# GRDC PODCAST TRANSCRIPT

**Seasonal disease update for canola and pulses: northern region**

[00:00:03] **Intro** This is a GRDC podcast.

[00:00:11] **Kurt Lindbeck - NSW DPI** This year in particular, it's been really difficult to give general disease management advice because the rainfall patterns have been so patchy across the region. And so it's really coming down to growers getting out there and walking through their crops individually and basically assessing their own disease risk and disease pressure basically at their own farm level because the bloke a couple of kilometres away may have had a lot more rain than himself.

[00:00:43] **Sally Maguire** Hello, I'm Sally Maguire, and that's senior plant pathologist Kurt Lindbeck from the New South Wales Department of Primary Industries at Wagga Wagga, speaking about the challenges for growers when assessing disease risk this season. So what signs should growers be looking for? How is and does weather affect decision making and what are the considerations for fungicide application? To answer these questions and hopefully a few extra ones, let's hear some more from Kurt. So Kurt, tell us what conditions and concerns you're seeing on the ground at the moment, specifically in New South Wales and Victoria?

[00:01:20] **Kurt Lindbeck - NSW DPI** So really 2023 from a disease control or disease management point of view is proving a bit of a challenge. I suppose we're, we're coming off the back of three quite good seasons in a row where decision making about applying foliar fungicides for example, to manage disease, that was a pretty easy decision because you knew that in virtually every case you were going to get your money back. Whereas this season, of course, with the talk of El Nino conditions, it's sort of I think a lot of people are approaching disease management this season with a little bit of caution, I suppose. But the problem is we're coming off the back of three good seasons with high background disease inoculum levels in our farming systems and in some cases we're still seeing quite regular rainfall events coming through. We're still seeing disease conducive conditions in a lot of our cropping regions and districts. So in some degrees that concern about disease management is still there and it's completely justified and of course, with that, do I or don't I apply a foliar fungicide, this coming spring? And, you know, be guaranteed an economic return. But getting back to your original question, we are seeing signs of disease development in our crops as per normal, to be honest. So the disease risk, I should say, for 2023 is probably is as high as it has been for the last couple of years.

[00:03:04] **Sally Maguire** Sure, so let's start talking about particular crops, for the canola growers out there what are the main diseases?

[00:03:11] **Kurt Lindbeck - NSW DPI** So, you know, of course the main two diseases we're talking about there are blackleg and sclerotinia that many of your listeners out there would know that they are the two most economically important diseases that affect canola production certainly in New South Wales and Victoria, in the eastern states. And again coming off three good seasons in a row, we know that the background inoculum levels for both these diseases is quite high and certainly in the case of sclerotinia for example, we saw sclerotinia development over the last three seasons, probably in districts where we don't normally see the disease, but we know that the sclerotia produced by the sclerotinia fungus, so these are the little hard black survival structures of the pathogen do survive in our soils for at least up to five years. And when, and I've probably spoken in the past at many GRDC updates and meetings about the legacy effect of sclerotinia, or at least the threat of a bad sclerotinia outbreak. So really moving forward for this season, that legacy effect is certainly there and again, it's probably hard to give generalised disease advice this season because rainfall patterns have been quite variable across the region. But suffice to say both those diseases are starting to appear in crops in some regions. I've had reports of blackleg certainly out and about and developing in a lot of commercial crops and we're already starting to see the apothecia fruiting structures of sclerotinia is starting to appear in commercial crops and a limited amount of petal testing that I've conducted as part of a sclerotinia project is sort of suggesting that petal infection levels are as high as ever.

[00:04:58] **Sally Maguire** I hear what you're saying about advice, but given that, how can growers assess whether their crop is at a high risk of these diseases?

[00:05:06] **Kurt Lindbeck - NSW DPI** That's a good question, Sally. So certainly we'll start off with the easier of the two - blackleg. Blackleg is reasonably straightforward in that we are looking for symptoms. So this time of year growers and agronomists should be going out into their crops and assessing their crops for leaf lesion and upper canopy, symptoms of upper canopy infection. So by that we're looking for infections occurring on flowers, we're looking for flower abortion, we're looking for lesion development on the raceme, which is the main flowering spike of canola so, so we're really looking for movement of the blackleg fungus up the crop canopy as the canopy develops. And that's the main warning sign that blackleg upper canopy development is likely to occur. We can actually see the symptoms starting to develop within our crops. With sclerotinia, it's a little bit harder because a lot of your listeners would know that decision making and symptom development for sclerotinia isn't always quite as clear. And certainly by the time we start to see symptoms of sclerotinia developing in our commercial crops, the train has basically left the station. And so it's important, it's one of those unfortunately, it's one of those challenging diseases where decision making about whether or not to apply a folia fungicide, has to be made early before symptom development. So really growers of canola out there should be assessing, okay, what is my likely disease risk? And the two main things to consider here, is the previous or the frequency of canola and certainly lupin grown in that paddock over the last five years, but also has sclerotinia developed in that paddock over the last five years as well, because again, as I mentioned before, we had that legacy effect of the sclerotia, and so for example, if you're a canola producer, say at Junee and you've grown canola, you have a paddock that grew canola say in 2020, you had a sclerotinia outbreak in that particular year, you know that there was a reasonable amount of disease did develop in that paddock, this particular season, if you're growing canola back in that paddock again, you would be treating that with a reasonable amount of caution and perhaps putting a folia fungicide out because of that legacy effect and that background inoculum level.

