Neonicotinoids – blessing or threat ?

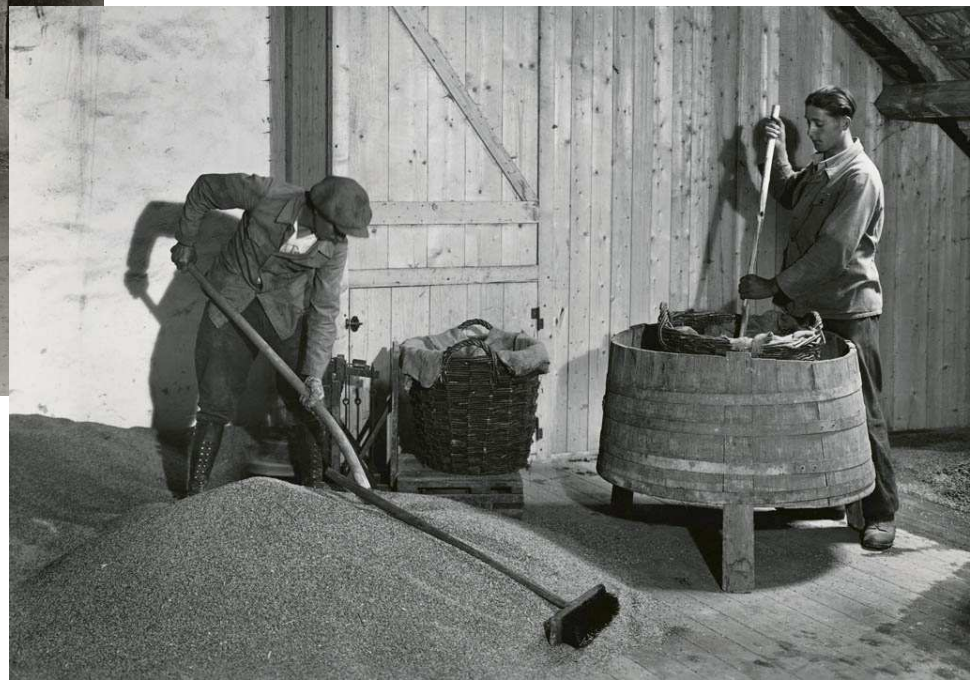
The importance of neonicotinoids for Swedish agriculture

