

Job: Plant Pathologist, Processors & Growers Research Organisation



What do you do?

I work for the Processors and Growers Research Organisation (PGRO). I'm the only pathologist in the company, which means I have a very broad research area. I work on the viruses, bacteria and fungi which infect peas, beans and lupins.

As part of my job, I run the crop clinic which identifies a wide range of pathogens on field crops.

At the moment, I'm particularly interested in root rots, which are caused by several fungi but all of them result in devastating crop loss.

I became interested in these after I was invited to visit growers where whole pea fields were turning yellow and dying. This was frustrating as there was nothing I could advise the grower to do to control the disease, apart from avoiding growing peas for up to ten years.

Hopefully if we can understand pathogens better, we can provide a management strategy for the growers so they can continue to grow peas for us to eat.

What is your average day like?

There is no typical day. If a new sample arrives for me to look at then that can take anything from a few minutes to several days to analyse and to confirm what the problem is.

I am also involved in visiting crop trials, managing projects, writing grant proposals and researching the latest information to pass onto growers.

Dr Kerry Maguire



CV

- Plant Pathologist, Processors & Growers Research Organisation.
- Team leader, National Institute of Agricultural Botany (NIAB), researching varietal resistance to a wide range of cereal diseases.
- Post-doctoral Researcher, Rothamsted Research
- PhD in Molecular Plant Pathology, Rothamsted Research and Nottingham University.
- BSc in Plant Science with a year in industry, Imperial College at Wye, University of London.



When did you become interested in plant pathology?

I have always been interested in things going mouldy, but it was during my degree when I studied a bacterial pathogen of beans, that my enthusiasm for plant pathology was sparked.

I went on to do a PhD; researching two fungi which cause eyespot disease of cereals (*Oculimacula yallundae* and *Oculimacula acuformis*).

I was interested in how the fungi infect the stem base of wheat. I found it fascinating trying to make the fungi produce infection structures without the presence of the plant. The only cues needed were contact on both sides of the fungus - they even tried to penetrate plastic. I then studied how the two fungi interact.

Why is plant pathology important?

There is a very delicate balance between a good harvest and crop failure. By understanding the intricate relationships between plants and pathogens, we can tip the balance resulting in successful harvests.

The study of plant pathogens helps us to understand the risks and factors involved in preventing crop failure and also the ways to reduce yield loss to ensure we produce enough food.