



Microbial metabolites, crop guardians!

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**INNOVATION
& BUSINESS**

April 14 - 16, 2019 | Amsterdam







Yield enhancement

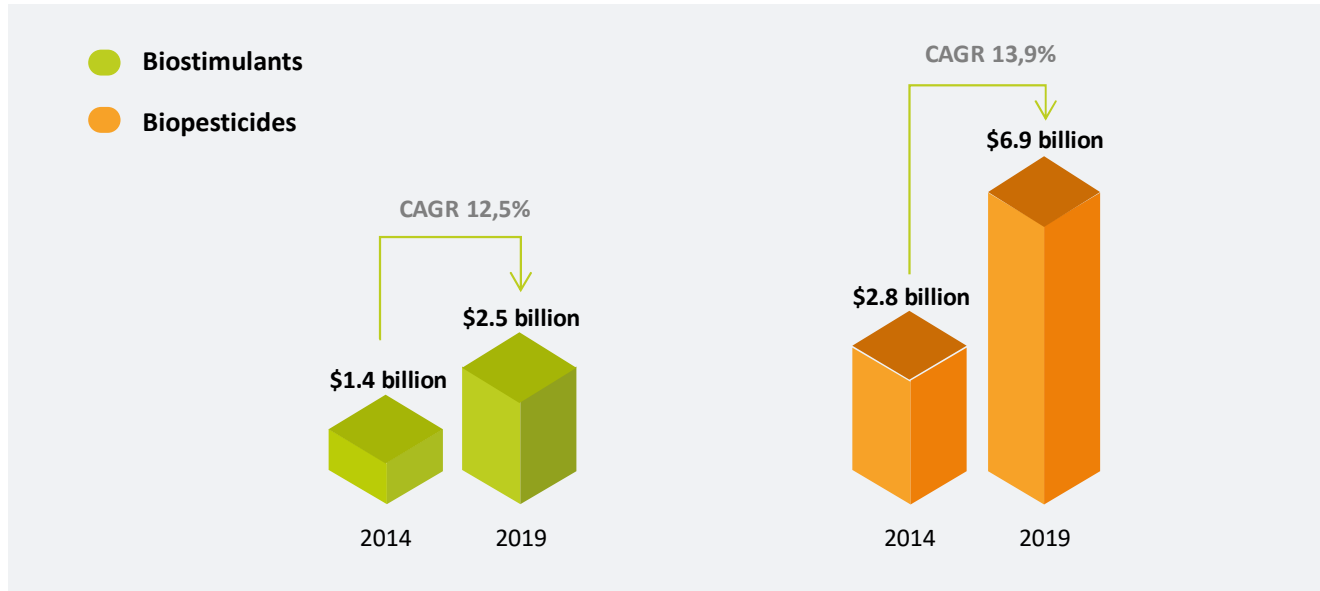
Sustainable

New products and Active Ingredients

Proven efficacy

Cost-effective

Market opportunity



DRIVERS

- Pressure to reduce fertilizer and pesticide use
- Fewer new actives substances to solve needs
- Positive environment for EU plant biostimulant regulation

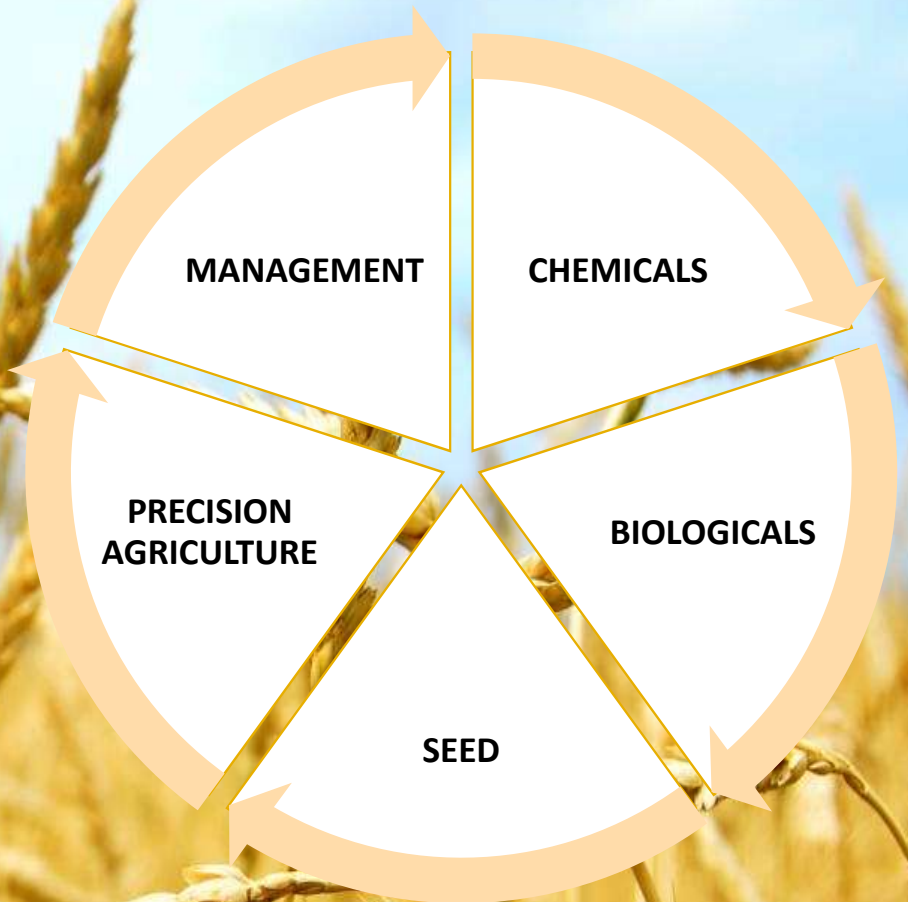
BARRIERS

- Evolving body of evidence on BS and BP benefits
- Product efficacy and stability in field is suboptimal
- Regulatory framework under development

