# GRDC PODCAST TRANSCRIPT

**2023 Southern region slug update**

[00:00:05] **Intro** This is a GRDC podcast.

[00:00:13] **Prue Adams** Slugs are showing up all over the southern region this season and are an emerging problem in places they haven't been seen before. So, how do we solve the slug situation? Hello there. I'm Prue Adams. GRDC is so aware of the increasing problems cereal growers are having with slugs, that it has a tender out to invest further in slug research. The goal is to better understand the extent of the problem, conduct field research into slug ecology and population dynamics and investigate innovative management strategies. In this episode, I speak with two experts in the field. Agronomist Tim Pohlner is based in Horsham, a region which has historically not seen slugs. But the black keeled slug is sliding its way in. I asked him on a scale of 1 to 10, how bad the slug problem is this year?

[00:01:12] **Tim Pohlner - Agronomist** Historically, slugs haven't been a huge issue in the Wimmera. They have been in isolated spots in the southern Wimmera but moving into the northern Wimmera plains now and spots too, causing immense damage. But they still definitely are patchy. South of Horsham in the southern Wimmera they're starting to become fairly widespread. But as you know, further north they're a bit more sporadic, but where they are, they're still doing massive damage.

[00:01:39] **Prue Adams** So as an agronomist, have you seen anything of the scale of this before?

[00:01:43] **Tim Pohlner - Agronomist** Slugs are a fairly new phenomena for me, I had a few clients that would deal with them on an annual basis, but they were at probably moderate levels and we were able to get on top of them relatively easy compared to what we're dealing with now. What we've seen last year and this year, even with quite extensive management control, we're still losing areas of crops and it's been a big learning curve, how to deal with them.

[00:02:10] **Prue Adams** What sort of loss are you seeing or what sort of damage are you seeing? Whole crops going is patchy? What are they attacking? Where are the problems and on what sort of crops and what sort of land?

[00:02:23] **Tim Pohlner - Agronomist** Well, I seem to be attacking every crop type, broadleaf crops are more susceptible because the growing point is above the ground, so when the slugs lop em’ off or eat them off at ground level they don’t shoot back like cereals do, canola's definitely the most sensitive crop and we did see some reasonable areas damaged last year. I think luckily enough, given some attention to detail and monitoring as well as myself, we were able to limit the damage that we're doing just through baiting. One big problem at the moments is just sourcing enough bait. There's no real other management practice to kerb slug damage, once it’s out of the ground, there's some cultural things we can do, tree planting, like burning stubbles and cultivation, but once the crops coming up and you find slugs, there's nothing really else you can do but bait.

[00:03:13] **Prue Adams** So with that in mind, what are you able to tell your clients, or is it just a head scratching exercise where you're just looking at the problem and going, I don't know what to do here?

[00:03:22] **Tim Pohlner - Agronomist** So, paddocks that we have had a slug history, they're probably easier to manage. We've been pre baiting straight after seeding, with quite a higher rate of bait than what was traditionally used and that's definitely helped a lot. Probably one of the easiest ways I reckon to monitor slugs is more so than trying to see the slug, because they're quiet nocturnal and hard to find through the day or dig up, is to monitor the bait. So once you've applied bait, they come back regularly just see how much baits on the ground. Once the baits starting to disappear and there's not much left in the paddock, you know that the slugs have eaten the majority of it and you need to re bait, especially once the crops get to a more mature stage, so canola, 6 to 8 weeks you can stop worrying about it so much. The plant's got the ability to cope with a bit more damage. But that establishment time up until the six leaf stage of canola, you really do just need to have that bait on the ground as a preventative protection for that crop.

[00:04:22] **Prue Adams** So we're midway through the year. Is there anything that you think that growers in your region can be doing at the moment, or is it too late?

[00:04:32] **Tim Pohlner - Agronomist** Oh, it's not too late. I haven’t got so many people that have lost whole crops, I've lost little spots, but nah they've been pretty good monitoring paddocks and applying bait when they see it. The bigger issue's paddocks that haven't seen slugs before and its catching growers out. So, they probably haven't been monitoring to the level that they should be on paddocks that haven't had the history of slugs. So once they come across it, the areas of damage are the bigger than, probably paddocks that we knew they were there and then had the preventive management. So I say that is probably one of the bigger issues with slugs when they move into areas that they weren't before. We're not probably managing them to the level that we should be, but to go on just apply slug bait over your entire farm, say north of Horsham, where we haven't seen a lot of slugs before, it's a huge investment for probably a sizeable part of the farm that didn't require it so, that's been an issue that's a bit hard to know exactly how to go about it.

[00:05:33] **Prue Adams** Thanks to Tim Pohlner, agronomist in Horsham. Next, I speak with Dr. Michael Nash, applied invertebrate ecologist and consultant to agriculture, looking at solutions for slugs and snails. I asked what is it about the current conditions which have contributed to a worse than usual problem with slugs in the grain growing regions?

[00:05:57] **Dr Michael Nash** Think the main driver is rainfall and particularly spring rainfall. So with the triple La Nina event and favourable spring conditions, we've seen late breeding. So slugs breeding right into November, particularly black keeled slugs where we used to think they only breed over winter. Clearly those spring conditions and abundance of crops has seen numbers build up and then we've seen the moisture profile being close to the surface. This season in 2023, it's taken very little rainfall at sowing and just after sowing to trigger those large populations to come to the surface and ravage the emerging crops.

[00:06:42] **Prue Adams** Because this is a few years in the making too, isn't it? We've had a few seasons that have been leading towards this?

