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Importance of seed treatment

DG AGRI Civil Dialogue Group COP - seeds

17 March 2025

How does seed treatment work?

- **Seed treatment**: precise application of organic, biological and/or chemical products on the seeds before planting for the establishment of healthy crops and to effectively and efficiently combat pest population's growth

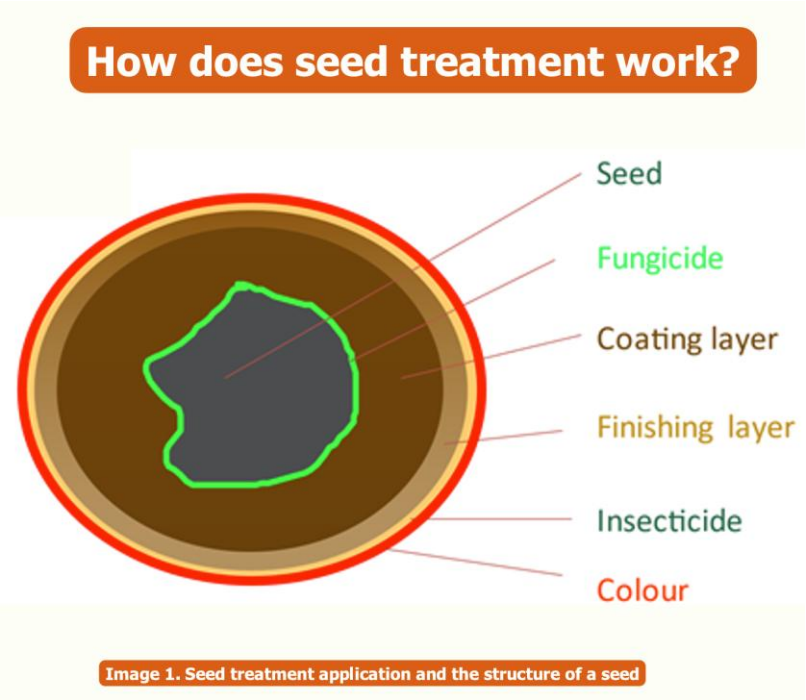

Image 1. Seed treatment application and the structure of a seed

Benefits of seed treatment

- **Enhanced Crop Yield:** Due to better protection against pests and diseases during the critical early stages of growth, treated seeds can increase crop yields by up to 20-30% compared to untreated seeds
- **Reduced Chemical Usage:** Seed treatments use significantly less chemical product per hectare compared to traditional spraying methods. For example, seed treatments can reduce chemical usage by up to 90%, making it a more environmentally friendly option
- **Improved Germination Rates:** Treated seeds often show improved germination rates, with increases of up to 15-20%, this ensures a more uniform and robust crop establishment
- **Lower Costs:** By reducing the need for additional pesticide applications, treated seeds can lower overall farming costs by approximately 10-15%
- **Environmental Benefits:** Seed treatments help in reducing soil erosion and fuel consumption. For instance, combining different applications into one sowing procedure can reduce fuel use by up to 50%

Seed treatment is a precision farming tool

- **Seed treatment is a precision farming tool**

Crop	Target pest/ disease	Seed treatment	Alternative	Difference
Sugar beet	Soil insects + early foliar pests	70-100 g/ha active ingredient	Soil granulates at 600 g/ha	500 g/ha
Onion	Botrytis spp (neck rot)	1 g/ha	Field spray (min. 2 sprays) at 1.000 – 7.000 g/ha and application	200 / 700 Tones

You can find more info here

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The advantages of **seed treatment**

Treatment
of whole area

In-furrow treatent
with granules

Seed treatment
Do more with less

Seed treatment allows to use less product in a more targeted way

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Seed treatment and Integrated Pest Management

- Definition of Integrated Pest Management
  - *'integrated pest management' means careful **consideration** of all available means that discourage the development of populations of harmful organisms, while keeping the use of chemical plant protection products to levels that are **economically and ecologically** justified and minimise risks to human health and the environment;* [Commission proposal; FAO]
- Decision-making process
  - Not to apply a "cascade principle" but consider all (economically, environmentally, agronomically, technically) viable alternatives, **decision to be taken at parcel level**
  - To avoid damages by soil-dwelling pests and diseases, which cannot be observed or captured **by early diagnosis systems**
  - Based on public and private **advisory systems and on farmer knowledge** of the parcel, pest infestation and probability of pests and diseases
  - To build upon the existing knowledge at parcel/farm/region level **developed over years**