MITIGATION

- Products aligned with current farmer knowledge and practices
- Products built for rigorous field conditions and uses
- Yield benefit vs cost equation is demonstrable and sustainable

NEED: Integrated management



Our technology beginning

IdAB
Instituto de Agrobiotecnología
Agrobioteknologiako Institutua



Plant Biology

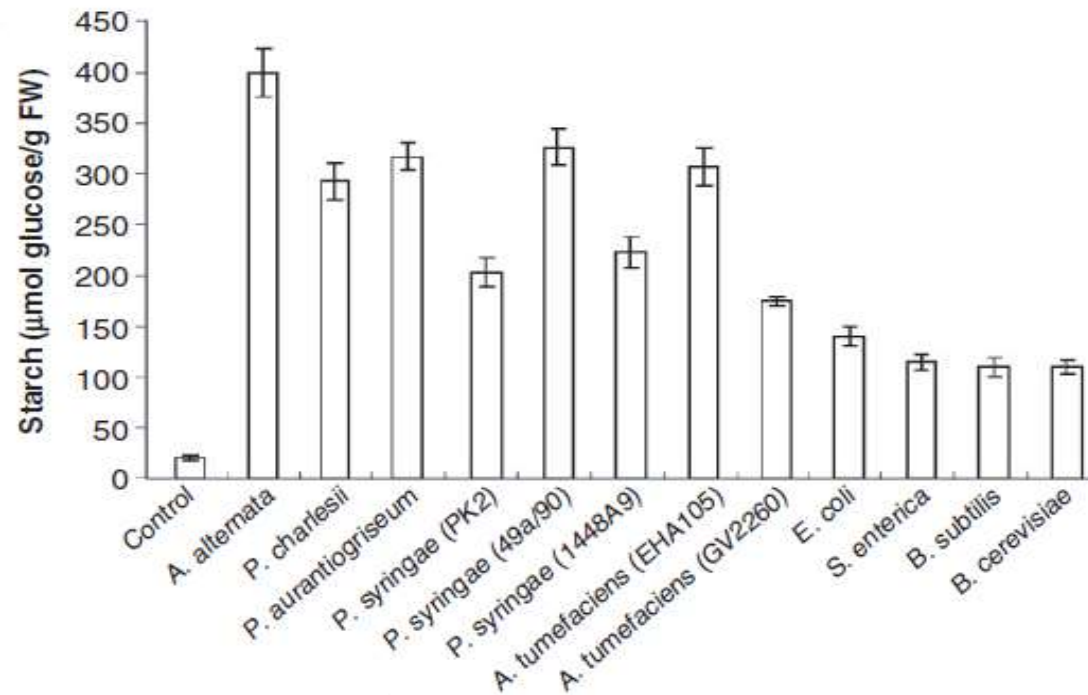
XXIII Meeting of the Spanish
Society of Plant Physiology

