MEMBER IN FOCUS – HARVEST LOSS REVIEW WITH SCOTT BOWMAN

Alana Hartley
Research and Development Coordinator
Liebe Group

HARVESTING efficiency and grain loss go hand in hand for Carnamah father-son duo Ian and Scott Bowman.

In harvesting efficiently, many growers face the challenge of losses from various parts of the harvesting machine. Grain may be lost from the header platform (rotor) due to poor threshing or when being sieved inside the header – spitting grain out the back end with the chaff and straw.

For crops such as wheat and barley, grains can be readily seen on the ground and an estimate of grain loss can be determined. Canola is considerably harder to see and therefore quantifying header losses can be even more difficult.

A current GRDC investment looking into tools for managing harvest losses is being led by Planfarm's Peter Newman. The project aims to quantify losses and determine the economic response curve to harvester operating speeds, settings and grain loss, using various grain loss tools available to WA growers. His research is currently looking at two harvest loss measurement systems available to WA growers – ScherGrain and Bushel Plus portable grain loss trays and his and other growers journeys can be followed on the @Harvestloss Twitter page.

Scott explained to Liebe Group Research and Development Coordinator, Alana Hartley, that harvester loss monitor calibration is important, as these sensors give the operator a visual indicator (like a fuel gauge) of how much the machine is losing and, to ground truth this using the harvest loss trays has been a useful tool to him this season.

When harvesting canola, Scott and Ian trialled both the ScherGrain and Bushel Plus harvest loss trays, with both providing good measurements when placed to collect material coming out of the rotor and off the back of the sieves. Utilising the trays, Scott says he is confident he can make a better decision when deciding how hard to push the header, especially in canola where the loss can be harder to quantify.

> 'When we set up the trays we were running the machines a bit more conservatively than we could have. We measured losses of around 10-15kg/Ha off the John Deere 9760 and around 35kg/Ha off the John Deere S680'.

'This seemed pretty good to us so we pretty much set the headers there for the rest of canola'.

Scott went on to say that while the trays gave him good numbers to base decisions off, everybody's optimum harvest efficiency would be different. 'We aim to finish by Christmas and have been having a relatively good run. Header capacity is also good for the scale of the business so, we don't need to run the headers any harder. If we had a few breakdowns in a row or bad weather was forecast we would probably accept more loss to get through it a bit quicker'.

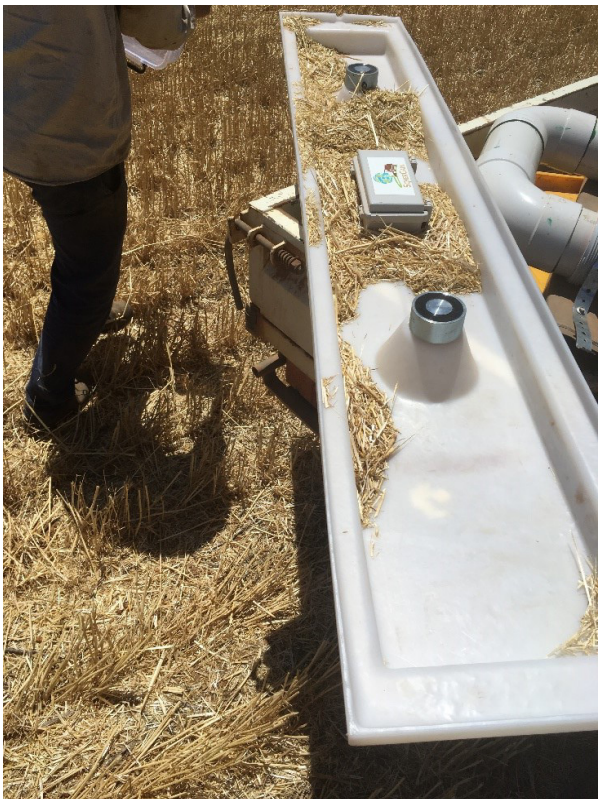
The Bowman family have noted that the harvest loss trays have been a useful tool to them and their harvest operations, but there are still improvements that could be made.

‘It really does take two people to do the assessment of what’s in the trays. Our current system is very ‘agricultural’ but it’s our first go at it, so it’ll get better. Other people have been doing it longer than us so we just made a rough copy of theirs and had a go. It’s also another job when you might already be tired or rushed from all of the other things that need your attention. Ideally we would take multiple measurements; for instance to quantify the spread pattern of rotor loss through the chopper. This is something we haven’t got around to doing yet’

‘The economics of using these trays in our farming business is going to take some time and more measurements’, Scott says. He is also keen to see what the outcomes are of Peter Newman’s research so that they can apply operation strategies to find the ‘sweet spot’ between harvesting speed and grain loss.

Rotor loss sensor

Attaching the ScherGrain harvest loss tray to measure rotor loss by collecting residue spread by the chopper



Chaff, straw and grain captured by the tray needs to be seperated before measuring grain loss

Separation of chaff and grain from the straw - requires a few homemade tools to do this effectively for cereals