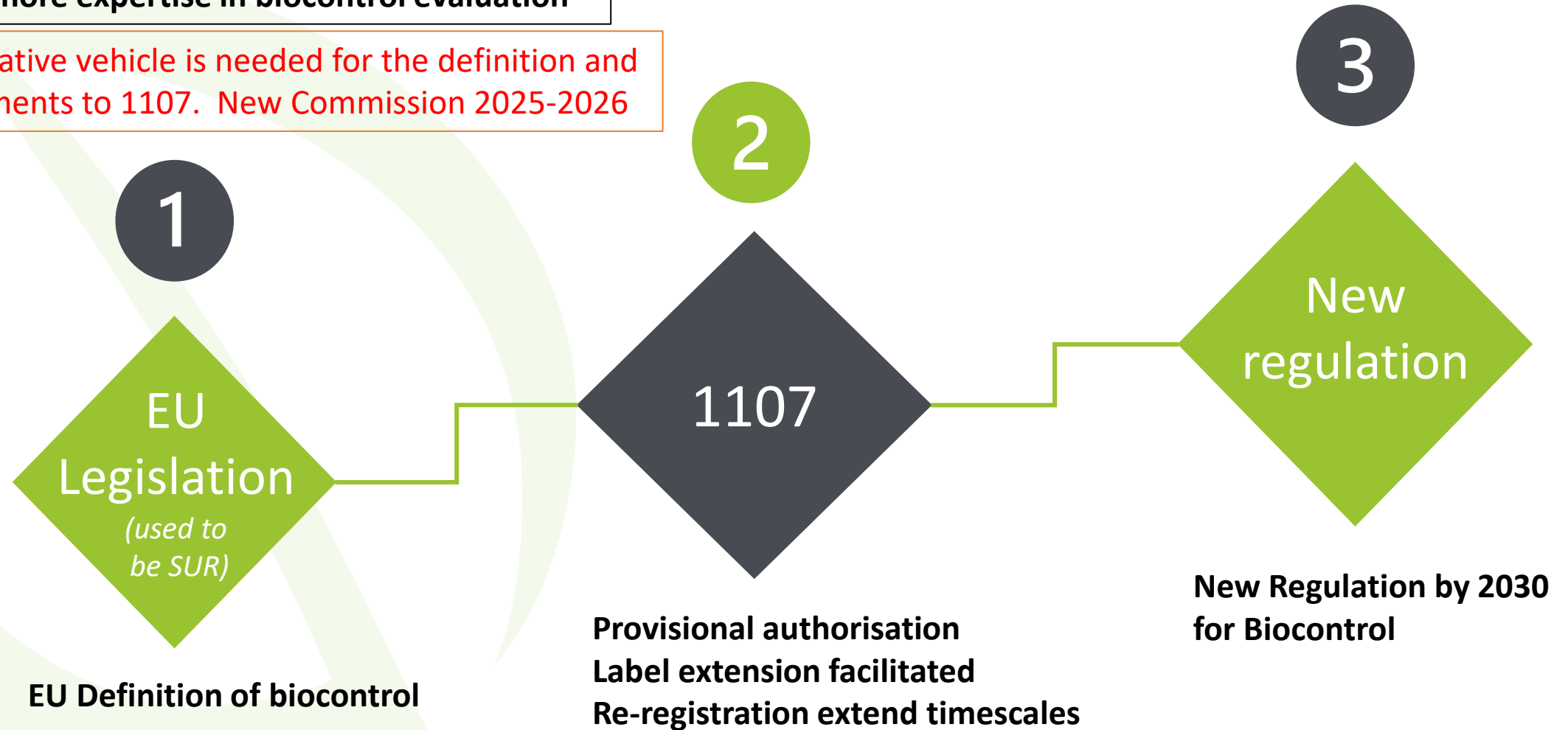
Farmers want:  
fair prices for the crops;  
less administrative  
burden –the SUR was  
collateral damage.



# Three steps to speeding up authorisation

.....And more expertise in biocontrol evaluation

A new legislative vehicle is needed for the definition and the amendments to 1107. New Commission 2025-2026



**Cross Party and Member State Support for Biocontrol – All biocontrol amendments in the SUR**

- ✓ Faster authorisation at MS level
- ✓ Provisional Authorisation
- ✓ Unlimited Registration
- ✓ Label extensions



Commission Response  
to

Council Decision (EU) 2022/2572 of 19 December 2022

requesting that the Commission submit a study complementing the impact assessment of the proposal for a regulation of the European Parliament and of the Council on the sustainable use of plant protection products and amending Regulation (EU) 2021/2115.