XVI Spanish Portuguese
Congress of Plant Physiology

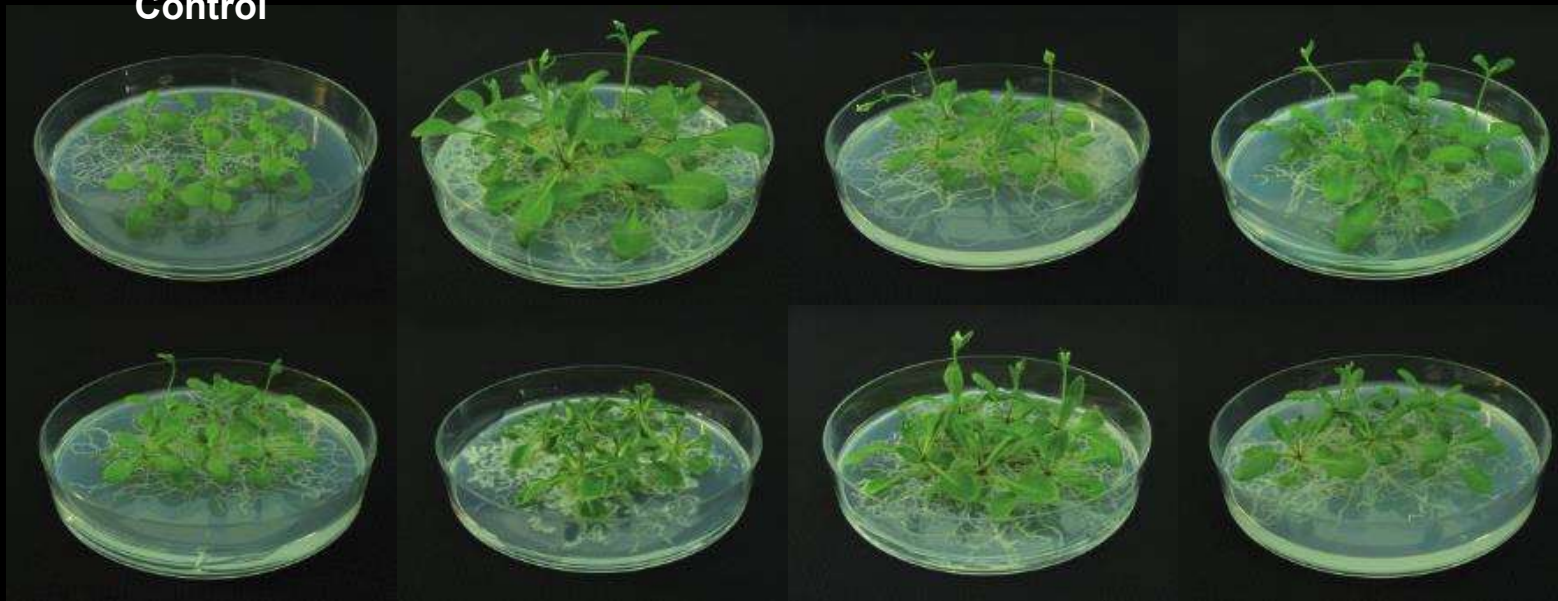
Pamplona
June 26-28, 2019



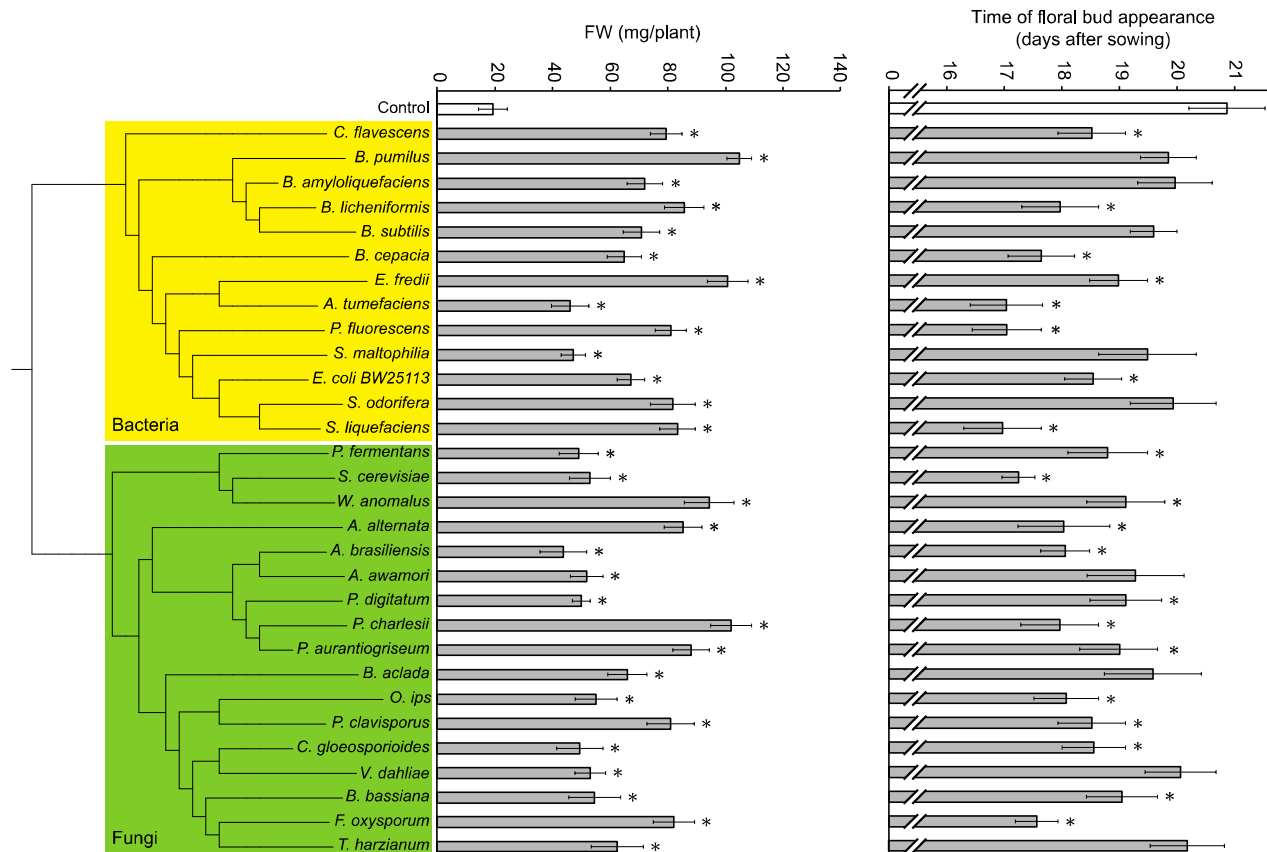
Volatiles emitted by different microbial species promote starch accumulation in *Arabidopsis* leaves.

