

Ian & Anne, Stephen & Felicity Dolton

Big opportunity to capture weed seeds at harvest

Owners:	Ian & Anne, Stephen & Felicity Dolton
Location:	Bruce Rock, Western Australia
Farm Size:	6500ha 90% crop 10% sheep
Annual average rainfall:	320mm
Soil types:	sandy loam duplex. Salmon gum sands
Crop program (2017):	wheat 3000, barley 900, canola 1500 oats 400 lupins 200, pasture 500
Typical Rotation:	varied depending on paddock

Harvest weed seed control (HWSC) for Stephen Dolton of Bruce Rock is just part of the system.



Stephen Dolton during harvest

Twelve years ago, he began narrow windrow burning. After burning the entire farm one harvest, a difficult task to get right everywhere, he decided to look for alternatives, leading to a chaff cart purchase in 2007.

The chaff cart was used over every crop, every year since. Before adopting the chaff cart, wild radish was the most dominant weed on the farm, now Steven says it's not even in the top five weeds. "Radish went from number one weed to not in the top 5 in about 5 years. In fact, we didn't spray 20% of program this year for radish."

It has meant that using robust herbicide options and HWSC, there has been less requirement to use a two-spray strategy to control wild radish, saving time and money. Grasses have been more difficult to quantify but HWSC has definitely made a difference. "At the end of the day it's a numbers game." While the chaff cart does slow down harvest, Steven says it's something that they don't really notice anymore, because they have been doing it for so long and have ironed out initial problems.



Given the smaller sheep operation, the full value of grazing chaff piles is not fully realised. "Burning chaff dumps is a major operation and we ensure that good firebreaks are in place and fire can't get away. This is another operation that we must do to prepare paddocks for the following crop, but at this stage we feel that it is worth the effort."

One concern of Steve's is making sure that weeds get in the header front. This is challenging when crops yields are low and weed seed is difficult to capture with the header front.

"If you're not trying to do something (HWSC) it's a big opportunity lost, and if you're not capturing weed seed then you're still not achieving anything." Steve harvests paddocks with a high weed burden first to ensure they are harvested before weed seeds shed.

"Wind and rain significantly decreases the amount of ryegrass that can be captured by the header front."

Cutting stubble low (8-12cm off the ground) is key and has the additional benefits of improving trash flow at seeding and the efficacy of pre-emergent herbicides. According to Steve, a well set up front is critical to HWSC, significantly contributing to successfully capturing weed seeds at harvest.



The header front itself needs to be set up with a well set up knife and knife guards to allow a clean cut and not knock weeds and grain off the knife. Primary Sales extension fingers are something that is very handy to help capture as much as possible. Towing the chaff cart means header speed is automatically reduced, but allows a better cut and increased capture of weed seeds. The challenge going forward is working out which form of HWSC to use with a second header. While a chaff cart is something that they are very comfortable with and know works, other options that don't require post-harvest management are very attractive.

Over time, harvest weed seed control has become a very important part of an integrated weed management strategy for the Dolton's, playing a large role in reducing weed burdens over the farm.

