

## Impact of chaff lining/tramlining on the seed persistence and emergence of weeds

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**Summary** Chaff lining and chaff tramlining are forms of Harvest Weed Seed Control (HWSC) that, owing to their low cost and ease-of-implementation, have potential for wide-spread adoption. The chaff environment is likely to be suboptimal (compacted soil and chaff covering) for seed persistence and seedling establishment, therefore, this practice has the potential to be as effective as other forms of HWSC in driving down weed seed banks. To examine the efficacy of chaff lining and chaff tramlining treatments, a series of field experiments were set up at three locations (Wagga Wagga, Narrabri and Irongate) during the 2017 harvest. The aim of these studies was to investigate the survival of 100 seed lots of annual ryegrass, brome grass, wild oats, wild radish, turnip weed,

and common sowthistle placed under chaff lines and tramlines of wheat, barley, chickpea, canola and lupin. Using chaff collected from two of the field sites, pot trials will be conducted to examine the emergence of annual ryegrass under different chaff types (wheat, barley, canola and lupin) and increasing amounts of chaff (equivalent to 0, 3, 6, 12, 18, 24, 30 and 42 t ha<sup>-1</sup>). In the face of worsening herbicide resistance, chaff tramlining, as a form of HWSC, is likely to be an effective tactic for improved control of key weeds of Australian cropping systems.

**Keywords** Chaff lining, chaff tramlining, harvest weed seed control, annual ryegrass, brome grass, wild oats, wild radish, turnip weed, common sowthistle.