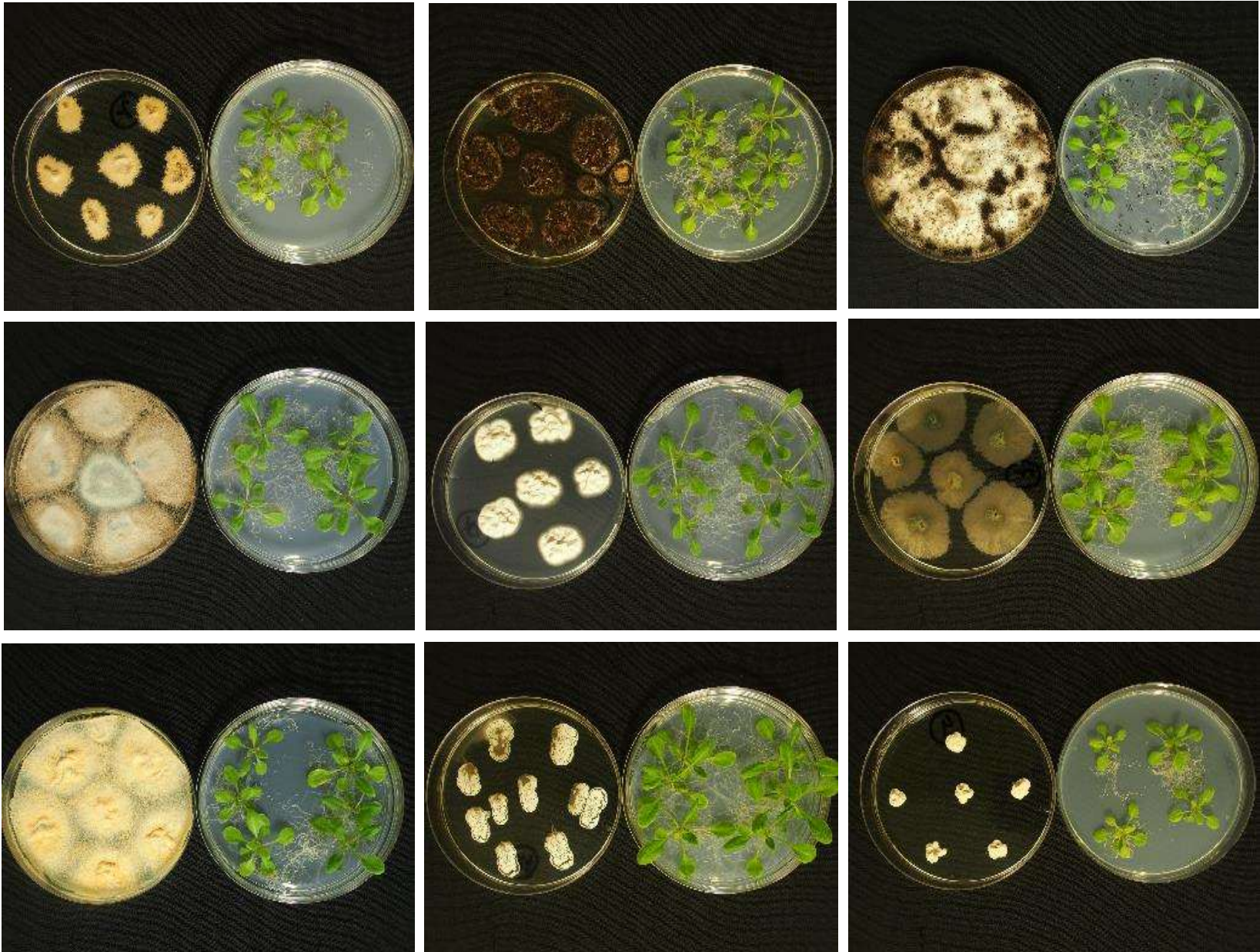


Control

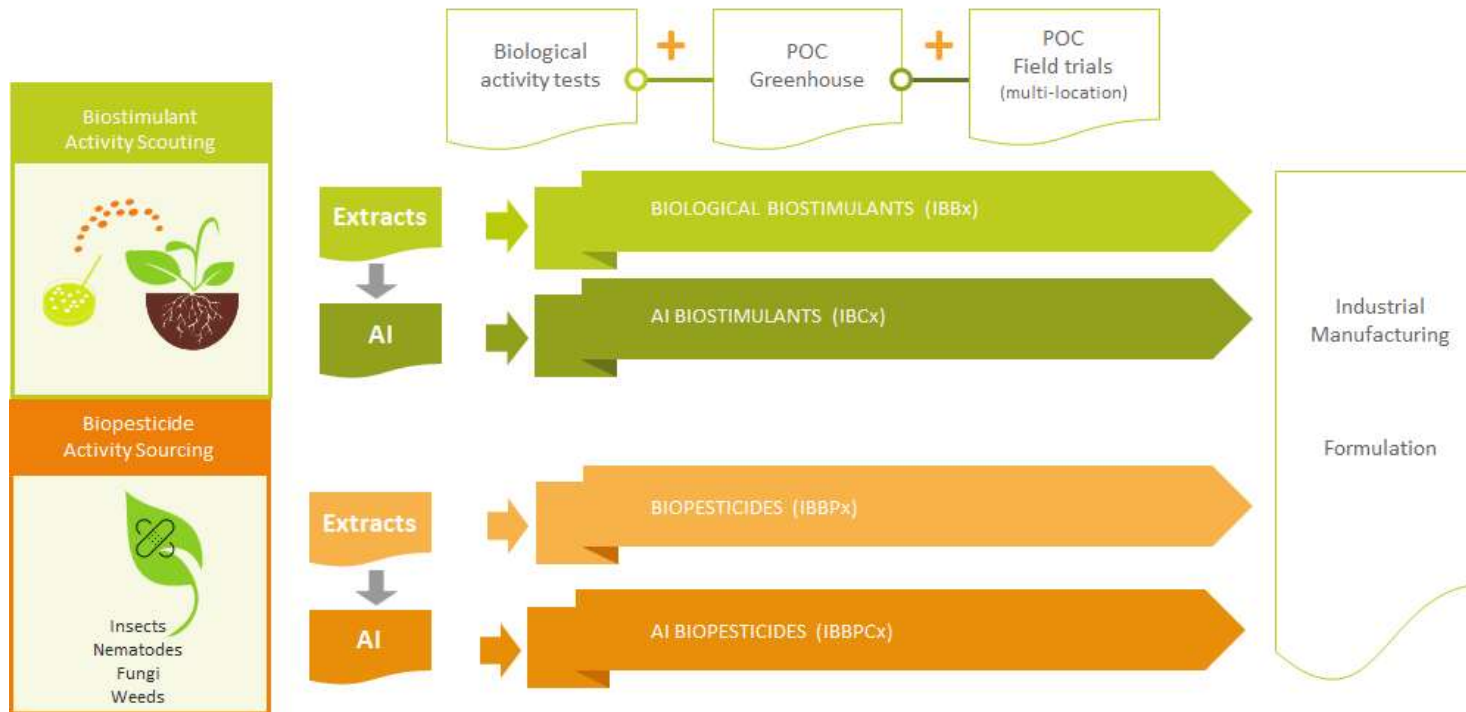


VOC emitted by phylogenetically distant microorganisms promote growth and flowering





IDEN Platform & Pipeline



**Directed selection vs
High throughput
screening**
(Science based)

**Any environment
vs
Rhizosphere
microbial sources**

**Low cost, high return
platform for new
candidate generation**
103 new leads discovered
between 2013-2018

**Intellectual
property**
(3 patent families)

**Regulatory process
compliance**

New market segment on biologicals



	INORGANIC SUBSTANCES	ORGANIC SUBSTANCES	MICROBES	IDEN NOVEL BIOLOGICALS
