



eip-agri
AGRICULTURE & INNOVATION

funded by



European
Commission

Case study linked to the theme of the Focus Group on soil borne diseases: Alternative methods of wireworm control in potatoes 2016 - 2020

Anna Pollak
GLOBAL 2000 - Austria



13-14 April 2021
EIP-AGRI Seminar 'Healthy soils for Europe:
sustainable management through knowledge and practice'

Initial situation, objectives

Wireworms

are the soil dwelling, polyphagous larvae of click beetles
spend several years in soil depending on climate and
species

cause considerable losses in potato production by
tunneling tubers

Need for research

on the biology of the pest and its antagonists
on environmental friendly control methods



Methodology

Wireworm distribution

- Soil sampling in Austrian potato regions

Laboratory tests

- Virulency of *Metarhizium brunneum* strains on different wireworm species

Field trial

- *Metarhizium brunneum* colonized barley kernels
- Trap crops



Results

- Wireworm distribution:

Dry and warm regions:

Agriotes ustulatus, *A. brevis*

More humid and colder regions:

A. obscurus, *A. sputator*, *A. lineatus*

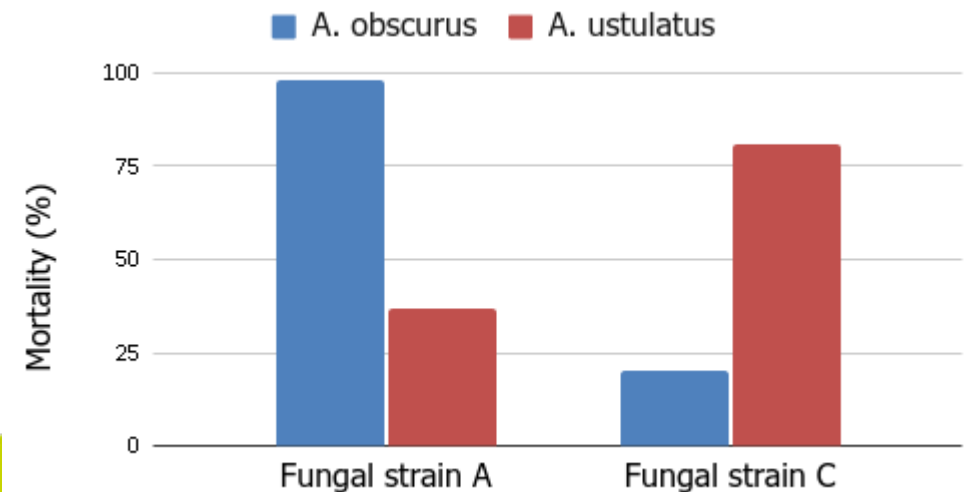
- Laboratory:

Effect of *Metarhizium brunneum* depends on:

- wireworm species and fungal strain
- soil properties

- Field trials:

Combination of trap crops and *Metarhizium brunneum* lead to reduced damage



Key learnings for farmers

“Attract and kill”: trap crops can lure wireworms away from main crop towards a biological agent

For control with *Metarhizium brunneum* sufficient soil moisture is necessary (but rarely given in potato crops)

Research in forecast models is needed



EIP-AGRI seminar

Healthy soils for Europe: sustainable management through knowledge and practice

Online – 13-14 April 2021

All information of the seminar is available on
www.eip-agri.eu

On the event webpage
<https://ec.europa.eu/eip/agriculture/en/event/eip-agri-seminar-healthy-soils-europe-sustainable>