- Producer perspectives -

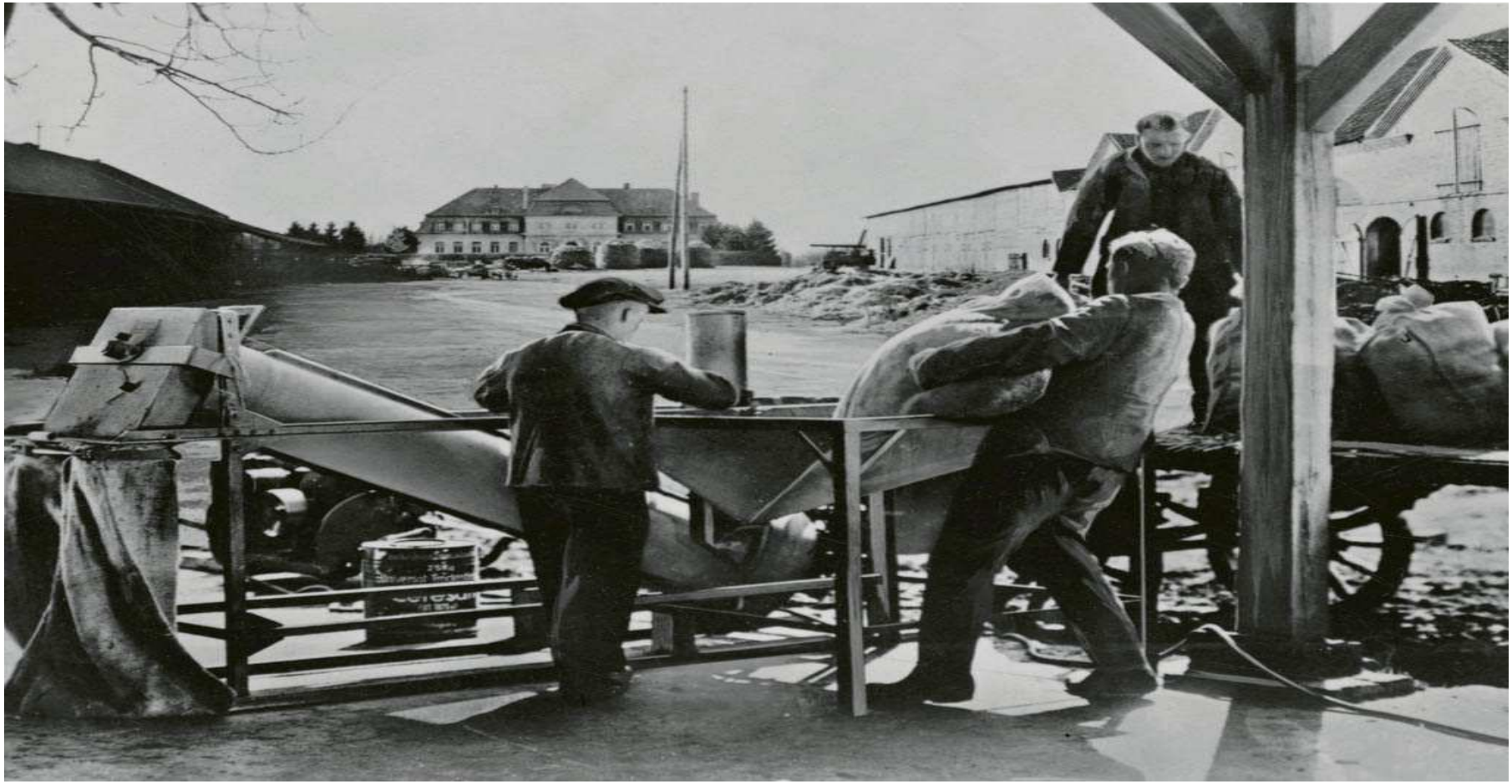
Mats Andersson

Bayer CropScience

The start of Seed treatment



Need of manpower and protection….



Seed treatment – producer perspective

- **Seed treatment is one of the most efficient, targeted, environmental friendly crop protection techniques**
- **In order to maintain a longer term viability of this technology a strict implementation of specific stewardship measures by all involved stakeholders is essential**

- **Cooperation & commitment from**
  - **Crop protection industry**
  - **Seed Companies**
  - **Treatment plants**
  - **Growers**