Source	Non-biological	Chemical and natural	Microorganisms	Exudates from unique microorganisms
Living cells	No	No	Yes	No
Stability/shelf life	12 months	6-12 months	< 6 months	12 months
Nº Application	1-2 times	Multiple	Multiple	1-2 times
Efficacy	Medium	Medium	Low/Medium	High

C O N F I D E N T I A L

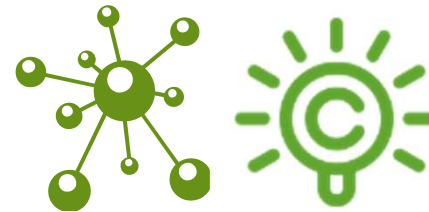
- Iden novel biologicals combines the best features of the biological and chemical compounds from environmental, industrial, commercial and efficacy perspective.

Platform and product differentiation

Proprietary discovery
platform and pipeline



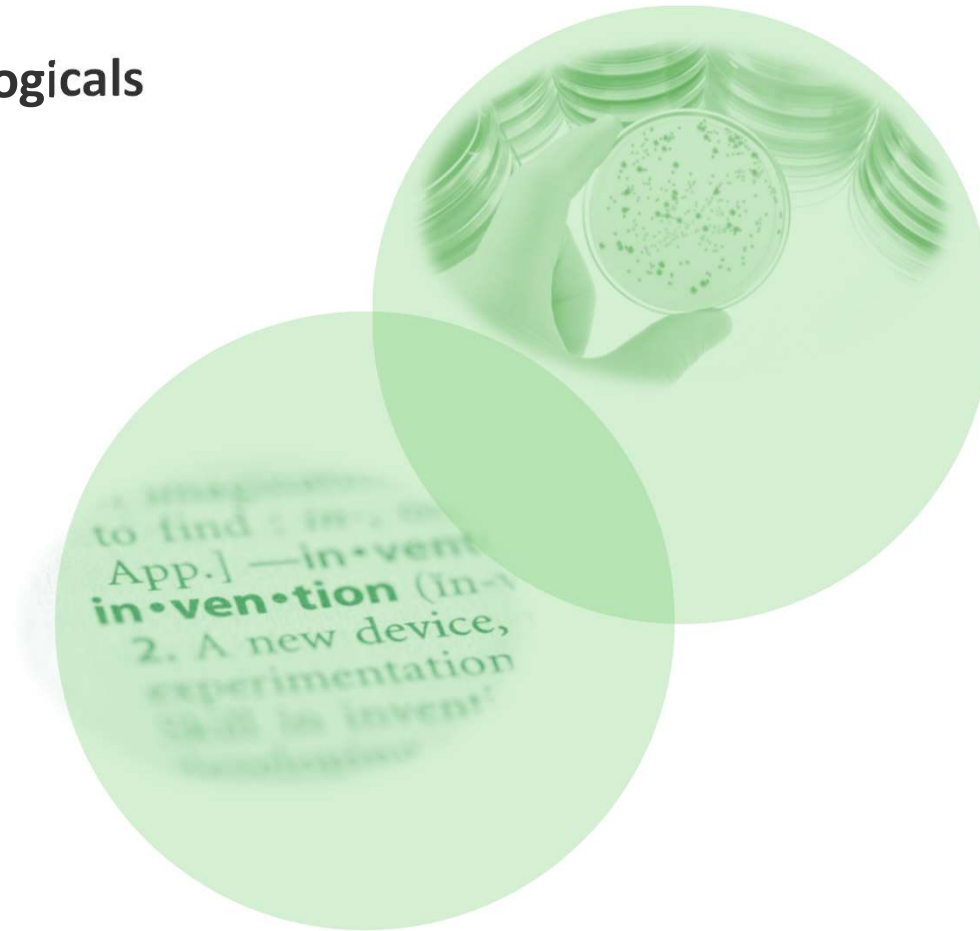
New segment: novel and
highly differentiated
products



