Sustainable growth of corn
Using the example of the Western root corn borer

*Diabrotica virgifera virgifera*

The one billion dollar chafer
Using the example of the Western root corn borer *Diabrotica virgifera virgifera*

Introduced from USA into Europe in 1992
Using the example of the Western root corn borer

*Diabrotica virgifera virgifera*

Feeding at the pollen threads disturbs pollination and causes yield losses
Using the example of the Western root corn borer

*Diabrotica virgifera virgifera*

Root feeding causing lodging and yield losses
Think in systems!

Never mind!

↑

Neonicotinoids for seed treatment have been banned.

↑

How to avoid lodging and pollination feeding?
Think in systems!

- soil treatment
- fertilisation
- corn variety
- crop rotation
- biological pesticide
soil treatment

Depth loosener gives a better rooting system
There are big differences between corn varieties in development root systems.

The pollination of early flowering varieties past over before the main time of flight.
Growing only two years corn after corn interrupted the multiplication

Go for a biological treatment already first year after crop rotation

Avoid attractive catch crops between the corn periods
biological pesticide

Beneficial nematodes
Entomopathogen nematodes (EPN)
Entomopathogene nematodes

- Worms of 0.5 - 0.9 mm length
- Present in all soil environments (endemic)
- Dauer juveniles (DJ) free-living in the soil, reproduction only in host insects
- High host specification
- DJ well adapted for long-term survival in the soil (fat reserves, non-feeding, ambushing)
- Symbiotic bacteria in the intestine, which is responsible for the death of the insect pest
biological pesticide

Dauer juveniles enter the host

The symbiotic bacteria are released

The insect dies, nematodes develop to adults

Offspring exit from insect cadaver and searching for new hosts

Life cycle
All larval stages and pupa are susceptible.
Most of the needed application is standard technology
No extra working process is needed
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Brussel – 4th November 2014

Special liquid injection was developed.

biological pesticide
biological pesticide

Liquid application on top of the seeds
biological pesticide

Easy handling without any risk for the environment and user
Have success - think in systems!

- soil treatment
- crop rotation
- fertilisation
- biological pesticide
- corn variety

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Thank you!