Advantages of seed treatment

In-door-treatment

Low operator-exposure

Application is independent from whether-conditions

Active ingredients only spread on target area

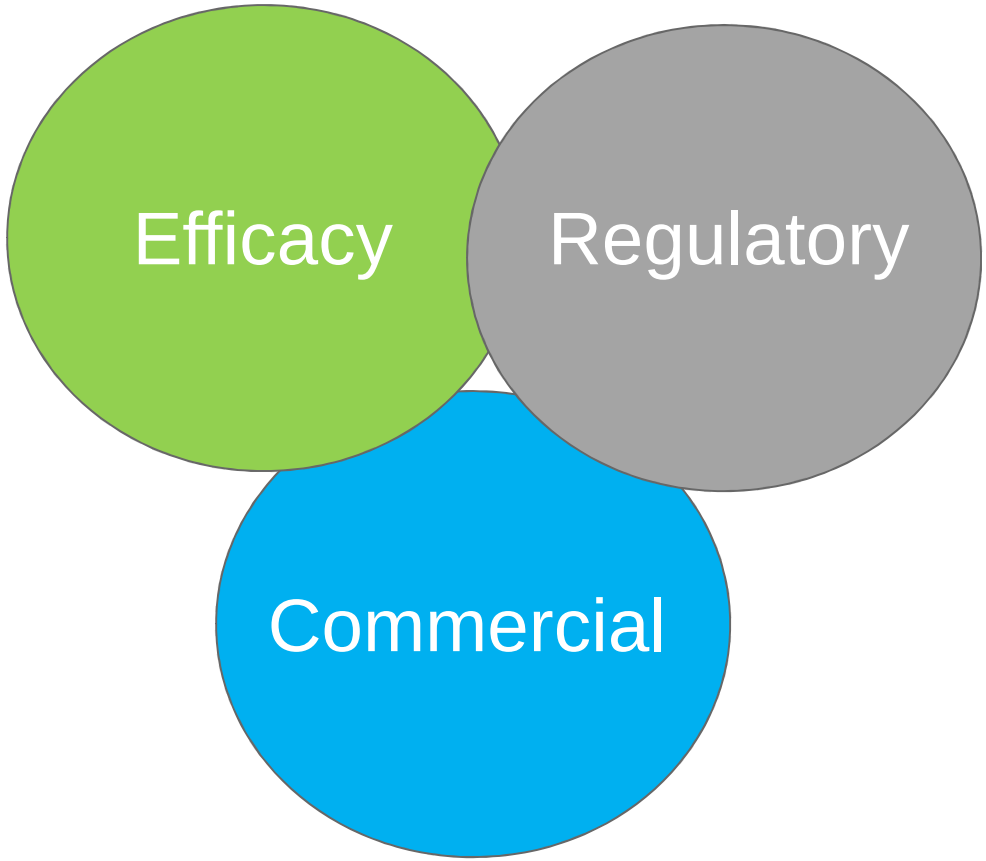
Non-target organisms are largely spared

Spraying can be critical in some situations

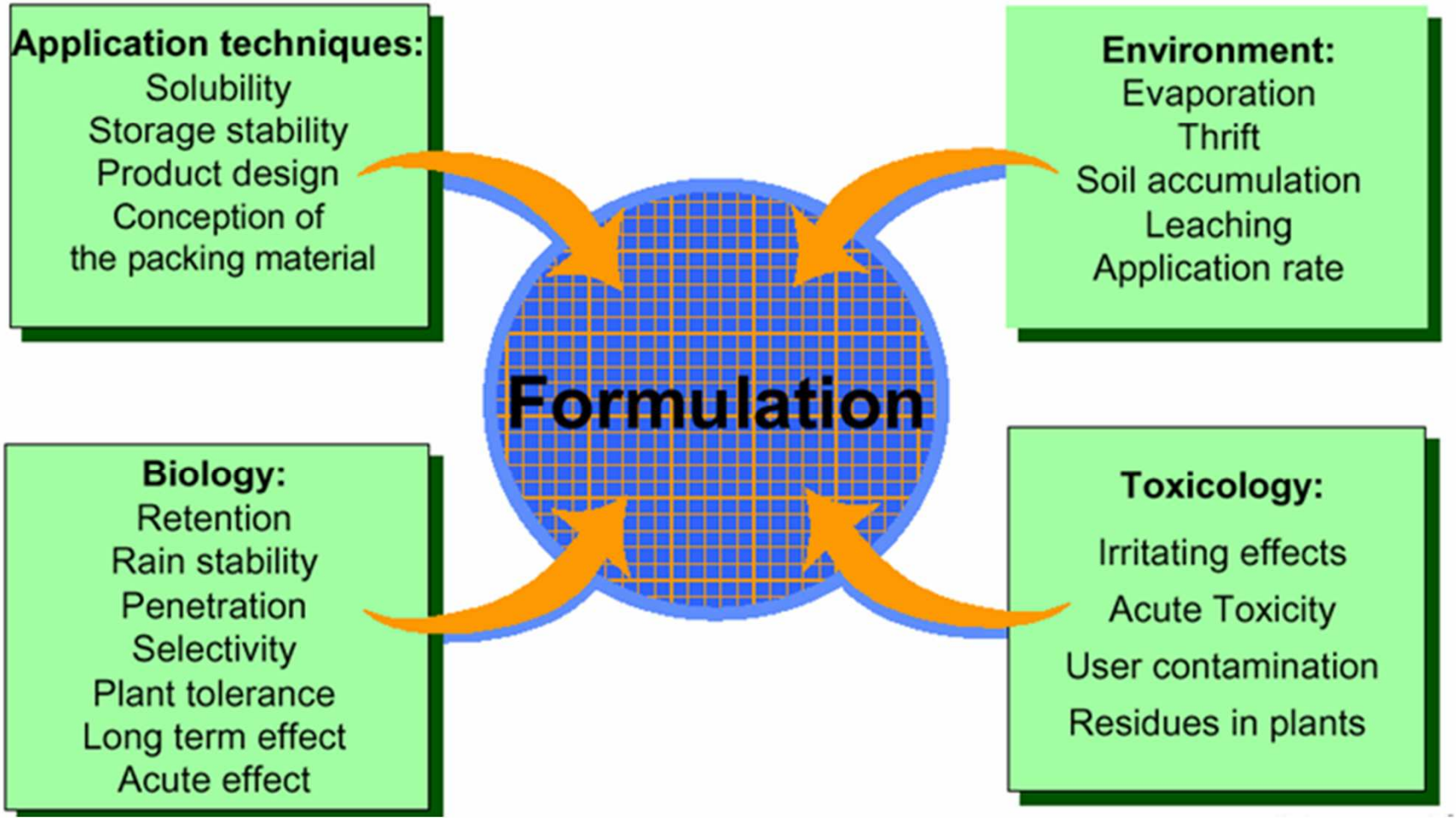
Risk of drift

Water
Beneficials

Areas that influence decisions in development



