The value of biocontrol technologies for crop protection



Innovation for sustainability

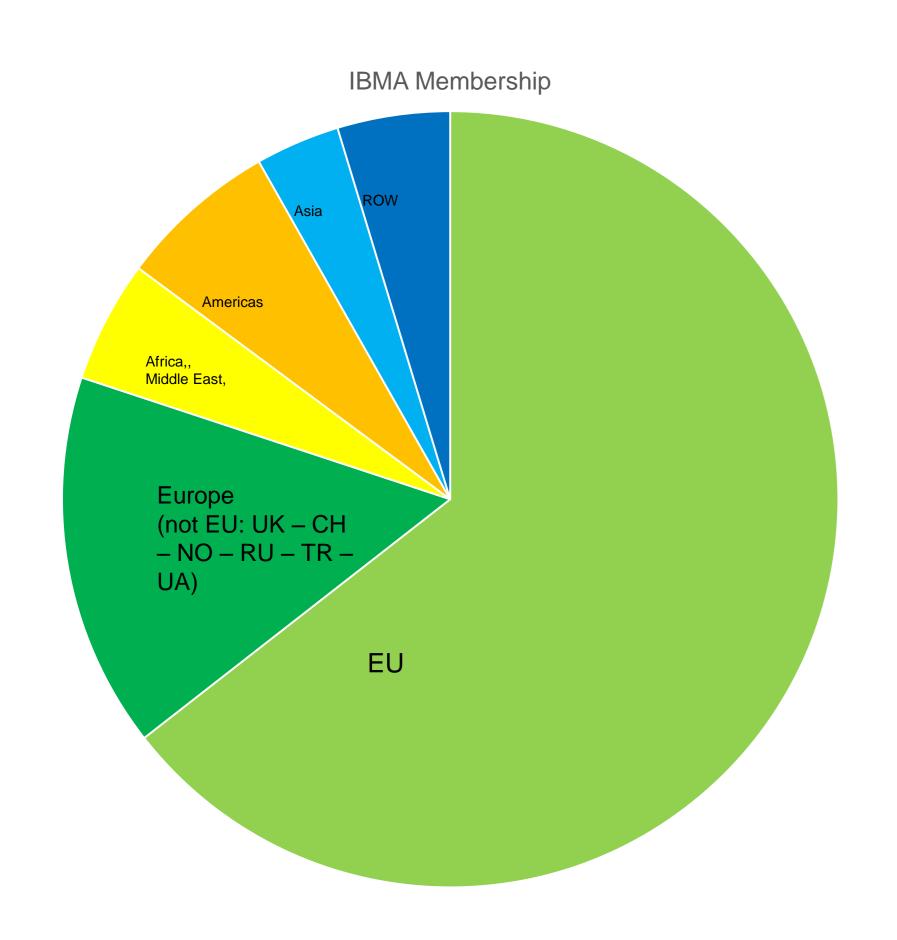
8 July 2020

Sylvia Plak - President





IBMA Membership Statistics 2019



IBMA Key features

- Established 25 years ago to develop a young industry
- High SME membership
- 256 Active and Associate members
- One member one vote



www.bioprotectionglobal.org

Of 256 members: Manufacturer Member – 70%; Associate members 30%; SME - 70%; Associate members support the industry eg CROs and communication companies



International Biocontrol Manufacturers Association



Part of the Federation of Biocontrol Industries Bioprotection Global



Small Association

Local associations around Europe – members represent us where no local Association



