

Lance, Erin and Dylan Turner

Last opportunity to stop weeds from germinating next year

Owners	Lance, Erin and Dylan Turner
Location	Pingelly and East Corrigin, Western Australia
Farm size:	East Pingelly 2700 ha East Corrigin 2000 ha
Annual average rainfall:	East Pingelly 350 mm East Corrigin 320 mm
Soil types:	Corrigin: heavy red loam and gravelly ridges Pingelly: duplex
Crop program:	Barley 2900 ha, canola 1100 ha, lupin 400 ha, fallow 300 ha
Typical rotation:	Continuous barley at Corrigin where possible with strategic canola and fallow. Pingelly – Canola, Barley, Barley Lupin, Barley.

A Ryegrass Integrated Management (RIM) workshop in the 1990's instigated a shift in focus for Lance & Erin Turner in the way they approached weed management.



Lance and Dylan turner during harvest

Lance commented that "it didn't matter which way they manipulated the rotation, weed seed numbers were just going to increase."

During the RIM workshop Lance worked out that the only way that he could get his rotation to work was to add harvest weed seed control. Capturing weed seed at harvest and preventing it returning to the seedbank was a logical progression for the Turners and they began narrow windrow burning.

"We started continuous cropping in 1990 and in 1993 we confirmed our first population of ryegrass that was resistant to SU (Glean)", recalls Lance. "We were cutting the rate to save on costs and we paid the price for it. But we have never left a paddock out of crop because of weeds ever since". In 2003, Lance purchased a second-hand Cole chaff cart and converted it from a blower type chaff cart to an elevator system.



The Turners have towed chaff carts for 14 years.



A very wide row wheat trial (50cm) made possible by the very low ryegrass seed bank.

Fourteen years later they are still towing the chaff cart. In 2009 they bought a second header and actually bought the chaff cart before the header, highlighting the importance that this business places on HWSC. Seeding often begins by the calendar, with 50-100% of the program being dry seeded.

Lance stresses the importance of getting the crop as competitive as you can which in turn helps improve HWSC results. Increased seeding rates, selection of varieties and crop types that can compete well with weeds plays a significant role, with barley often grown on paddocks with a higher weed burden. He has found that sowing a competitive crop early in paddocks with emerging weed problems can be advantageous as the crop germinates in warmer conditions and is more competitive with weeds compared to paddocks that are later sown.

When the business expanded in 2009 and took on what had been a predominantly sheep enterprise east of Corrigin, the very high weed burden was a big challenge. With yields very dependent on the season east of Corrigin, harvesting lower biomass crops has challenged the Turners as it is much more difficult to capture weed seed in the header front as weed seeds are not held up in the crop.

While they are confident that they are capturing majority of weed seeds, their gut feel is that a lower percentage of weed seeds are captured in the header front in low yielding crops.

However, Lance says that over the nine years they have had this property, HWSC along with rotation, and the use of Clearfield crops has made a significant contribution to reducing the seedbank.



The chaff cart in action

Thin crops make it difficult to collect weed seed because some ryegrass can shed in wind and rain, and weeds tend to lie down below a harvestable height. Lance says HWSC is much easier with a thicker crop. Lance and Erin keep it simple and run the header fronts as low as possible, 'skimming' the ground. Then the reel helps to rake in grain and weed seed heads.

They aim for beer can height (13cm) harvest, but Lance says more often than not they cut the beer can in half.

The Turners also emphasise the need to keep captured weed seed in the header, and not lose it, blowing away in the straw fraction.

Lance sets the headers to run the rotor flat out, increasing the centrifugal force and run more aggressive concaves to get more weed seed onto the sieves so it is captured in the chaff cart.

Burning of chaff dumps is a fine-tuned process with good preparation (firebreaks) and good burning conditions meaning they are confident to burn large hectares in a day.

Although in the long term a HWSC option that doesn't involve burning chaff dumps such as the Harrington Seed Destructor is preferable.

The HSD is not labour intensive as the need to burn dumps is removed, and a 'one stop shop' for HWSC.

One advantage of HWSC for the Turners is that their average cost of herbicides is still low. They still utilise older chemistry but will target newer chemistry where required which allows them to diversify herbicide mode of action and keep costs down.

As Lance says, "it's the last opportunity to collect weed seeds to stop them germinating next year. The chaff cart is not a silver bullet, but it's a pretty bloody big lynch pin in the whole system".

Chaff piles lined up in the paddock ready for burning in Autumn