Demands on a Formulation



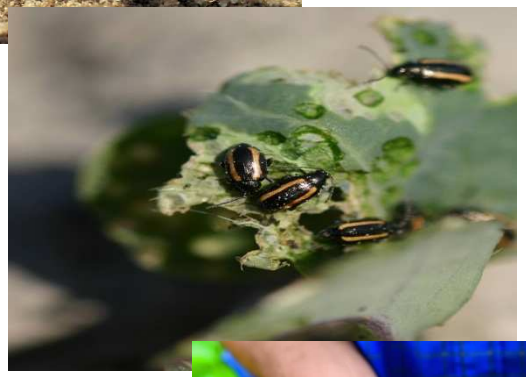
Three examples of importants crops where neonicotinoids have a important role

Sugarbeets

- 2-3 foliar applications / old seedtreatment is replaced

Rape

- 2-4 foliar applications can be replaced with one seedtreatment
- Improvement of ST-formulation



Potato

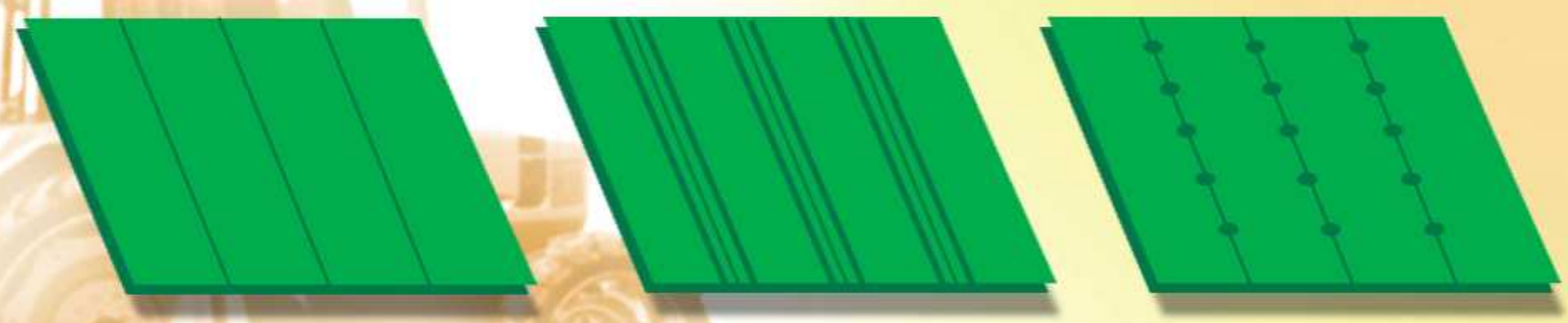
- 2-3 foliar applications replaced with seedtreatment