SMEs dominate

In Europe 71 SMEs and 76 micro SMEs



European Focus

165 member companies in EuropeGlobal members learn how to access Europe



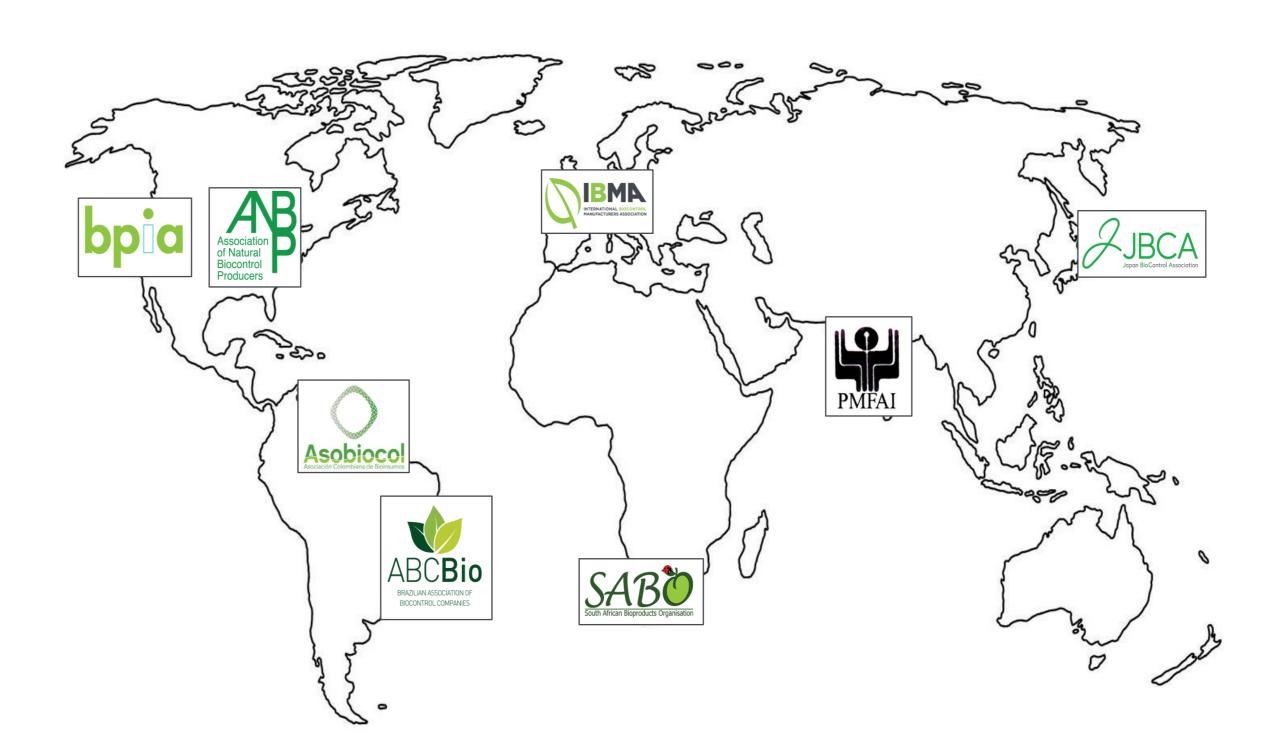
25 years old

Established in 1995 – 25th anniversary



Global reach

Part of Bioprotection Global IBMA Kenya and 20% of members from outside Europe Annual Biocontrol Industry Meeting







Biocontrol Technologies include: Macrobials, Microbials, Natural substances, Semiochemicals

As we embrace more biology and less chemistry,

IBMA Members' biocontrol technologies will be a major part of this as they are:

- made from nature, or
- identical to nature when synthetised

They include microbials, semiochemicals (pheromones), natural substances and invertebrate biocontrol agents (macrobials).

Macrobials - also called Invertebrate Biocontrol Agents -

Microbials



Natural Substances



Semiochemicals







Biocontrol Technolgies, more details about Macrobials, Microbials, Natural substances, Semiochemicals

IBMA Product categories within the scope of "Bioprotection" currently include:

- Semiochemicals are substances emitted by plants, animals and other organisms used for intra-species and/or inter-species communication and have a targetspecific and non-toxic mode of action.
- Microbials are based on microorganisms, including but not limited to bacteria, fungi, protozoans, viruses, viroids, mycoplasmas, and may include entire microorganisms, living and dead cells, any associated microbial metabolites, fermentation materials and cellfragments.
- Natural substances consist of one or more components that originate from nature, including but not limited to: plants, algae/micro algae, animals, minerals, bacteria, fungi, protozoans, viruses, viroids and mycoplasmas. They can either be sourced from nature or are nature identical if synthetised. This definition excludes semiochemicals and microbials.
- Invertebrate Biocontrol Agents (also called macrobials) are natural enemies such as insect, mite and nematode species providing control of pest populations through predation or parasitism.

Currently IBMA does not include, within the scope of "Bioprotection", any technology for which there is no regulatory pathway or policy decision. Once policy decisions have been published, the technologies will be considered for inclusion.





