



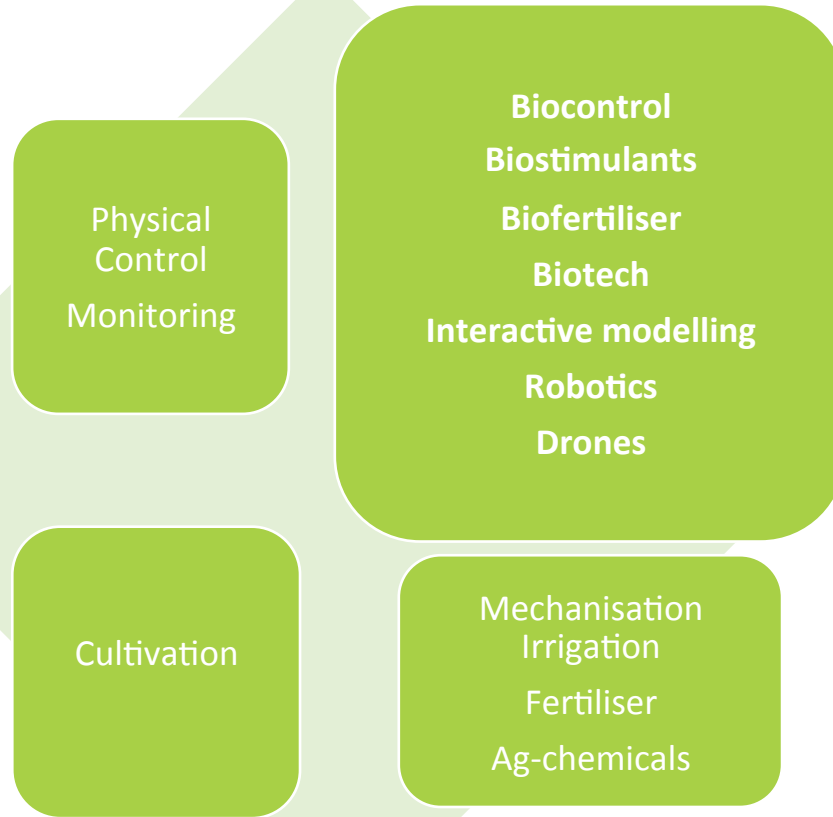
Biocontrol - What is the overall potential? What are the latest developments and implications with biological approaches?

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Characterisation of agricultural inputs

Environmental
Index



Productivity Index

Current tool categories of products available from the Biocontrol industry



Microbials

Viruses, Bacteria
& Fungal
Pathogens



Macrobials

Predatory mites &
insects,
nematodes



Semiachemicals

Pheromones,
Plant volatiles



Natural and
Biochemical
Products

Plant extracts,
Seaweed products
& Natural
substances

What is the current market size (2011)?

- What is the size of the global biocontrol market?
 - \$1.63bn
- What is the share in Europe as a region?
 - \$542m
- How does this equate to the pesticide market?
 - 4%