In the SUR discussions all these amendments has cross party support in EP and were accepted by Council

*"We must work together with the men and women in EU farming to secure our food supply for the future. Our farmers face mounting challenges: that is why we want to launch a strategic dialogue on the future of EU agriculture. I am convinced that agriculture and protection of the natural world can go hand in hand. We need both."*

***Ursula von der Leyen, President of the European Commission,  
State of the Union 2023***



- Event held under auspices of **Belgian Presidency** of European Union
- IBMA continues to contribute to the **Strategic Dialogue** for agriculture through farmers collaboration
- **EU strategic agenda 2024-2029**  
“Ensure our food security through a vibrant agriculture sector”





- **Mutual recognition** of pesticide reviews will become the basis for international cooperation of pesticide regulatory bodies.
- **Work sharing** among regulatory authorities of OECD countries will lead to resource savings and mutual trust.
- **Integrated pest management (IPM)** will become the accepted approach in all OECD member countries.

# FAO has a dual approach – reduce Highly Hazardous Pesticides and increase alternatives

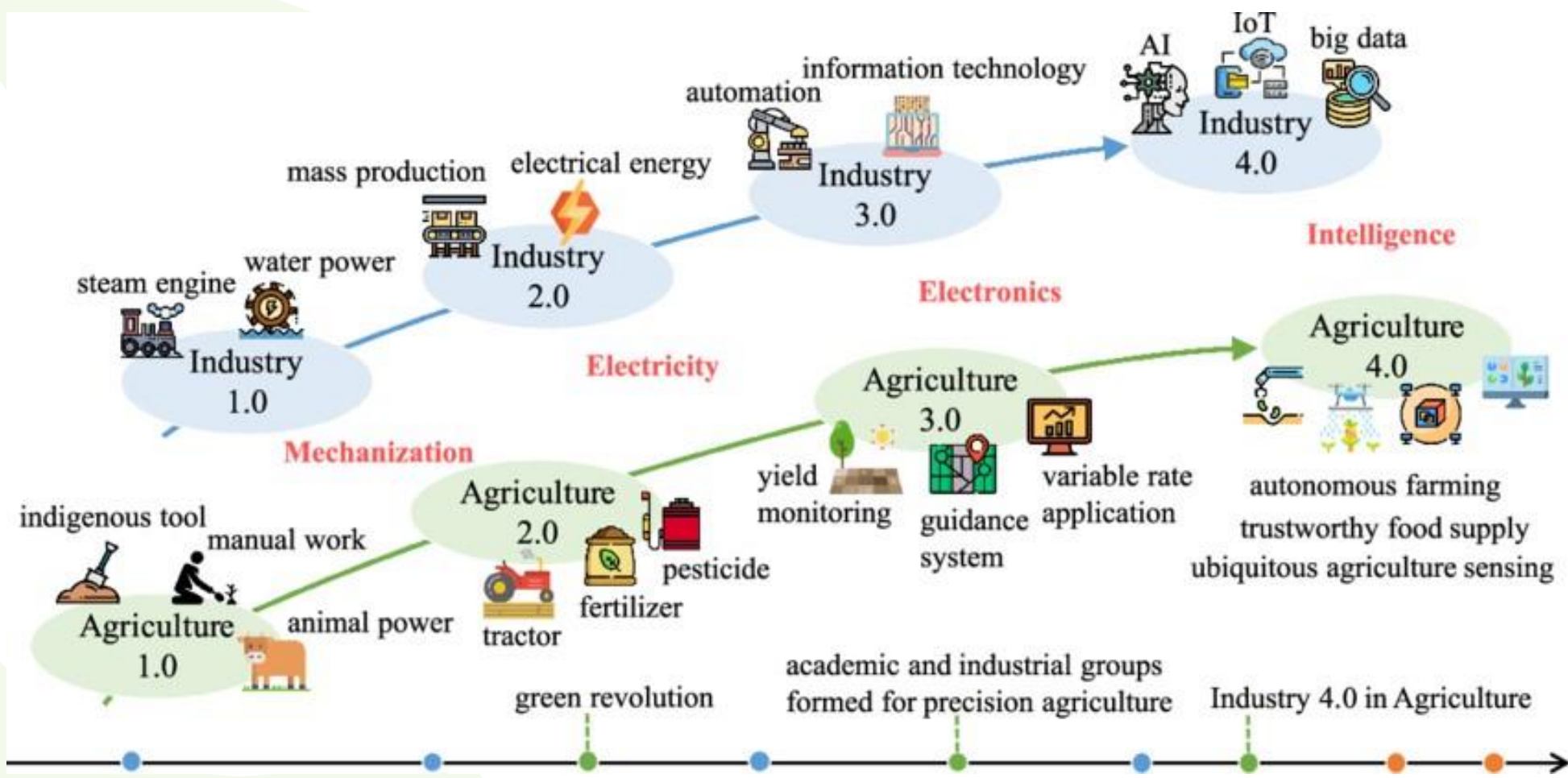


- FAO works to reduce the so called Highly Hazardous Pesticides (HHP) AND
- Increase the use of alternatives through
  - Regulatory guidance development and harmonisation of biocontrol
  - Farmer demonstration and training
- UN FARM project is one such example
  - Public Funding (World Bank) for HHP reduction and demonstration of alternatives
  - Main purpose is to attract private finance into alternatives

# Innovation in Biocontrol



# Agricultural Revolutions



*Timelines of Industrial and Agricultural Revolutions (Liu et al. 2021)*

# From agriculture in the stone age to the use of drones



## Bacteriophages

DCM PEA-02<sup>®</sup> phage mixture has won the Gold Bernard Blum Award 2023 - most innovative biocontrol product at ABIM Annual Biocontrol Industry Meeting