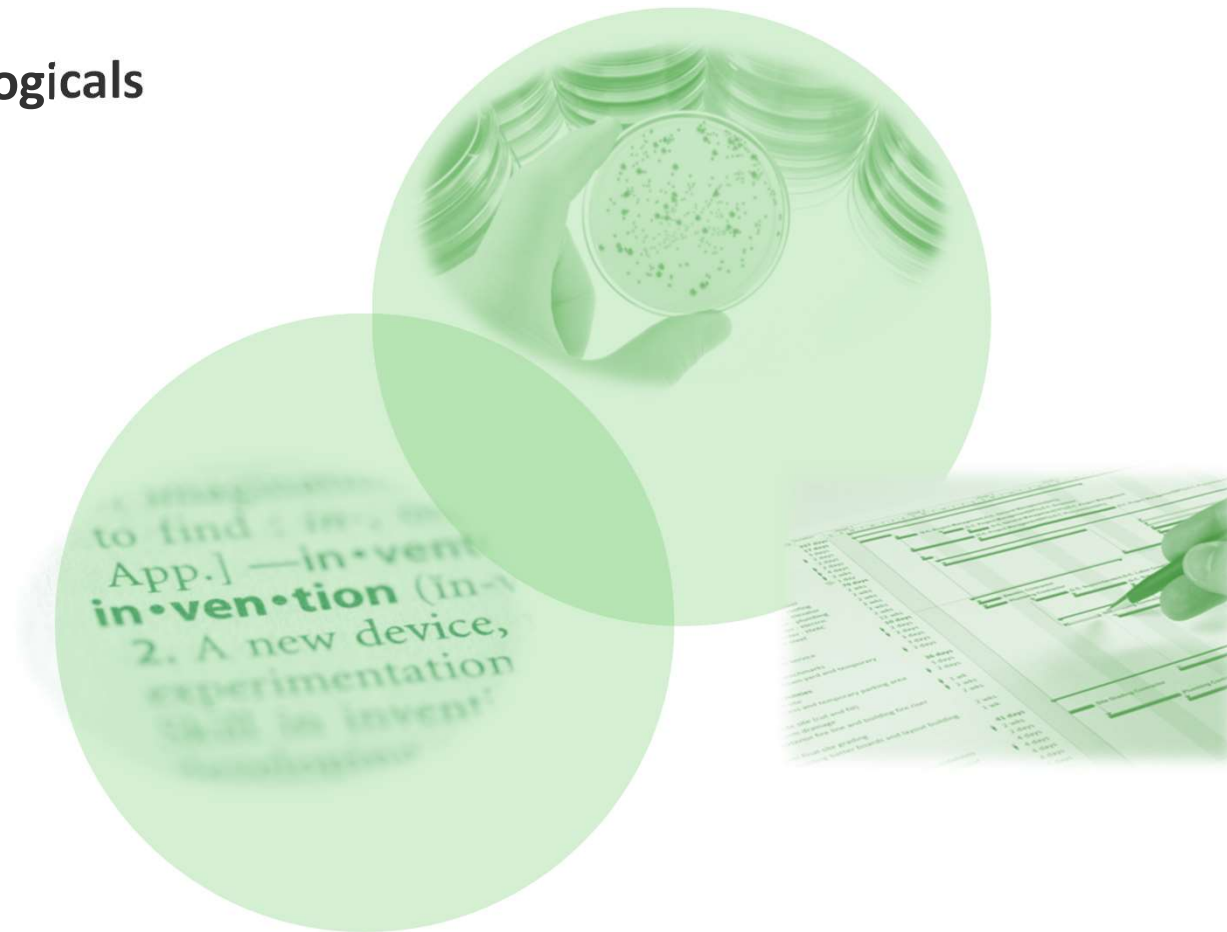
Compliant with
current and future EU Regulation
for Plant Biostimulants
Conventional/Organic