Reduction of application rates and treated area

Treatment of whole area

In-furrow treatment with granules

Seed treatment



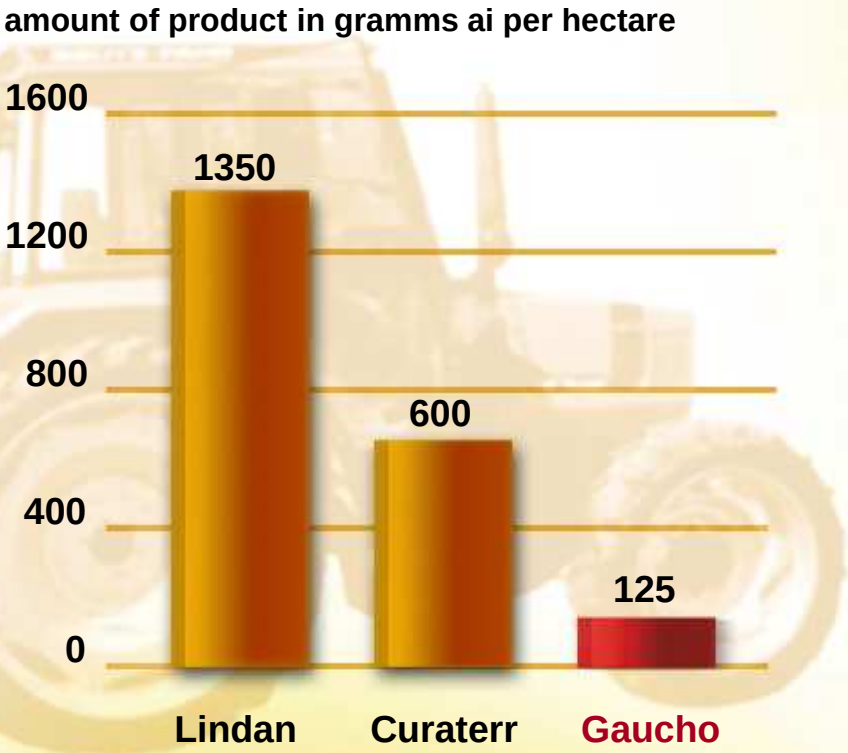
Application rate g ai / ha:

