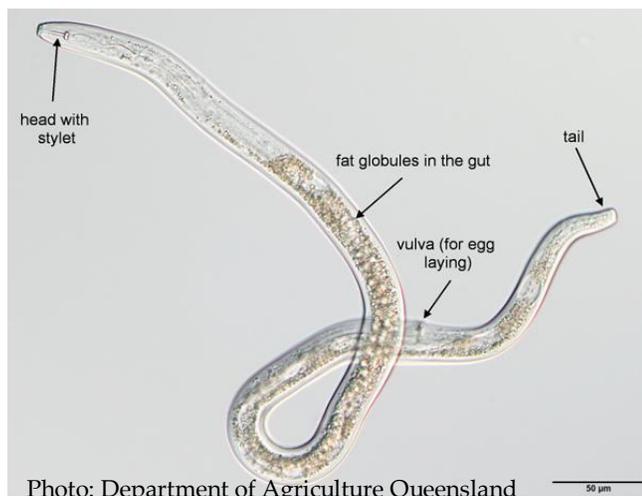


Nematodes

Knowing your soil

What are Nematodes?

Nematodes are microscopic worms that move between soil particles and on plant material. They spread on your farm through water, soil, boots and dirt machinery.



Above shows a microscopic Root Lesion Nematode, including the stylet, used to pierce plant cells.

How do Nematodes effect plants?

Nematodes pierce the cell walls of plants and ingest contents with a needle-like mouth piece called a stylet. The nematodes stylet releases enzymes that break down the cells within the plant. The nematode then draws back the contents into its digestive system. This causes the following visual symptoms often seen by a grower:

Yellowing of plant leaves

Yellowing (pictured below) is one of the first visual signs of nematode affecting your plants. Nematodes can be confused with iron nutrient deficiency. Plants can't get enough nutrients due to the nematode attack and will show signs of nutrient stress. Additional nutrients will not fix the issue.



Photos: Dr S Coventry, HortEx

Patchy plant growth and wilting

When overviewing your crop you may see areas of plant growth that are stunted or patchy. This could be a sign of Nematodes.



Photo: Dr S Coventry, HortEx

The picture above shows patchy uneven growth in the center rows of a greenhouse. There are also areas of no growth and wilting plant due to nematodes. This severely affected crop will have reduced yield and lower quality fruit production.

Hidden symptoms (Root Galls)

A symptom that is not first seen because it is under the soil layer is the formation of root galls caused by the root knot nematode. Galls reduce the plants ability to uptake water and nutrients efficiently. This causes the visual yellowing and wilting seen aboveground, even when the plant is given enough water and nutrients.

Severe galls on roots

The below pictures show a heavily galled root connected to an eggplant sticking out of the soil profile and another root taken deeper in the soil profile. The plant stressed by such extreme nematodes have drastically reduced yield and struggle to grow. A highly susceptible crop such

as cucumbers would not grow under these conditions.



Photos: Dr S Coventry, HortEx

HortEx trials on the Northern Adelaide Plains (NAP)

HortEx trials on the NAP have identified that nematodes are a critical issue for many farmers. From the studies, the most dominant Species on the NAP were the Root Knot Nematode and the Root Lesion Nematode. Further testing is being performed to rate the effectiveness of various control measures both chemical and biological on nematodes. Please visit our website below for more details.