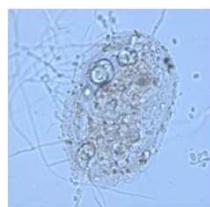
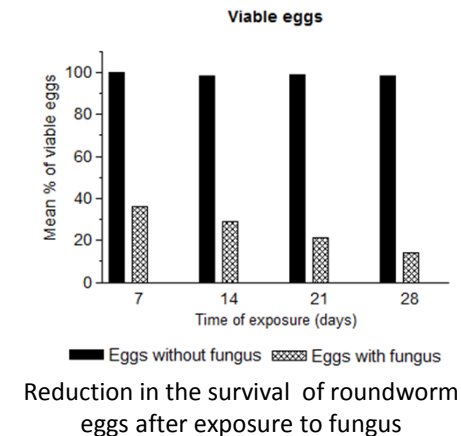


Our laboratory study has shown that a **microfungus (*Pochonia chlamydosporia*) from soil can destroy more than 80% of worm eggs within 4 weeks** of exposure.

The fungus could potentially be applied to destroy a large number of worm eggs in a contaminated environment.



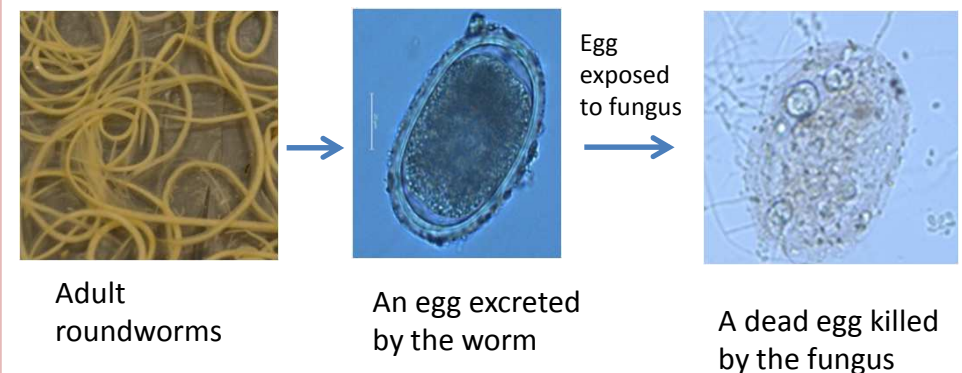
An egg exposed to fungus



An egg not exposed to fungus

NEW ORGANIC APPROACH TO PARASITES: Biological control of parasitic roundworms in organic laying hens using microfungi

Microfungi can kill chicken roundworm eggs. This project investigates the use of naturally occurring soil microfungi to clean up contaminated pastures and bedding material, thereby controlling roundworm infections in organic laying hens.



An ongoing three-year project is exploring how to apply the fungus in soil and bedding material.

Ultimately, the project will demonstrate the application of the fungus in organic chicken farms.

This approach could reduce the use of anti-parasitic drugs, and may therefore **contribute to a sustainable control of the worm infections** in organic laying hens.

Contact:
sundar@sund.ku.dk

Roundworms (*Ascaridia galli*) are the most common intestinal parasitic worms in Danish organic laying hens.

Infections with roundworms may significantly **reduce weight gain, feed conversion ratio and welfare** of infected hens.



Adult worms in a laying hen's intestine

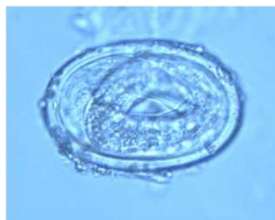
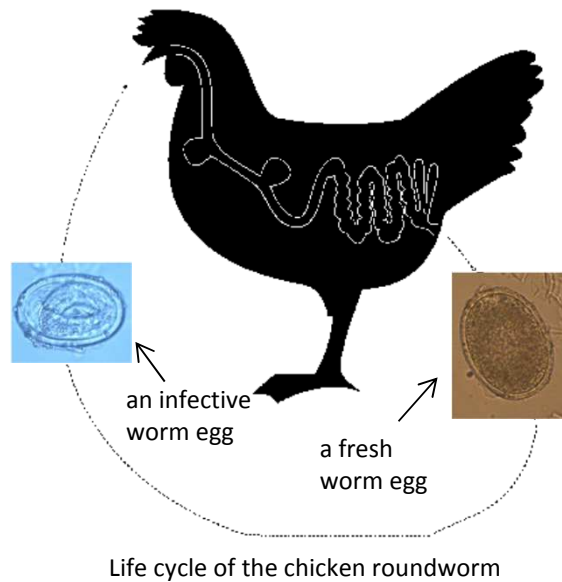
Hens kept in organic or other free-range systems and hens on floor/litter are at higher risk of worm infections, compared to birds in conventional cages.

The **higher risk of infections in organic hens** is mainly due to:

- An ability of worm eggs to survive for up to several years in soil, resulting in an accumulation of infective eggs over time in the environment (bedding material/soil)
- It is more difficult to maintain a high level of hygiene
- Hens only become partially immune and may continue to be reinfected

Worm eggs that are excreted with the faeces develop after 2-3 weeks (or even longer) into **infective eggs** in the environment.

Chickens become infected by ingesting infective worm eggs, and worms develop in small intestine.



An infective worm egg with a larva inside



A fresh worm egg



Organic laying hens on a pasture (Photo by Luna L. Olivares)