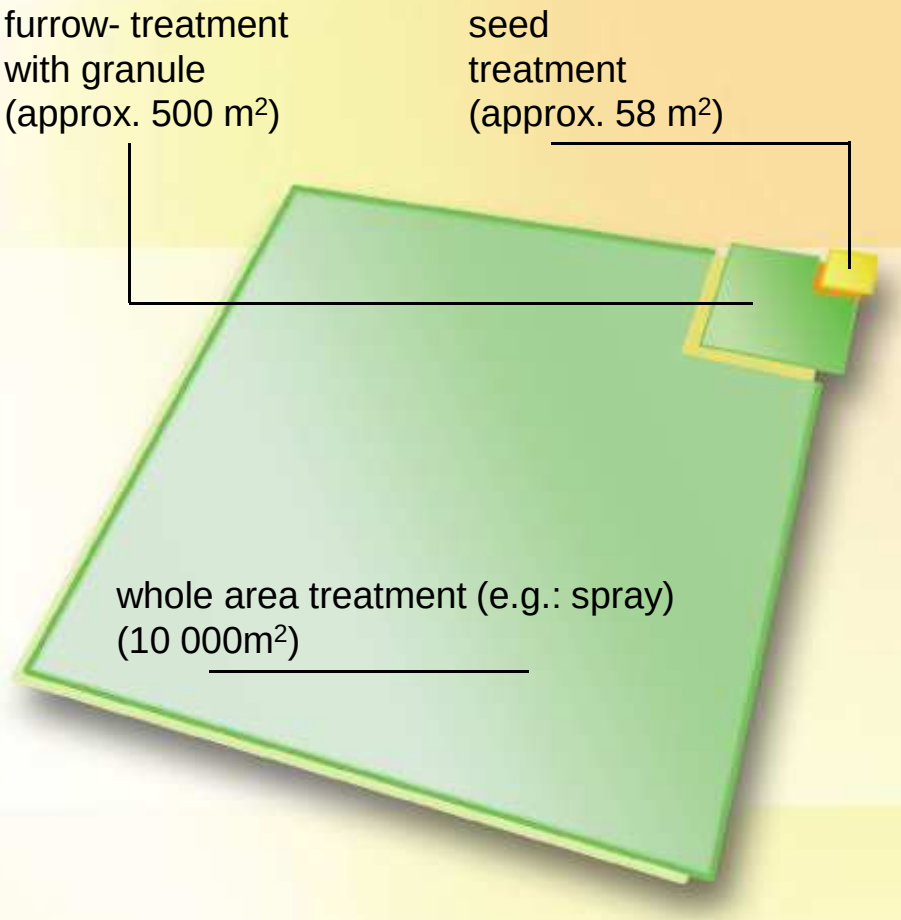
1.350 → **600** → **125**

Treated area in m^2:

