



Biocontrol Technologies: Current Situation

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Outline of Presentation

- Biocontrol Technologies: their size and relevance
- Integrated Pest Management
- Crop areas under biocontrol
- Farmer Experiences in implementation
- What have we learnt about implementation
- What do we need to do to accelerate the uptake

Biocontrol Technologies include: Macro-organisms, Microbials, Natural substances, Semiochemicals

As we embrace more biology and less chemistry IBMA Members' biocontrol technologies will be a major part of this

Macroorganisms



Microbials



Natural



Semiochemicals



2018 Worldwide Biocontrol Technologies Market Size

<i>Region</i>	Biocontrol Technologies Market (in Euro Bns) 2018	Annual Growth Rate 2014-2018
<i>USA/Canada</i>	1.1	16%
<i>Europe</i>	0.9	23%
<i>South America</i>	0.6	32%
<i>Asia-Pacific</i>	0.4	14%
<i>Rest of the world</i>	0.6	19%
Total	3.6	

<i>Cultures</i>	Biocontrol Technologies Market (in Euro Bns)	%
<i>Fruits and Vegetables</i>	2.8	76%
<i>Arable Crops</i>	0.35	10%
<i>Seeds Treatments</i>	0.25	8%
<i>Other (public and green spaces)</i>	0.2	6%
Total	3.6	100%

Source: IHS Markit et Dunham Trimmer – Biocontrol LATAM - 2019



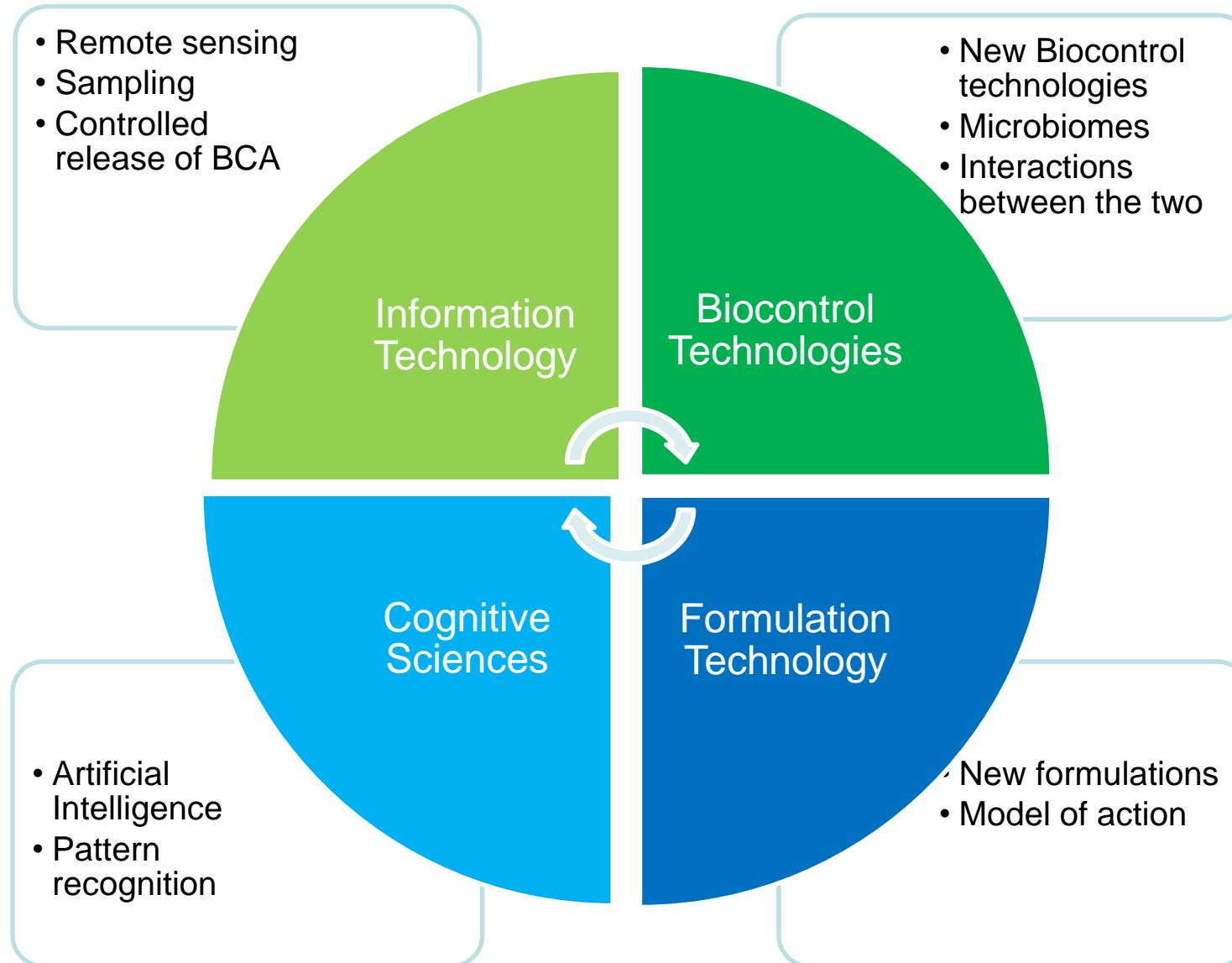
- ***From ‘Farm to Fork’: designing a fair, healthy and environmentally-friendly food system:*** “The EU needs to develop **innovative ways to protect harvests from pests and diseases** and to consider the potential role of **new innovative techniques to improve the sustainability of the food system, while ensuring that they are safe.**”
- ***A zero pollution ambition for a toxic-free environment:*** “To ensure a toxic-free environment, the Commission will present a chemicals strategy for sustainability. This will both help to protect citizens and the environment better against hazardous chemicals and **encourage innovation for the development of safe and sustainable alternatives**”