[00:07:32] **Sally Maguire** Okay, so you mentioned current conditions earlier, but what are those seasonal pointers that growers should be looking out for?

[00:07:39] **Kurt Lindbeck - NSW DPI** This time of year, really the main thing Sally would be rainfall patterns, and this is part of the challenge is that again, as I alluded to earlier, we keep having El Nino mentioned to us across the board and you know, we normally associate El Nino years as being, you know, below average rainfall and that's certainly the case in a lot of districts. But what we're seeing this year, though, and this is part of the challenge is that we're seeing rainfall fronts come through the southern states and eastern states, basically on a virtually on a weekly basis. And they are dropping rain, but it's only, you know, one, two, three, five mil's at a time. But the challenge is that still produces crop canopy wetness that is enough to favour disease development in a lot of our crops. And so what we're looking for really is that combination of rainfall patterns coming through your particular district or your region, what growth stage is your crop at? It is entering the susceptible phase, so for example, if you're managing sclerotinia in canola, is my crop coming into flower, should I be considering a foliar fungicide application at 20 to 30 percent bloom. And the other thing is the combination of the environmental conditions, the crop growth stage, but also that previous paddock history that I spoke of and is my paddock at high disease risk or not? So I suppose if you look, if you're considering a fungicide application to canola, of course as I mentioned before, your target diseases would be sclerotinia, but also upper canopy infection with blackleg. And the good news is that, that application of foliar fungicide it that 20 to 30 per cent bloom stage, for sclerotinia is really primarily we've said in the past targeting sclerotinia we know that that's also highly effective at managing the upper canopy form of blackleg as well. So your really getting, hitting two birds with the one stone, which often makes the decision making around to apply foliar fungicide or not, a little bit easier. Knowing that you get that multiple disease management, not only with a single product, but with the range of products available out there, but also with that timing as well. It just makes, it can make that decision making process that little bit easier. And really, to be honest, growers have never had a greater suite of fungicide products available to them, as they do at the moment. There's quite a range of products out there, each offering a range of protective protection periods, for the products. But the main thing is don't get too hung up on the choice of product, often it's all about timing. And in the case of these diseases now that we're talking about blackleg and sclerotinia, canopy penetration is very important. So making sure that the canopy is reasonably open to get that product down into the onto the lower stems and leaves, which are potential infection sites later in the season and but also getting good coverage as well. So were talking about, you know, high water rates of at least 100 litres per hectare, preferably with a ground rig to really blow that product down into the canopy and get good coverage.

[00:10:52] **Sally Maguire** Well, let's move on to pulses. What are the disease issues that you're seeing develop with pulses at the moment?

[00:11:00] **Kurt Lindbeck - NSW DPI** It's, we're just starting to see that now that we're coming towards the end of August and pulses are starting to move and I suppose start to grow a bit more. I'm sure many of you, your listeners out there would know that pulses tend to be quite slow growers over the winter months. But now that the days are starting to take a little bit longer, longer periods of daylight, the temperatures are slowly warming up. We are starting to see our crops develop. So really the diseases that I'm hearing of at the moment are chocolate spot disease in faba bean, which really isn't surprising it generally this time of year, this is where we start to see early symptom development. Also ascochyta diseases, so not only in chickpea but also in field pea as well. But the other one that's rearing its head only in some isolated cases is symptoms of early virus infection in lupin. And just in the last probably two weeks I've received quite a few samples here at the diagnostic lab at Wagga Wagga, of lupins, narrow leaf lupins with symptoms of bean yellow mosaic virus. And that's not always a disease that we commonly see this time of season, but what that's indicating is that we had obviously a fair amount of aphid activity earlier in the season when these crops were probably being sown or shortly after emerging, and that's basically now expressing itself as premature plant death and you know that those typical virus symptoms of bunchy growth and poor plant development, plant stunting and in some cases flower abortion as well so, but again, we have diagnostic labs both here at Wagga Wagga and at Tamworth where growers and agronomists can send in plant samples for a correct diagnosis.

[00:12:52] **Sally Maguire** Okay, so it sounds like there's a lot going on out there, let's just summarise, what are your key messages for northern growers right now?