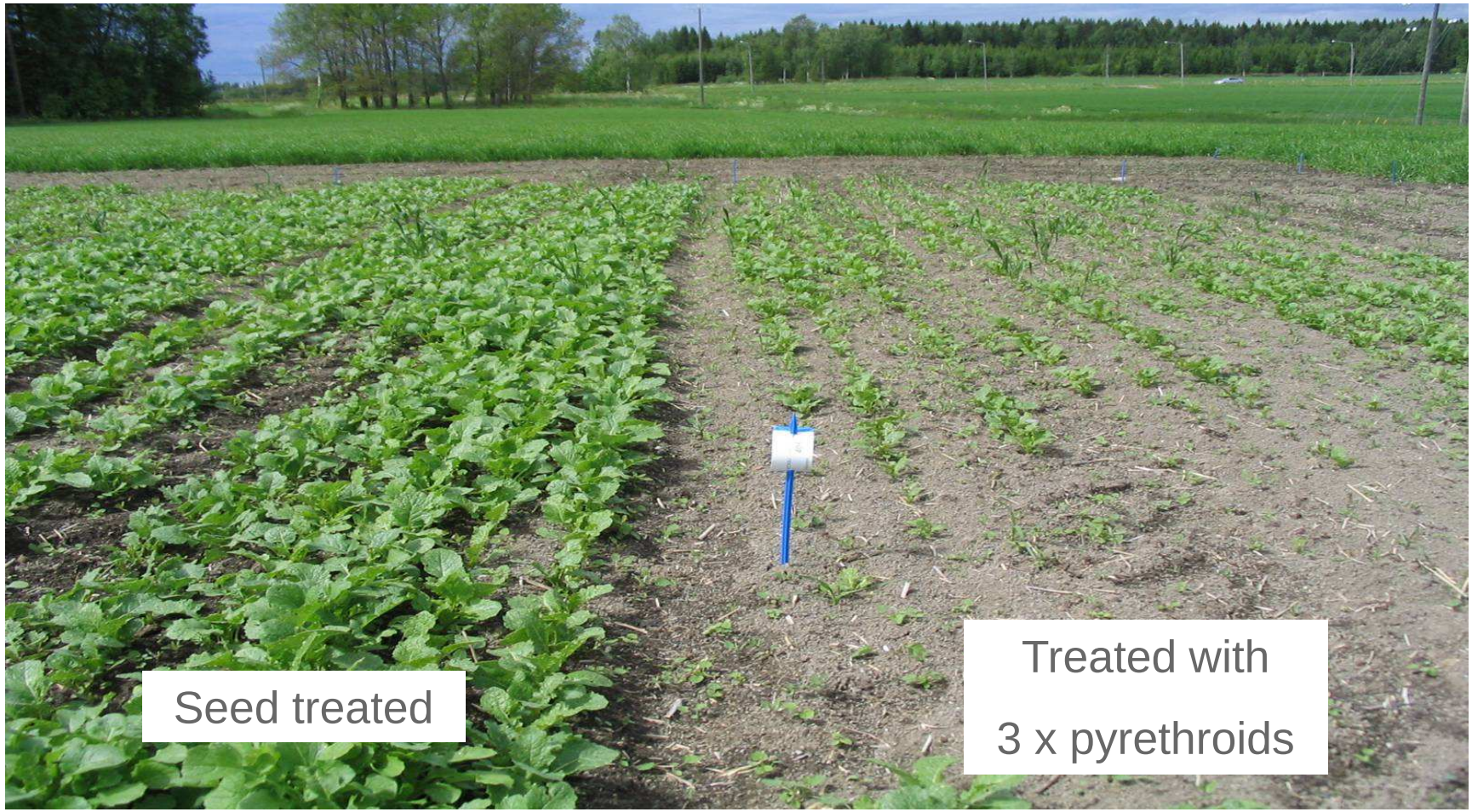
10.000 → **500** → **58**

Benefits for users and environment



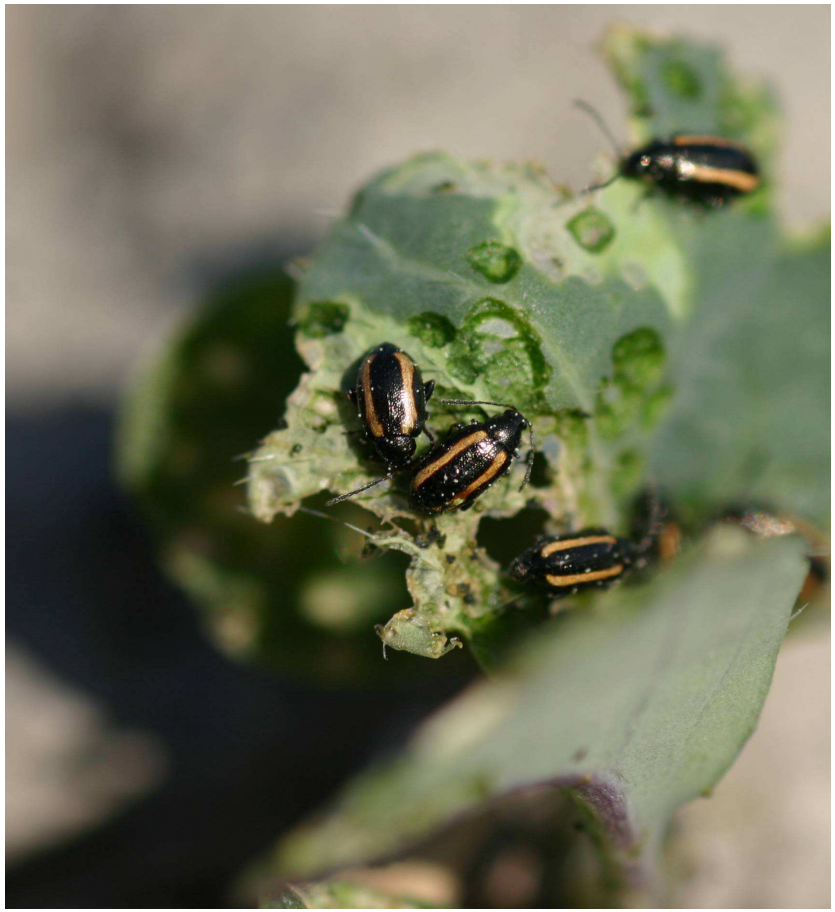


Insecticide problems i OSR
Use of Pyrethroids vs. Neonicotinoids



Treatment of *Phyllotreta* (flea beetle) in OSR

Seedtreatment with Elado vs. pyrethroids



Example from Spring OSR field, Midsweden 2008

Standard ST does not work. The farmer applied 7 times with foliar insecticides to control the flea beetle