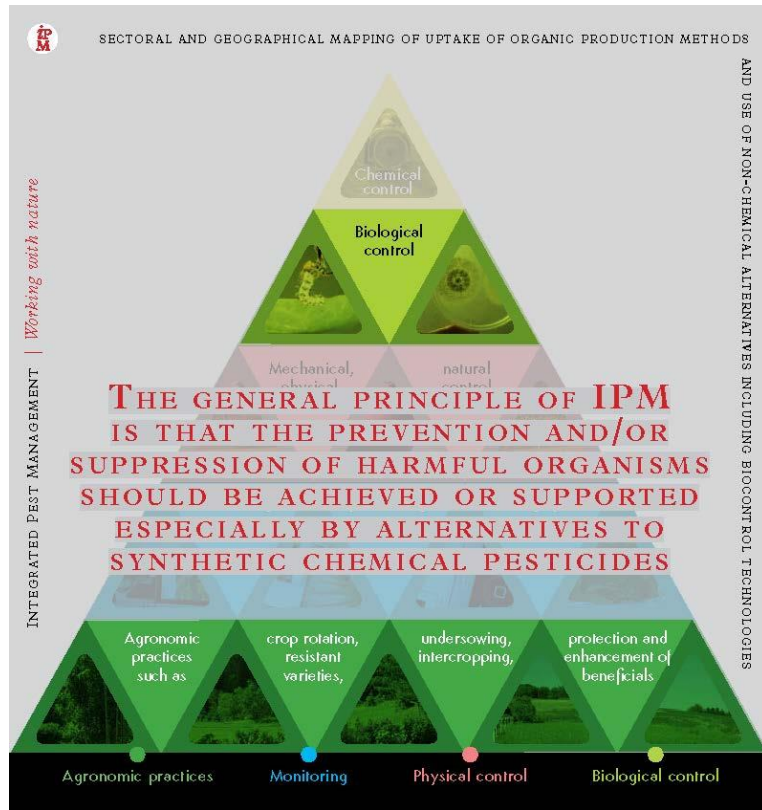
“This is Europe’s man on the moon moment,...Our goal is to reconcile the economy with our planet, to reconcile the way we produce, the way we consume with our planet and to make it work with our people.” *Ursula von der Leyen, the European Commission President when presenting the EU Green Deal Communication*



Converging Technologies are Creating New Solutions



Integrated Pest Management (IPM) Triangle



CLOSE TO 100% OF GREENHOUSES GROWING PROTECTED VEGETABLES USE BIOCONTROL.