2018 Worldwide Biocontrol Technologies Market Size

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

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

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





Biocontrol Technologies, essential innovations within the EU Green Deal

- 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"

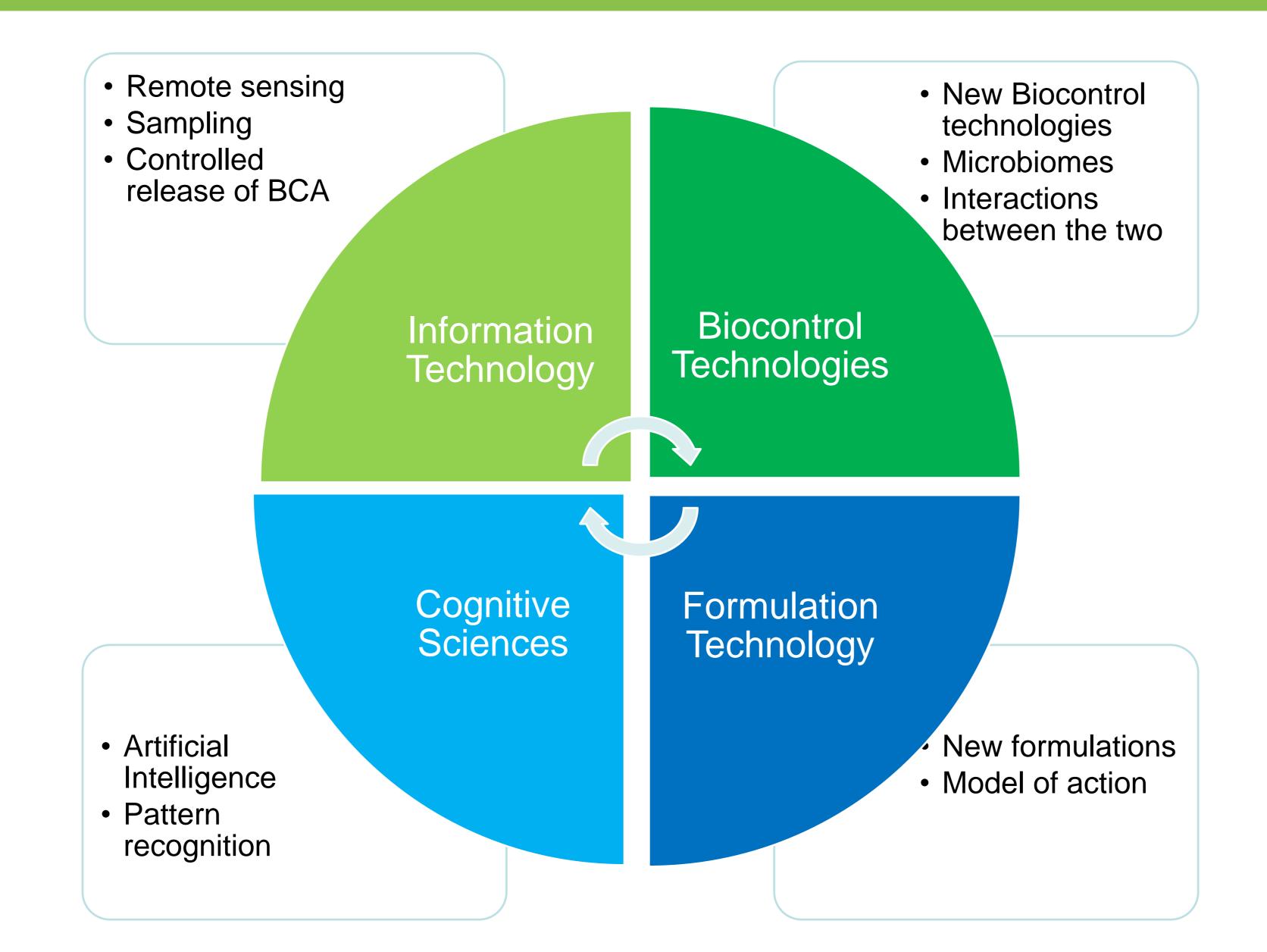


"This is Europe's man on the moon moment,...Our goal is to reconcile the economy with our planet, to reconcile the way we produce, the way we consume with our planet and to make it work with our people." Ursula von der Leyen, the European Commission President when presenting the EU Green Deal Communication