24/5		0,25	Sumi Alpha
29/5	+5 dagar	0,3	Sumi Alpha
3/6	+5 dagar	0,3	Sumi Alpha
7/6	+4 dagar	0,3	Sumi Alpha
13/6	+6 dagar	0,25	Sumi Alpha
15/6	+2 dagar	0,2	Mavrik
21/6	+6 dagar	0,3	Biscaya

Source: Svensk Raps. Relevant for 70 % of Spring OSR in Sweden (32.000 ha)

Use of neonicotinoids as seedtreatment in potatoes minimize risk for beneficials

Spraying with 3 x pyrethroids

Seed treated with Prestige

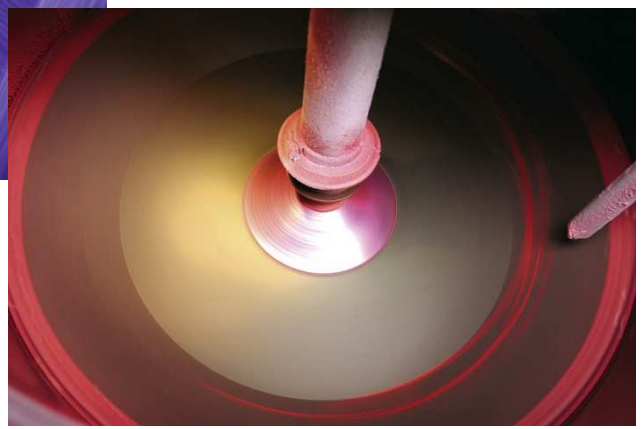
leafhopper

aphids

wireworm

Improvement of formulation and quality control of the treatmentprocess is very important

Development of specific Swedish recipe together with SW (T. Magyarosi)



Bee safety with neonicotinoids in seedtreatment

Potential Exposure Routes of Bees to Systemic Seed Treatment Products (Field Crops, Vegetable Crops)

Systemic residues in pollen (maize etc.)

Extensive data available (residue studies)

Abraded seed coating particles at sowing (drift)

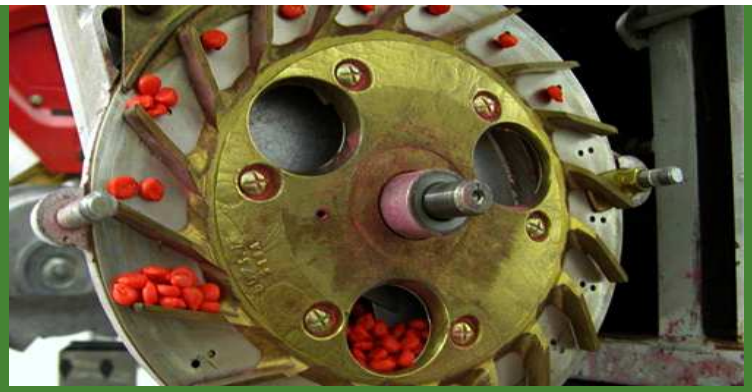
Contiued testing/monitoring

Guttation fluid exuded by the plant

Ongoing field tests /monotoring studies

Stewardship initiatives for all seed applied insecticides on maize, sunflower, OSR and S-beet

- ✓ **Industry position (program, messages)**
- ✓ **Dust value – threshold (Heubach)**
- ✓ **Quality charter**
- ✓ **Multilingual label**
- ✓ **Sowing technology (deflector)**
- ✓ **Communication (Regulatory authorities, ECPA)**



The importance of neonicotinoids for Swedish agriculture

- Summary from Producer perspectives -

Efficacy	important a.i. for high and robust efficacy
Resistant	important for a.i. resistant management
Mode of action	systemic, reduce number of foliar applications
Exposure	seedtreatment - treated area, beneficials, no drift