GROWERS USE IT IN UP TO 90% OF THE CASES TO CONTROL PEST AND DISEASES

PEST AND DISEASES



Agronomic practices

Monitoring

Physical control

Biological control



Close to 100% of Greenhouses Growing Fruit and Vegetables use biocontrol

10 % OF EU VINE AREA

USES SOME BIOCONTROL



Agronomic practices

Monitoring

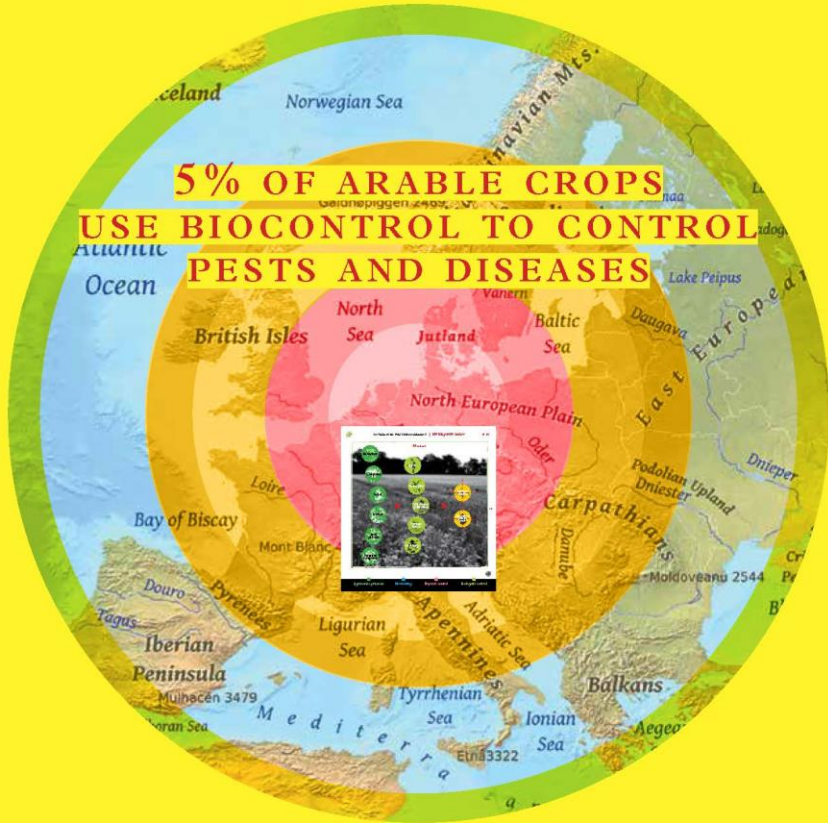
Physical control

Biological control



Photo : cbc-europe.com

Approximately 10% of EU Vine Growing area uses pheromones and other biocontrol technologies



