**Narrator:**

We are joined by Doctor Joshua Fanning, Pulse pathologist with Agriculture Victoria and in this video he will be talking about the work they are doing to improve screening methods for chickpea ascochyta blight.

**Joshua Fanning:**

This experiment that we're standing in now is actually improving the methods so we can have the best outcomes for industry and the best disease ratings for industry. This experiment that we've got here is investigating chickpea ascochyta blight and we're investigating no irrigation or low irrigation versus a higher irrigation regime.

Against two different types of inoculation methods, in a range of varieties.

**Narrator:**

What types of inoculation methods are you testing?

**Joshua Fanning:**

Stubble based inoculum, which is how the disease is spread in the field in growers paddocks. It carries over from year to year in the stubble. So we can investigate how that spreads and using it as an inoculation method to test material for breeders and pre-breeders.

The other way we can do it is we can culture the disease in the laboratory and then we can develop spores in the laboratory on agar and we can bring it out and spray it over the material.

**Narrator:**

Can you tell us a bit more about what other methods you're testing?

**Joshua Fanning:**

We're also comparing high and low irrigation or no irrigation, plus additional supplemental irrigation.

In the low irrigation treatment we can see here, that the chickpeas are actually looking quite healthy, and that's because later in the season we're having higher temperatures and good rainfall, good soil moisture, and the chickpea plants we can see here are green and lush because they're growing away from the disease.

We're now kneeling in the high irrigation treatment and we can see that there's a lot more plot death. So, these are susceptible varieties, and the higher irrigation is basically allowing more disease expression. The disease is getting more life cycles in and it's causing a greater or more severe reaction.

And the chickpeas can't outgrow the disease anywhere near as well as in the lower irrigation. We still have some more resistant varieties or less susceptible varieties like PBA Royal and Genesis 090, that are growing away from the disease, but on the whole the higher irrigation is allowing the disease, more life cycles or the pathogen more lifecycles to develop.

**Narrator:**

What will this research mean for growers?

**Joshua Fanning:**

The overall aim is if we have the best methods out here, then we're going to get the best reliable data.

So the reaction we see in the field, whether it's susceptible or resistant, where that should then correspond to the worst case scenario for grower and we get a nice spread of what reaction we can see in the germplasm that's provided to us from breeders and pre-breeders.

So, we get a good spread from hopefully resistant, to susceptible and then we can give you an accurate and reliable rating.