

Chaff cart benefits improving management options

NEREE MARTINEZ, AUSTRALIAN HERBICIDE RESISTANCE INITIATIVE

Consistent use of a chaff cart as part of a holistic, integrated approach to cropping and weed management has reduced weed populations on WA grower Lance Turner's properties and increased his management options.

Lance and his wife Erin continuous crop wheat, lupins and barley on 5,500 ha spread over three properties about 200 kilometres east of Perth, where the average rainfall is 320 to 350 mm a year.

They got rid of their sheep about 20 years ago, shortly before Lance began to encounter problems with resistance to Group A and Group B herbicides in ryegrass. To combat this he tried incorporating a double knock (glyphosate followed by paraquat) ahead of seeding when conditions were right and applying high rates of trifluralin in barley. He even grew canola for a few years to get atrazine into the mix. However, these methods proved to be unsuccessful.

"We were dealing with such high weed numbers and had to include something to minimise weed seeds returning to the seedbank. Crop residue is king in our system so windrow burning wasn't really an option," Lance explained.

After completing an Australian Herbicide Resistance Initiative (AHRI) Ryegrass Integrated Management (RIM) workshop Lance decided to use a chaff cart at harvest to drive down weed populations.

Lance admits he initially had reservations about adopting a chaff cart due to the perception that it slows down harvesting and because of the extra work required burning chaff dumps, but in the six years since buying his first chaff cart he has developed a system that works well on his farms.

"We replaced the blower system with an elevator delivery system and found this improved chaff delivery into the cart, making the chaff cart much easier to use," Lance revealed.

The elevator delivery system allows some small straw into the chaff fraction which increases oxygen levels, resulting in a quicker, hotter burn and chaff heaps are

placed in a line across the paddock, which makes burning a lot easier.

Seed numbers

Lance saw a significant reduction in weed numbers within three years of using a chaff cart and is now able to dry-sow with confidence. In 2009 he dry-sowed 75% of his crops and this year began dry seeding on 18 April, something he would not have contemplated 10 years ago.

Using a chaff cart as part of his integrated weed management program is helping him maintain low weed numbers, which is reducing the selection pressure placed on herbicides and he believes he now has low levels of herbicide resistance across his farms.

It's inevitable that some weeds escape herbicide application or germinate after spraying, but 'the beauty of having a cart is that we have another opportunity to



TOP: LANCE WITH HIS CHAFF CART. (PHOTO COURTESY LANCE TURNER.)

ABOVE: LANCE HAS BEEN TRIALLING CROP SOWN ON WIDE ROW SPACINGS TO PROMOTE SUSTAINABLE USE OF WATER ON HIS HEAVY COUNTRY. (PHOTO COURTESY LANCE TURNER.)



ABOVE: THE ELEVATOR CHAFF DELIVERY SYSTEM SET UP ON LANCE'S FIRST CHAFF CART. RIGHT: LANCE'S NEW CHAFF CART DURING THE 2010 HARVEST. (PHOTOS COURTESY SANDY TURTON.)

target these weeds; it's our back-up plan.'

Lupins are also crop topped. "The combination of crop topping and using a chaff cart is similar to giving a double knock, but at harvest."

Investment

Lance bought a second chaff cart before harvest last year. "We never miss an opportunity to target weed seeds and plan to use a cart over every paddock on our farm."

His success in reducing weed pressure has opened the way for him to trial the use of wide row spacings in wheat and lupins to

encourage the sustainable use of water on heavy country. "We got a yield response from doing this a couple of years ago, so this year we sowed 1,600 ha on wide row spacings."

Importantly, Lance does not advocate the chaff cart alone as being a silver bullet for weeds or resistance management.

"Using a cart alone will not solve a resistance problem; it's simply another tool to help manage weeds. You need to take a whole system approach and implement as many different tactics as possible."



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