[00:06:47] **Dr Michael Nash** Correct, particularly with the longer lived slugs such as the black keeled slugs. We've seen them really express their numbers this year and I've never seen them active in April in southwest Victoria. This year they were, but they seem to have still kept on coming, so we talk about that research from GRDC looking at the ecology of black keeled slugs and we used to talk about the 'Black Wave of Doom,' in May and June. I think we're still seeing that now, and particularly with wheat crops also being attacked this year. It's really an indication of really favourable conditions for the last two springs, 2021 and 22 that particularly seen black keeled slugs really express themselves this year with those favourable autumn conditions.

[00:07:35] **Prue Adams** So we're already halfway through the year. Is it too late to bait or too late to do anything? What can growers do at this point?

[00:07:43] **Dr Michael Nash** It's a really interesting question and again, the agronomists may have a different opinion on this, but how far in do you want to go? So canola in particular has become a very expensive crop to grow with the price of seeds, the price of fertiliser, the price of land, price of machinery, price of fuel and to spend a typical budget in south west Victoria of 60 to 80 dollars a hectare, is something that's budgeted for. But when you have to reapply bait not once but even twice, and when you have to apply it to wheat as well, you sort of start to look at the economics. So, I know some growers that have used long lasting baits and got very good results out of them, but particularly after beans doubles where slugs seem to really build up numbers a second or third application, so growers are up to $150. How deep do you want to go? And we know with colder conditions that traditional metaldehyde baits aren't as effective. We know with smaller slugs they aren't as effective. There are some new products on the market that are iron based that may provide some relief, but again, they're very, very expensive. So how far in do growers want to get? And that's where they need to have their discussions with their agronomists about, is it better to just walk away from a crop? And we're not talking large areas, you know, we're talking people with say programs of 2 to 300 hectares. They may have to be looking at resowing 30 to 40 hectares.

[00:09:08] **Prue Adams** So let's say growers have decided, okay, this season's a bit of a write off, maybe just for a part of their crop. What do they do in terms of putting a strategy in place so they don't go there again this time next year and the year after that? Like what is that long is a long term problem, isn't it? So it requires a long term solution.

[00:09:27] **Dr Michael Nash** Yes. And that's why we've been doing workshops and we'll continue to do workshops in the northern and western region looking at late winter spring monitoring to try and understand those seasons where there is extended breeding. So you do have a greater risk the following season. This may not be palatable message, but I think in some situations in high risk areas, not growing canola in risky paddocks, so growing canola after beans, so growing canola after faba beans in a high risk season is going to require a higher expenditure on bait. And unfortunately that's all we've got at the moment. We have not got good options to control slugs in the springtime. And so part of that systems approach, looking at crop rotations is very important in this and this is really the only tool we've got. I think this year a lot of growers using and implementing cultural practices. So again, tillage, putting gypsum on, burning, making sure that canola is sown in the best possible conditions so it gets out of the ground quickly, again are, all strategies that people should consider. But even taking on board all those little one percenters and applying good quality baits, there has been situations where it's come to a point with canola at $600 a tonne and bait at the price it is, where maybe economically they should look at other crops, alternative to canola in high risk seasons.

[00:10:52] **Prue Adams** So some growers have done all the things that have been suggested they should do and still, I'm told, have ended up with a problem with slugs. What can they learn from that? What can you learn from that? What are the opportunities out of something like that?

[00:11:08] **Dr Michael Nash** So I hate to admit it as the unknown quantity and a drip under pressure in a demonstration site, even I've have managed to lose five hectares out of 16 hectares of canola being grown in a bean stubble. So, I feel for growers out there when they're losing large areas and it hits their back pocket. I think we need to be looking at other strategies other than baits. They are one part of the solution, as a crop protectant. But we still need to be looking at springtime controls or systems approaches to limiting slug number build-up. So one of the things to come out of this season, is we've looked at a bait rate calculator and based on previous research that's been done for GRDC we've in theory calculated the amount of bait you need to put out is relevant to your slug population, particularly where you've got high numbers, particularly coming out of, say, canola into wheat or beans into canola, this season. The traditional rates of slug bait will only kill about 100 to 120 black keeled slugs per square metre, whereas it will kill 250 grey field slugs per square metre. And so industry has said, well, even though that's theory, that is actually making sense. So in some situations we've sort of seen calculations where reapplication at layable rates is required two or three times, so we have got some tools that we've developed and this year, being able to field test because of such high numbers. I mean, one of the farmers has said to me, we put a bait line down and we got to about a metre and a half and stop counting because we're already at 100 slugs. So the high densities out there have really reiterated the message that there are many factors that are important for baits to work and in these sorts of high pressure seasons, bait rate, is extremely important.

[00:13:05] **Prue Adams** If people want to know more, where can they go to find out more information about slugs at the moment?

[00:13:10] **Dr Michael Nash** GRDC has invested in extension of previous research that was done looking at the ecology of slugs, and that's available on a specific portal on the GRDC website for slugs and snails, where you can find a fact sheet and a back pocket guide. Also on that portal is links to update papers looking at the latest research, but also linking back to old research, such as applying nitrogen in a liquid form to keep slugs off wheat crops, that work was done in 2015 and extend an update in 2016, so all that information is housed on the GRDC website under that slug and snail portal.

[00:13:55] **Prue Adams** So take a look at that slug and snail portal. Thanks to Dr. Michael Nash and before him, Tim Pohlner this is a GRDC podcast. I'm Prue Adams. Thanks for listening.