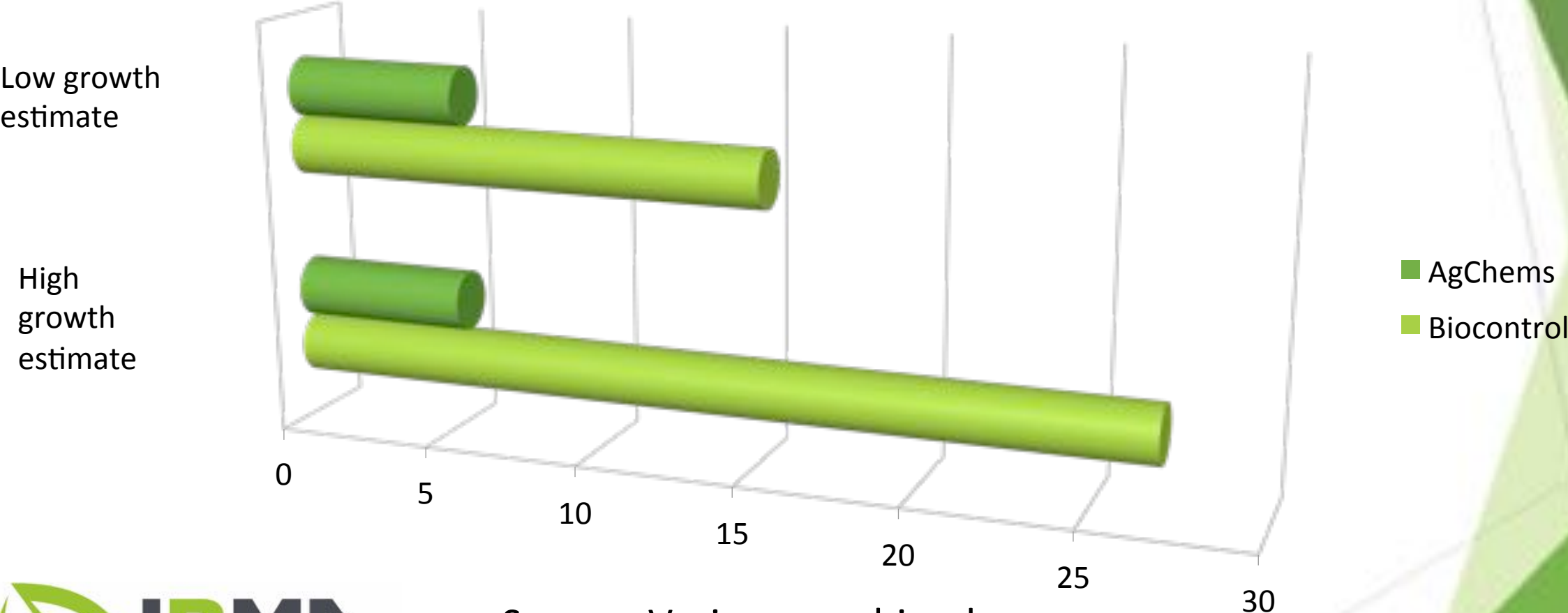
Source: Biopesticides Worldwide Market 2013, CPL, Wallingford, UK

Current Split of Biocontrol Sales (2011)

User Level Sales (\$m)



Annual Growth of Biocontrol and Agriculture Chemical Markets



Source: Various combined

Biocontrol are tools in the toolbox that will be used more in modern agriculture

Are they the only tools?

How important is IPM?

What is the focus?

Where is the next
blockbuster?



Biocontrol are some of the tools in the toolbox that will be used more in modern agriculture

Many and varied tools will be needed and used

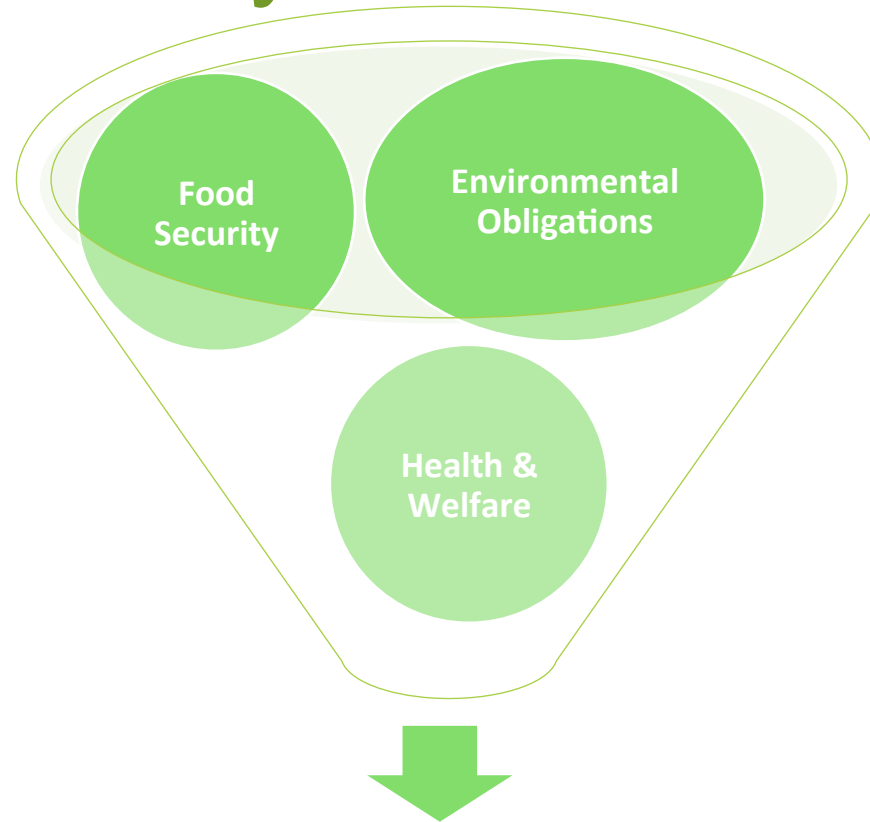
IPM and truly structured and planned IPM is vital