Regulatory challenge: adaptation of the bacteriophage mixture based on continuous monitoring results of the bacterial population



## Allelochemicals

Agriodor is developing technologies based on odours for the control of aphids, vectors of sugar beet yellows

Regulatory challenge: timelines not compatible with urgent need for a solution (neonicotinoids not available). Allelochemicals category defined in the semiochemicals GD; technology not yet submitted for approval in the EU.



Source: Agriodor



## Final remarks

In summary, the classification of natural and natural-like peptides is not an well-defined and universally-accepted concept. Conversely, the definition is still a **multifaceted and evolving notion**

As scientific research advances continue, the regulatory frameworks also evolves, shaping the definition of natural, natural-like and unnatural peptides. Therefore, this notion cannot be represented as fixed image but it should be considered as an **evolving concept**.

From few thousand reposted natural peptides

Hundred quintillions of theoretically occurring in nature  
(104.857.600.000.000.000.000.000)

- Nature identity is an evolving concept the more that is discovered about naturally occurring peptides and proteins.
- Structure and function are key components of behaviour in nature.

# 129 active substances across pipeline from 26 companies ready for submission between 2023 and 2028

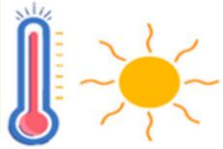
Total Number	Type of Biocontrol	Total		Active substance based in PPP		
				New	Existing	Other status*
73	Microbials			43	14	16
22	Semiochemicals			9	13	0
34	Natural substances	20	Plant extracts	13	0	7
		5	Peptides/proteins	4	1	0
		9	Other NS	6	3	0

\* Other status includes “Pending”, “no plans to submit” or “label extension”

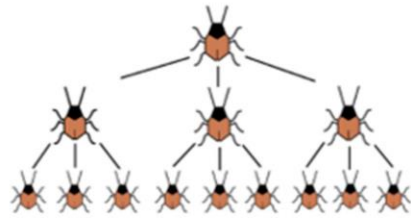
Area (ha covered)	Total (M ha)	Arable (M ha)	Speciality (M ha)	Protected (000ha)
EU	18.2	14.6	3.5	94
Non EU (US/Brazil)	9.8	8.2	1.6	0
<b>TOTAL</b>	<b>28 M</b>	<b>23 M</b>	<b>5 M</b>	<b>0.1 M</b>



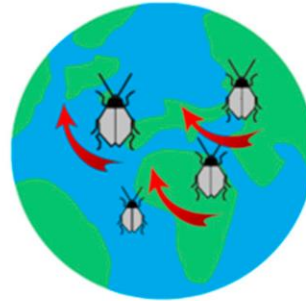
# New challenges: Climate Change



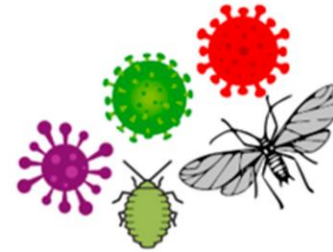
HOW DOES TEMPERATURE INCREASE AFFECTS INSECT PESTS?