Marketing of Biologicals

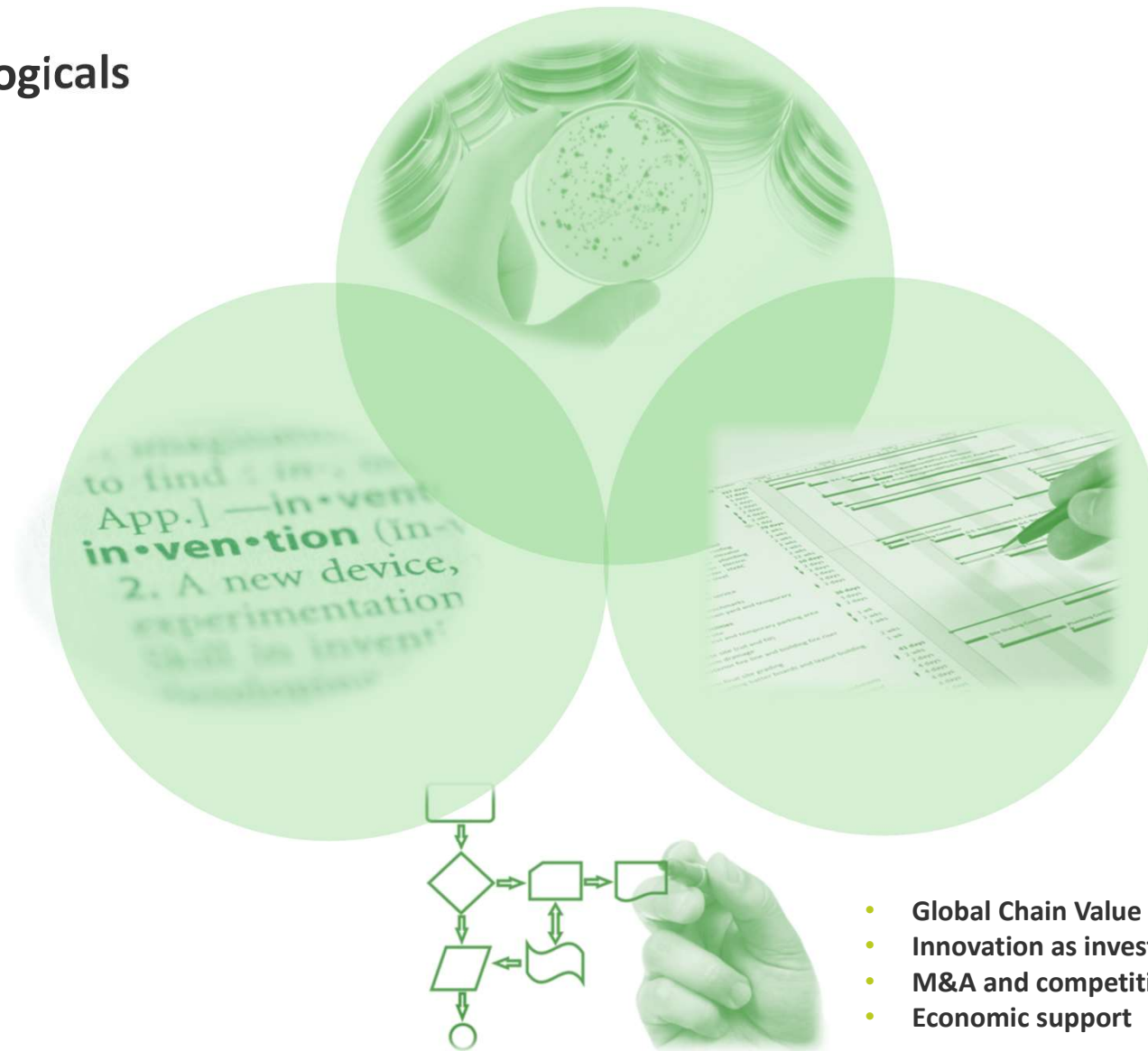


Marketing of Biologicals

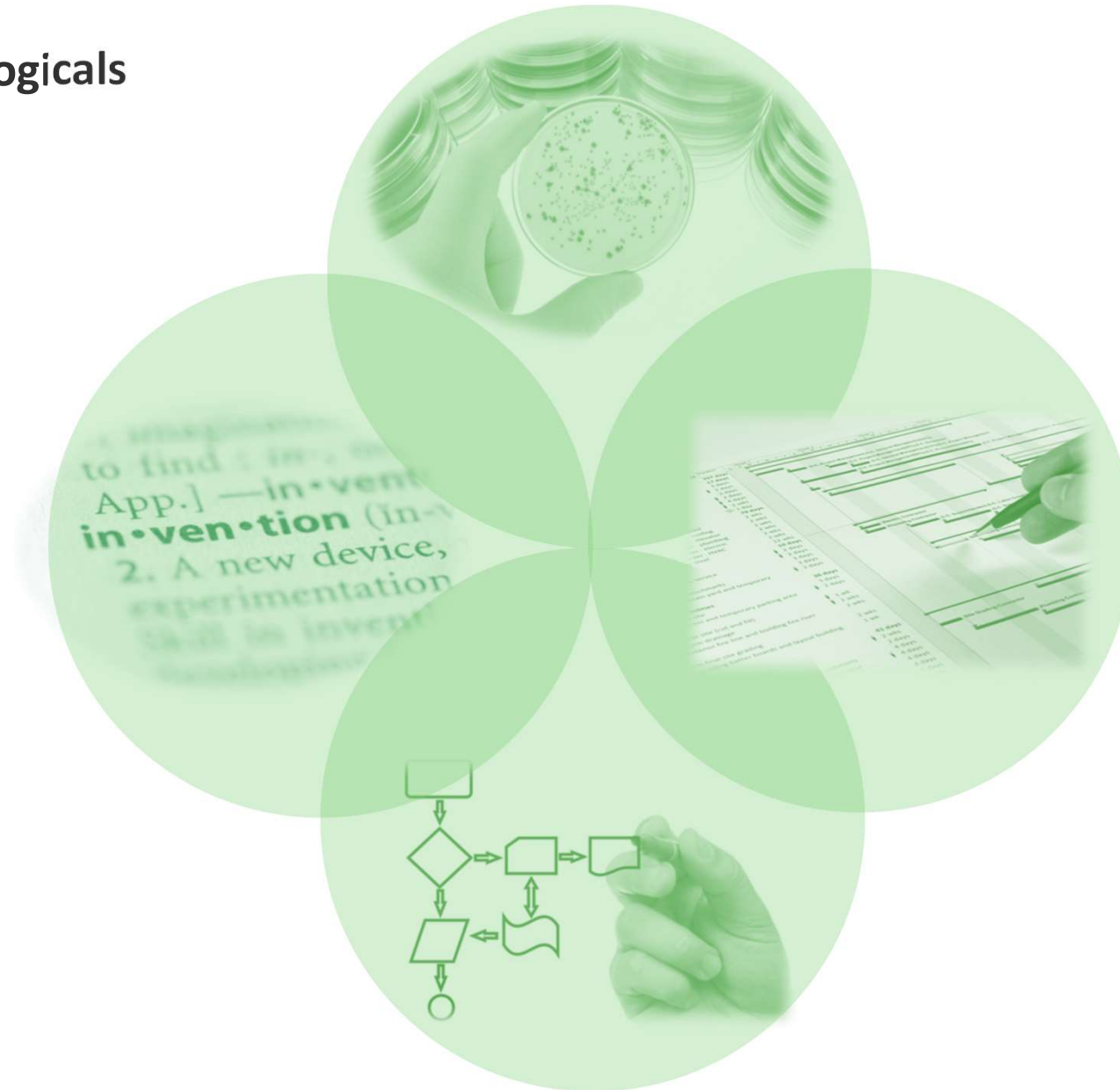


- Country/state base
- Available frame work
- Regulatory capabilities
- Economic support