Agronomic practices

Monitoring

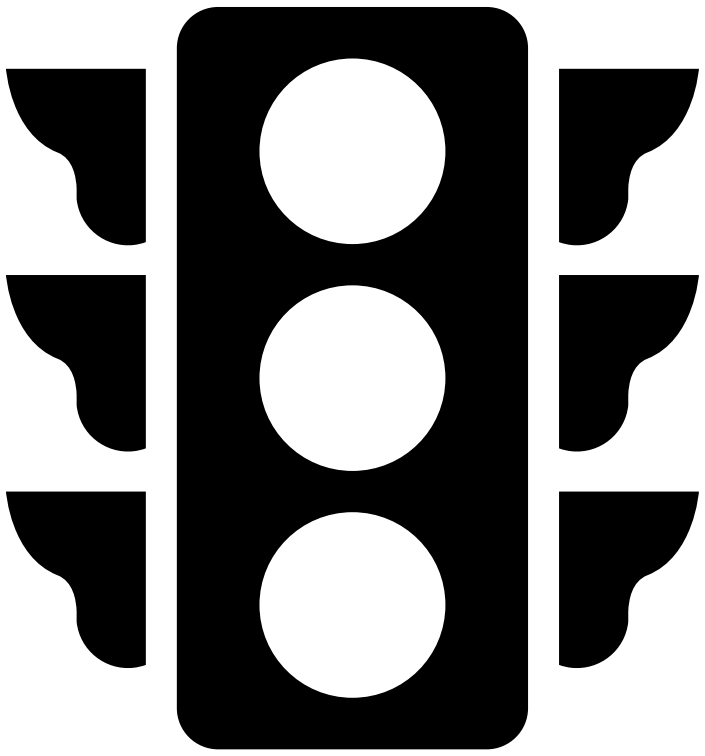
Physical control

Biological control



Less than 5% of arable crops use biocontrol

Status of uptake of biocontrol and alternatives is more advanced in horticulture than arable



- Arable
- some good examples
- But a lot to do



- Vines
- many good examples
- work in progress



- Protected Crops
- Normal practice

Farmer Experience of Pheromone development in Vineyards



70% OF THE SWISS VINE-GROWING AREA (10 500 HA) COVERED BY PHEROMONES



“Today, with a hindsight of over more than 20 years,

we can prove that attacks in vineyard under confusion are

always lower than in conventional ones.”

Farmer Experience of Biocontrol development in Arable



5% OF ARABLE CROPS USE BIOCONTROL TO CONTROL PESTS AND DISEASES

JEAN PHILIPPE PETILLON
-RICHE VILLE



“It takes a few years,
but you start to see
the results: the figures

“speak for themselves.
The farm is turning
into a profit.”





Can We Discover Wheat Varieties Better Suited To Organic Farming?

27 November 2019

Many organic farmers rely on conventional varieties bred for high inputs, with the twin goals of yield and disease resistance prized above all else. This approach makes sense for the environments these crops will generally be grown. However, the problem for most organic farmers is that the traits of nutrient scavenging and weed suppression are ignored in the face of a full mineral fertiliser and herbicide regimes.

The typical organic arable farmer finds weeds and soil fertility, or at least nitrogen availability, the biggest agronomic challenge with the varieties on offer generally not considered fit for



Meet the author

Dominic Amos

Dominic works at the Organic Research Centre, having joined to pursue research interests in sustainable cropping and soils

What have we learnt from implementation?

- Need a trigger to start IPM
- Farmer to farmer networks –led by farmers for farmers
- Multiple actors to help: advisers, researchers, companies
- Biocontrol works
- Be patient

<https://vimeo.com/386250087/4b7e8333f3>



Are you a trainer, teacher or working within the biocontrol field?

If answer is yes, you may be willing to help with the development of the biocontrol E-training products. We would particularly welcome your input in defining the contents of each module and/or testing the product as it is being developed.

If you are interested and would like more information about our BET project and how you can get involved please email to Vanessa ANDREU: contact@akinao-lab.com

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Associated Partners



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Biocontrol E-training



e-biocontrol.com

**Biocontrol
is a reality:
What do we
need to do to
accelerate
the uptake?**

- Proportionate regulation - more products to market faster
- Farmer to farmer sharing of best practice
- In field participation and training from researchers, advisers and companies
- Financial incentives to adopt new ways of farming



“Biological life is a force and once unleashed it will continue to grow and generate new life”

Gabe Brown (2018) – Author of from “Dirt to Soil”



Thank you

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