Mark McLean:

This is an oat disease experiment looking at the foliar disease red leather leaf. And we've been looking at red leather leaf now for about 3 years. Just trying to work out how much of a problem it is for oats in Victoria and what we can do about it? This particular experiment is looking at the yield and grain quality loss of 6 milling oat varieties.

Mark McLean:

This trial is based in Horsham, so one of the main oat growing regions and we're looking at I guess an average season at the moment so the yield potential is about average so we're going to have a look at just what losses red leather leaf can cause in these six main varieties.

Mark McLean:

The methods we use for these yield loss experiments is sowing a given variety and we compare a disease treatment versus a no disease treatment, and we take assessments of the disease severity during the season. So, we take the leaves and then look at how much infection there is on those leaves and then we compare that to the yield and grain quality at the end of the season. And by comparing those two treatments, we can actually get an idea of how much loss there has been due to that disease. And this trial is looking magnificent at the moment and will give us some really good insights into what losses red leather leaf can cause, in oats.

Mark McLean:

This is Bannister oats with no disease in it. As we, open up the crop here. We can see there's actually

relatively little or no moisture stress. So, what we can see is green leaf right from the bottom of the plant all the way up to the top. There is a little bit of senescence down the bottom which is not associated with disease. We can see that the difference between that and red leather leaf is that the senescence is more of a browny yellow type and quite even. Whereas the red leather leaf is more of a blotchy red type lesion, which we'll have a look at in the next plot.

Mark McLean:

This is Bannister oats, this time with disease and we can see that there's actually a pretty severe infection in these plots. So, there's quite severe reddening of the lower leaves. Which is actually starting to creep definitely into the mid leaves and starting to infect up onto the top leaves as well, so we've obviously had quite good seasonal conditions for infection. And now the disease is making the most of it and I've estimated the infection there at somewhere between 30 and 40%, which will no doubt cause significant grain yield losses in this case.

Mark McLean:

This is Williams Oats, in the same red leather leaf experiment, looking at plus and minus disease and what we can see in this particular plot is that there's Williams has slightly better resistance than Bannister and Yallara, and so we've actually got slightly better green leaf retention and a little bit less disease

infection. So even though we've had the same weather conditions and we do have infection there, on those lower leaves, it's not quite so bad on the middle and upper leaves, so that will likely reduce the amount of loss.