Increased number of generations



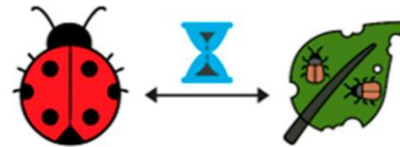
Expansion of geographic range



Outbreak of plant diseases transmitted by insects



Increased overwintering survival



Desynchronization of insects and their natural enemies



Loss of synchrony with the host plant

# Knowledge Transfer



- Farmer to farmer networks in the field
- Advisers, Growers, Purchasers, Manufacturers and Universities work to create best practice in field programmes
- Incentivise and reward best practice and switching – ecoschemes and CAP 2027
- Get ready for the transformation



[Innovative Farmers](#)

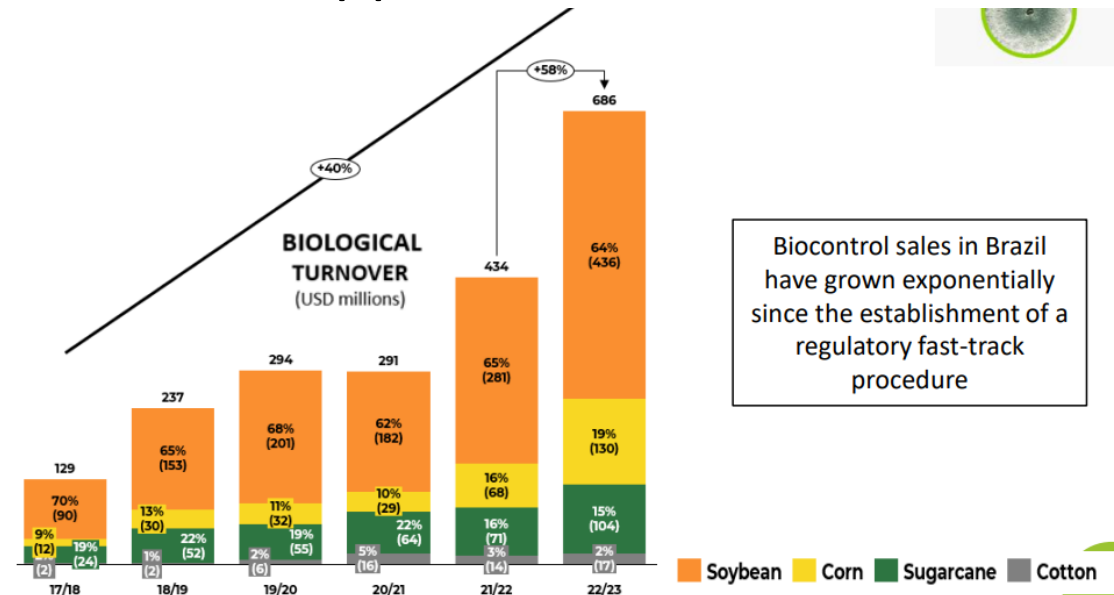
Knowledge transfer with advisers and farmers is key to enabling biocontrol

# Farmers in Brazil use biocontrol on 60% of the agricultural area

- National Programme for Biobased Agricultural inputs – research, production, authorisation
- Reduction in authorisation time from 5 years to 1 year
- Fastest growing biocontrol market globally 40% CAGR
- In Brazil, biocontrol is successfully used in arable crops at equivalent performance as chemical pesticides at the same costs in a number of cases.
- In 2022, 60% of agricultural area in Brazil had applied biocontrol.



National Program for Biobased Agricultural Inputs



# How can the EU become the next biocontrol market ?

- **Speed up authorisation** of biocontrol to be competitive with the rest of the world.
- **Ensure biocontrol innovation** from EU is available to EU farmers.
- **Share biocontrol knowledge** across farmer networks
- **Incentivise farmers** to move to biocontrol

## Key to resilient farming

- Biocontrol has a key role in resilient agriculture
- Biocontrol market is growing at 15% globally
- UN and FAO are working to increase biocontrol use
- Brazil is the fastest growing biocontrol market
- EU is lagging behind the Rest of the World

## What is needed to put biocontrol in the hands of EU farmers

- Legal definition of biocontrol
- Speed up authorisation by amending 1107 for biocontrol
  - Prioritise biocontrol authorisation in all MS
  - Provisional authorisation
  - Label expansion
  - Extended or limitless registration
- Create networks with farmers to make biocontrol programmes in the field
- AND keep innovating



# ***The Future is Biocontrol***

*Klaus Berend*

*IBMA Annual Assembly, Brussels May 11<sup>th</sup>, 2023*

## **Thank you**

### **IBMA**

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