[00:13:00] **Kurt Lindbeck - NSW DPI** So key messages for northern growers, really, what they should be looking for is certainly with pulse diseases would be looking, walking through their crops with faba bean you'd be looking at early symptoms of chocolate spot development because now is the time when you get those canopy closure sprays out, which then set the crop up for the rest of the season. So it's important to get those canopy, pre canopy closure sprays out to get that product down to the lower crop canopy and stop the chocolate spot disease from developing which can then sort of be a headache then for the rest of the season. You'd also be walking through chickpea crops starting to look for patches of ascochyta development. Now that the chickpeas would be starting to grow, now would be time that the, that any seed borne infection that might be out there would be starting to express itself as patches of dead plants within the crop canopy. And it's pretty important because both these diseases in particular have the ability to spread and establish quite quickly within the crop. And so if you wanting to move on those with a, quite quickly I suppose, and again, with regards to disease management in pulses, the suite of fungicides foliar fungicides available has never been greater for producers and there's some really good products out there, a lot of semi systemic products out there now which really have high levels of efficacy. But having said that, the older chemistries that have been on the market for 25 years plus are still very good and I would recommend using a mixture, not mixing them together, but certainly mixing the applications of the older and newer chemistries, basically rotating them and basically using both those, using a variety of actives, I should say, against some of these diseases. This season really is, it's a little bit of same same, but it is different in as much as we are seeing those regular rainfall events come through very similar to last year. But we're not seeing the in the total amounts of rain being quite as high as last year. But we are still seeing those potentially long periods of leaf wetness in our crops in some in some districts. The fact that we are coming off the back of high disease levels over the past three years, and there's no doubt that there is a legacy. We are seeing a legacy effect at the moment of that carryover of inoculum on stubbles, in some cases in our soils, which are impacting on crop growth this year and disease development within our crop. And really one of the key things that that listeners should be doing right now across all their crops, not just pulses and all seeds, but also their cereals as well, is get out there and walk through them on a regular basis and scout for disease symptoms. Don't think that driving past crop at 60 kilometres an hour is a crop inspection. I would recommend you get out and you walk through crops, you part the crop canopy and you really want to get a feel for where, well, what diseases are developing? Where they're developing? And are they moving? And that's pretty important. So it may be a case of getting out at this time of year, walking through your crops on a weekly or every seven to ten days and basically looking for, okay, are the leaf lesions, for example, of blackleg moving in my canola crop? Am I seeing chocolate spot lesions starting to coalesce and spread within my faba bean crop? And that gives you an indication of whether the disease is active or not and that's pretty important. And then that allows you to make a foliar fungicide decision then with a fair amount of certainty that yes, I'm now striking while the disease is starting to develop and I have the opportunity then to basically nip it in the bud.

[00:16:54] **Sally Maguire** And Kurt, GRDC has many investments in the disease management space. Tell us about some of those?

[00:17:00] **Kurt Lindbeck - NSW DPI** Absolutely. Absolutely, so I'm involved with a couple of quite exciting projects at the moment, co invested between GRDC and New South Wales DPI. So we have a diagnostics and surveillance project which is headed by Steve Simpendorfer at Tamworth, and basically some of your listeners out there may be aware of this already and probably have had their crops sampled, but there's a team of us both based in Wagga and Tamworth, who are starting to travel around the district and randomly sample a lot of commercial crops for diseases, disease development and we've been doing that now for seven years in a row. And what we're trying to do is, is get a real feel for what are the problem diseases occurring in our crops out there and what are the seasonal impacts of diseases on our crops. And we're starting to really build up a nice bank of information now about what's occurring in our commercial paddocks. The other project that we're quite excited about, which is led out of Wagga, is a national sclerotinia management project. So in the past here in Wagga we did a lot of work on managing sclerotinia and developing managing sclerotinia management strategies for sclerotinia in canola. But we're now heading up a project looking at managing sclerotinia in pulse crops as well. So we have collaborators in South Australia, Victoria, northern New South Wales, at Tamworth and in southern Queensland and we're actually developing sclerotinia management strategies across the cropping system. So rather than look at each of these crops individually and coming up with suggestions on on how we can manage the disease, we're actually looking at the impact of sclerotinia across multiple crops. We're also looking at the interaction between grain legume crops, developing sclerotinia and the impacts on canola, and I think that's pretty exciting, that hopefully we'll come out at the end of this four year project with some pretty sound advice that growers can implement, that agronomists can implement and looking at decreasing the impact of sclerotinia across the suite of broadleaf crops that they have in their rotation. And yeah, approach it with a more holistic view.

[00:19:10] **Sally Maguire** That was senior plant pathologist Kurt Lindbeck from the New South Wales Department of Primary Industries and as Kurt mentioned, the DPI runs a crop diagnostic service out of Tamworth and Wagga Wagga, which also extends to providing advice for growers. You can find details on this resource on their website, dpi.nsw.gov.au. I'm Sally Maguire. This has been a GRDC podcast. Thanks for listening.