Focus will be being productive whilst working with nature in harmony

Blockbusters are a concept of our past



The value of biocontrol to policy makers, regulators, and food value chain including society and farmers



Seen as favourable crop protection solutions

Role of Biocontrol Products

Modern Agriculture

- Satisfy food security issues
- Reduced impact on the environment
- Reduced risk for human health

Biocontrol Products

- Increasing role in modern agriculture
- Regulation should not preclude these products from being available to growers
- Regulation should be proportionate to the risks posed
- If low-risk appropriate incentives should be implemented
- Are needed to allow IPM to be implemented
- Are needed to prevent development of resistance
- Satisfy increasing societal scrutiny of inputs

Responsibilities of Biocontrol industry

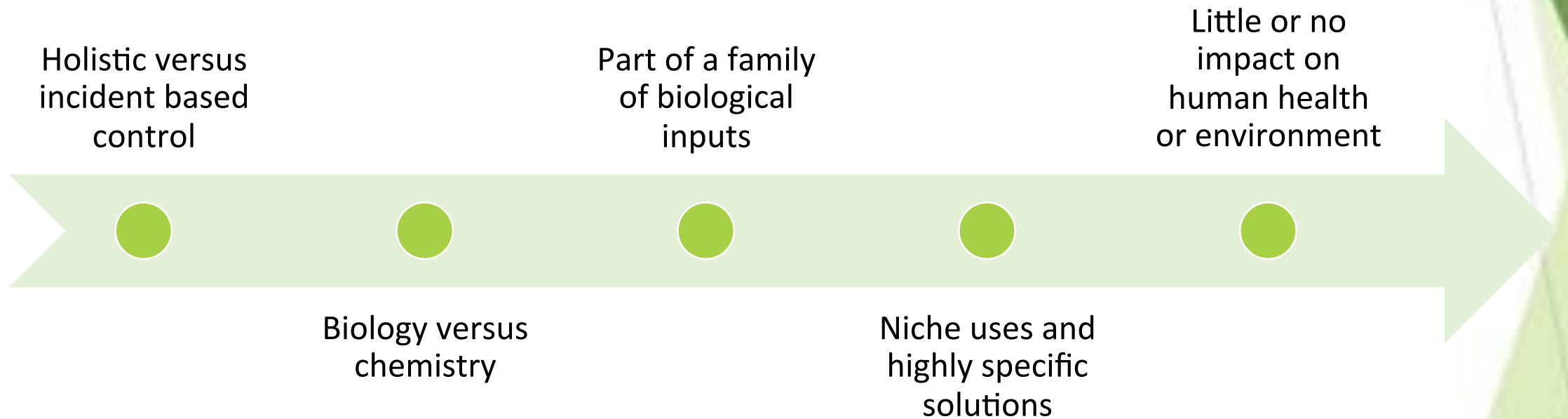
Ensure product
quality and
performance

Disseminate
information

Engage with
the entire food
chain

Satisfy farmer
needs

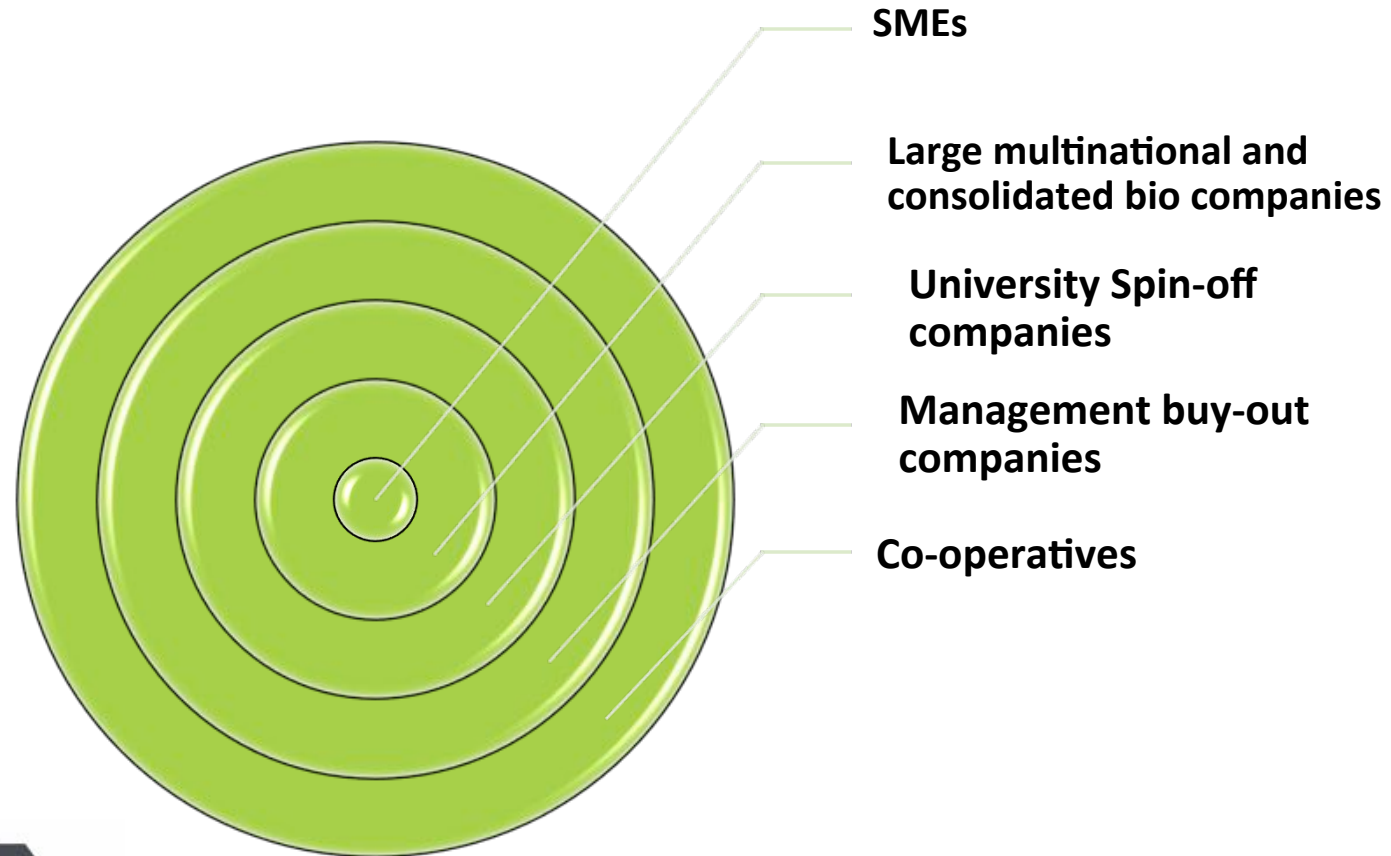
What significant issues exist in moving towards biocontrol based IPM?



Interesting areas of biocontrol development

- Bacteria for disease and nematode control
- Antagonistic and entomopathogenic fungi
- Baculoviruses
- Microbial consortia
- Bacteriophages
- Interaction with smart application methods
- Multi pest pheromone dispensers
- Other sensory communication usage including blocking

How will the Biocontrol industry of the future look?



What will be the potential size of the market?





Thank you for your
attention

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