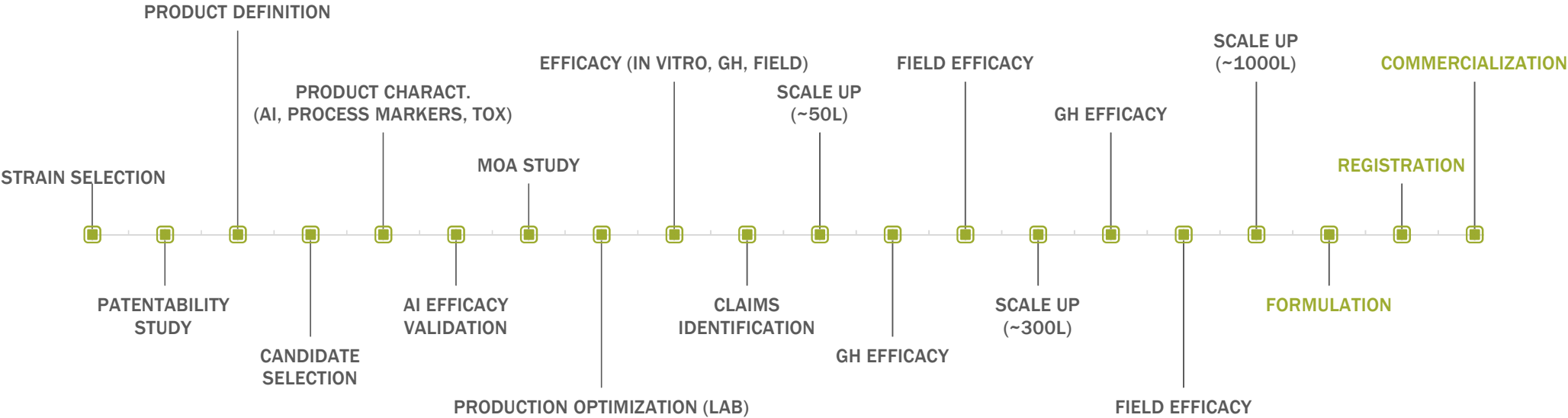
Marketing of Biologicals



Marketing of Biologicals



Innovation and commercialization model

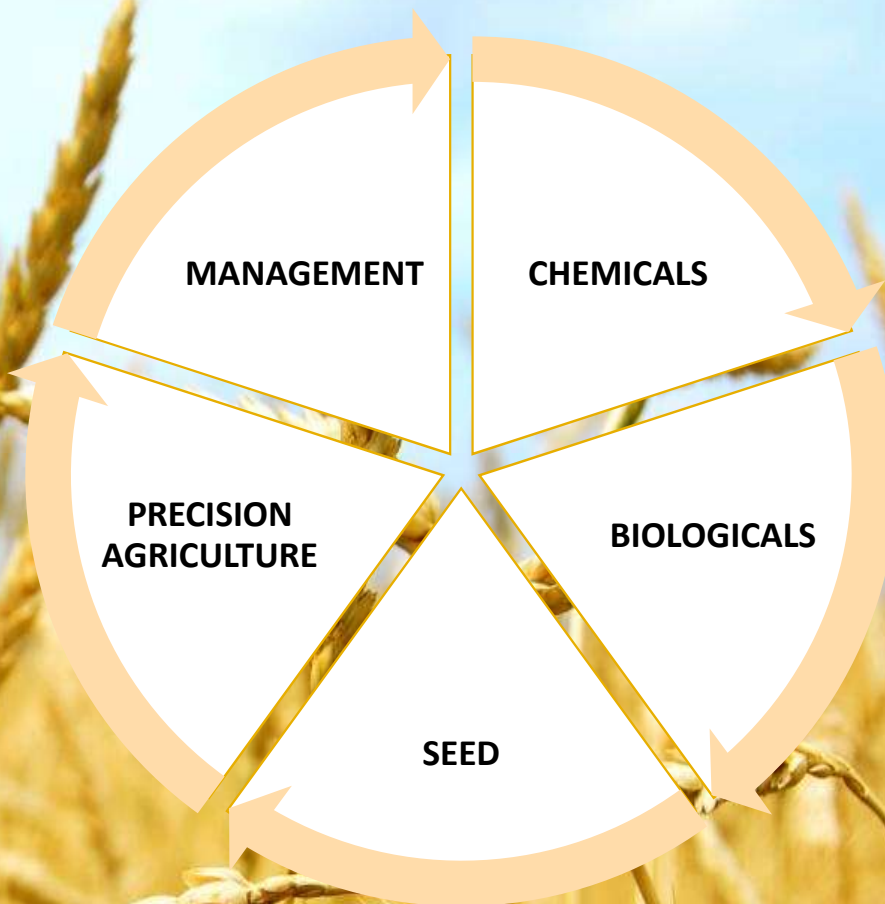


IDEN capabilities

Industrial partners

C O N F I D E N T I A L

Integrated management





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