IPM best practices

Crop sector: Select

Implementation costs: Select

Potential economic impacts: Select

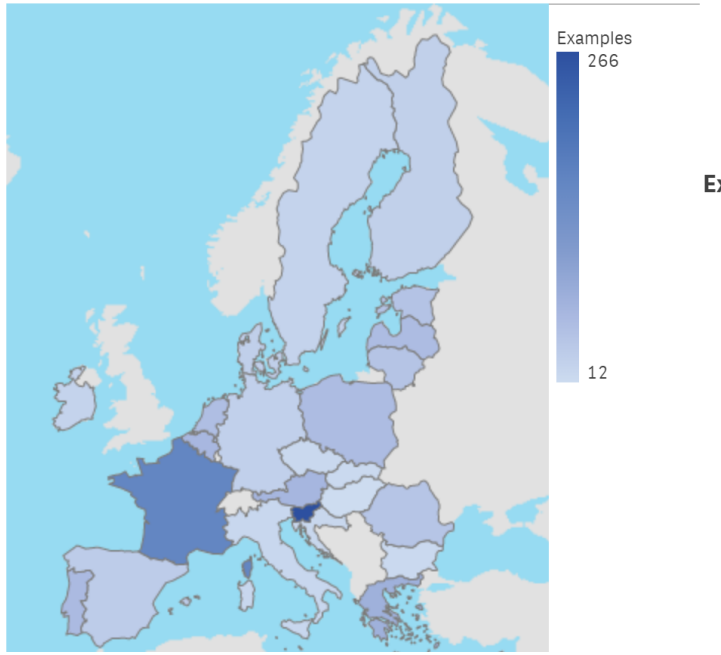
Search by title:

Clear filter

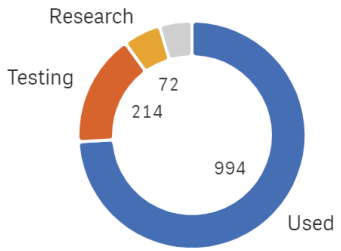
Examples 1,342

Countries 26

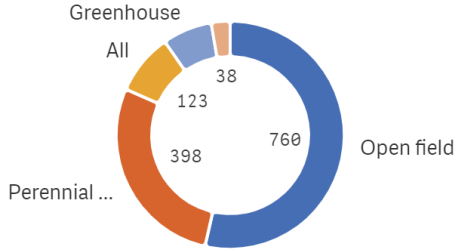
Examples by country



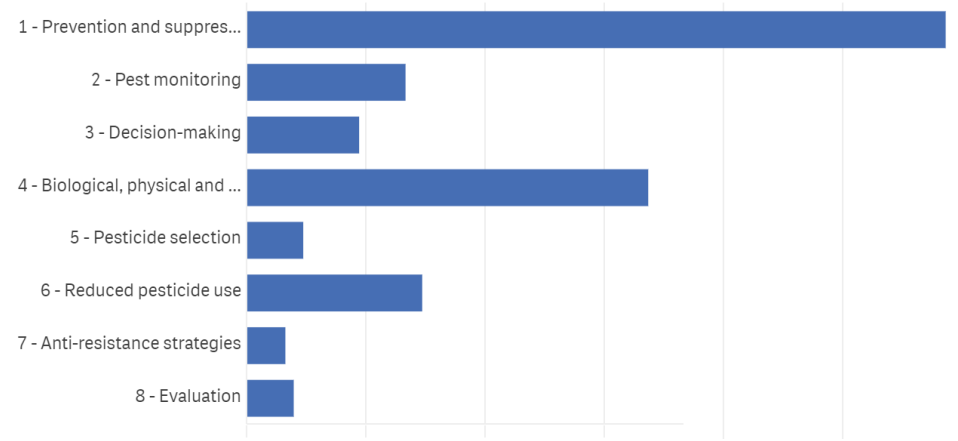
Level of development



Production type



Examples by principle



- **Some Member States already today consider chemical seed treatment as compatible with Integrated Pest Management (both for arable and vegetable crops)**

Active substance authorisation for seed treatment

- Authorisation process based on the Seed Treatment guidance document (Sanco/10553/2012)
  - Appendix IV - overview of maximum seed sowing rates for different crops
    - based on an EPPO publication Survey on dose expression and authorized dose
    - worst-case scenario
  - Not realistic: loss of active substance authorisation for seed treatment

		EPPO, 2016		Kynetec, 2020 (2019 for WW)		
	Unit size	Max. rate	Max. common rate	Avge rate	Median rate	90th %ile
Maize	Thsd sd/ ha	150	110	82		
Grain use	Thsd sd/ ha			76	74	93
Silage use	Thsd sd/ ha			91	93	100
W-OSR	Thsd sd/ ha	1.600	900	501		
Hybrids	Thsd sd/ ha			468	480	600
Varietals	Thsd sd/ ha			668	495	750
Sunflower	Thsd sd/ ha	225	200	64	65	75
W-Wheat	kg/ ha	400	260	202		
Certified sd	kg/ ha			200	186	250
Farm saved sd	kg/ ha			207	190	277

Need for a revision of the guidance document based on realistic sowing rates data!

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