Converging Technologies are Creating New Solutions







Benefits of Bioprotection

To create a paradigm shift we need a positive target of 75% of PPPs being bioprotectants by 2030

For resilient agriculture we need systemic change

For sustainable agriculture and maintaining biodiversity, bioprotection and biocontrol technologies need to be at the heart of the pest and disease control programme

It is not business as usual – it is a biology first approach and agroecological approach

Effective

Farmers continue to farm productively and profitably

Resilient System

Biological buffering of ecosystems builds resilience

Carbon sinking

Microbes within carbon cycle protected and nutrient cycling facilitated

Biodiversity

Soil biodiversity and health is restored, and field biodiversity enhanced

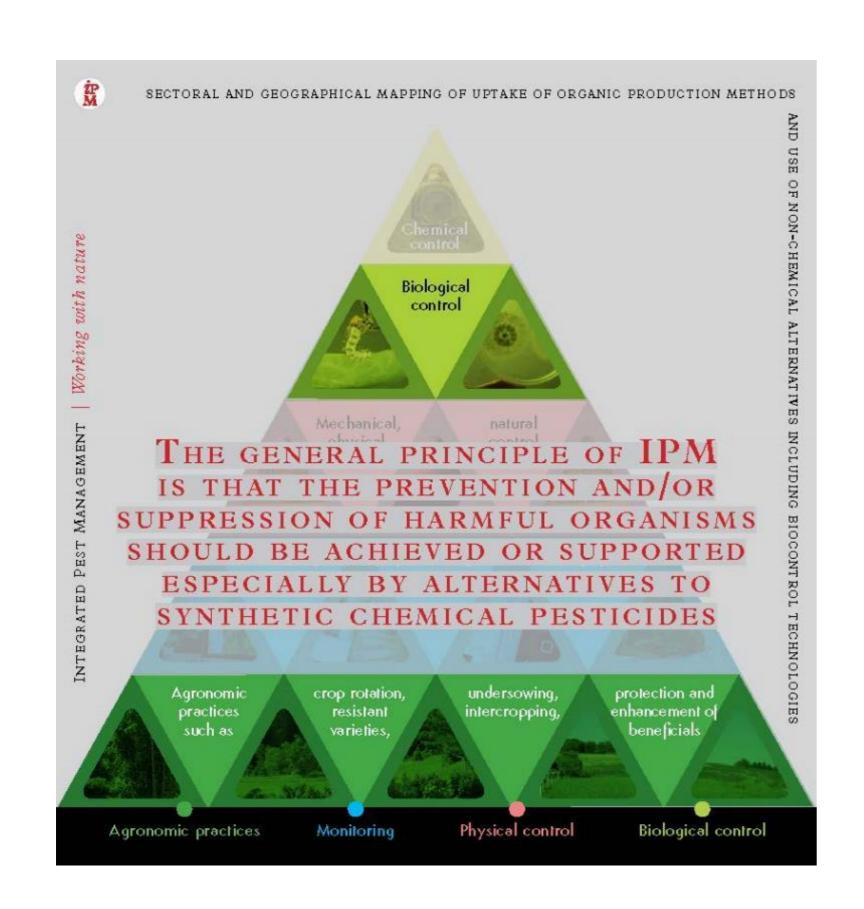
Water

Healthy soil assists drainage and reduces flooding

Regenerate land

Land condition improves, providing a legacy for future generations

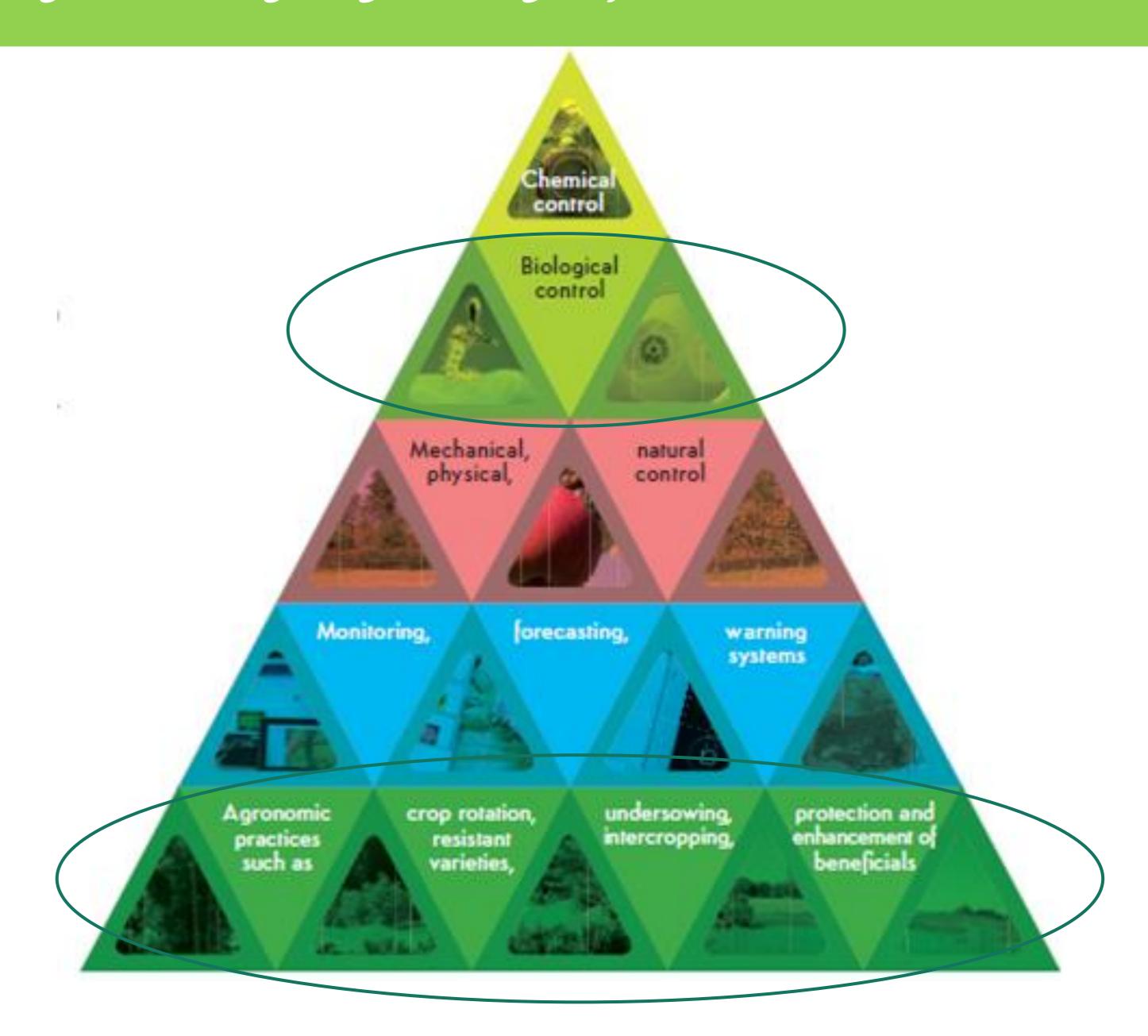
IPM Integrated Pest Management Triangle - agrocecologically based











Problem and Solution



Bioprotection does not work in the same way as chemical pesticides

Bioprotectants are not the same as pesticides – they generally work by suppression, triggering plant defences, or outcompeting the pest or disease

Pesticide legislation is written for chemicals
1107/2009 is designed with chemicals in mind

Bioprotectants promote resilience.

Bioprotection enhances natures biological buffering and over time their impact increases as they facilitate the natural processes in soil and above ground Systemic Change

Farming with a agroecological mindset is different to farming with a pesticide mindset. Systemic change requires a paradigm shift to actively promote bioprotectants

Active facilitation and promotion of bioprotection

Today bioprotectants are buried in pesticide legislation. This is hampering market access for bioprotection

Bioprotection Specific Regulation

We want a new bioprotection specific regulation to accelerate market access for bioprotectants. This is necessary for the transformative ambition of the Farm to Fork Strategy



Bioprotection – New Regulation Principles

Precautionary

Precautionary at farm level – safety to farmers, the environment and the public

Proportionality

Inherently low risk of bioprotectants merits a reduced evaluation and minimal re-evaluation process

Safe Use

Where safe use
demonstrated on one crop
and no MRL they could be
used on all crops

Right to know

A bioprotection specific regulation can give consumers more information on the origin of their food and boost their confidence









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