

# MILL EFFICACY OF AUSTRALIAN ANNUAL RYEGRASS VS. NORTH AMERICAN ANNUAL RYEGRASS

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Newly released research by the Redekop Research team compares the efficacy performance of the SCU with Australian annual ryegrass (*Lolium Rigidum*) and the annual ryegrass found in the Americas (*Lolium Multiflorum*).

Annual Ryegrass (*Lolium Rigidum*) typically found in Australia's small grains production systems was first discovered to be glyphosate resistant and is difficult to eliminate partially due to its tough seed coat and ability to quickly adapt to its environment. Ryegrass seed was gathered throughout Australia and the Americas to be methodically tested and compared at different chaff throughput rates with the results grown out in a controlled environment.

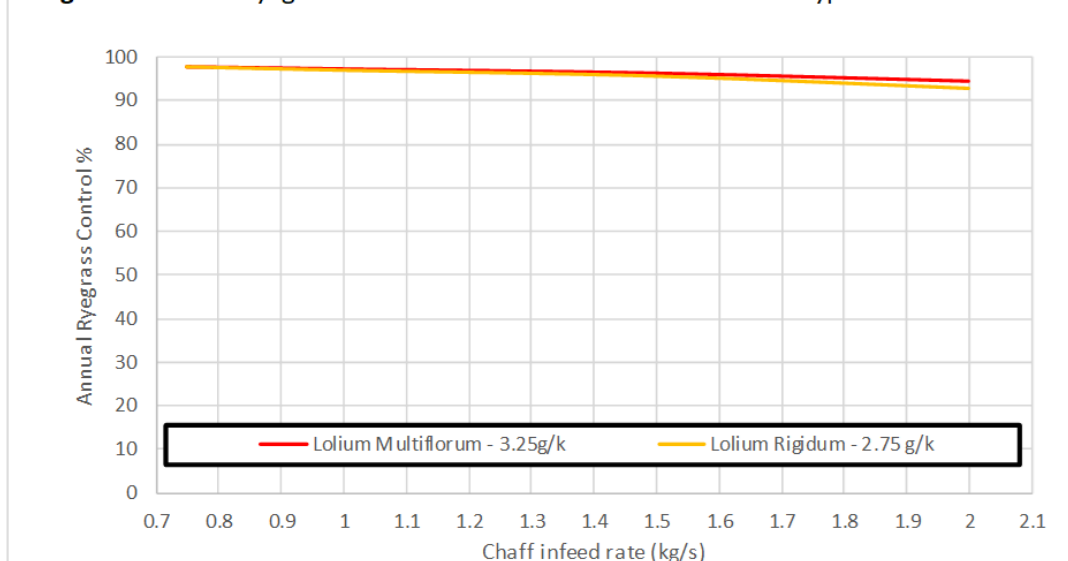
## TESTING PROCESS

Chaff was spread out evenly on a conveyor belt and weed seeds were added to the middle 80% of the chaff row. The SCU was brought up to the recommended speed, and once stable the conveyor delivered the wheat chaff into the mills at a typical harvest rate of 1.0 kg/s, and alternate rates of 0.75, 1.5 and 2 kg/s corresponding to 75%, 1.5x and 2x the typical rate. The chaff was caught as it exited the mill using a 500-micro mesh bag. The chaff and weed seeds collected were mixed 1:1 with potting mix and remained in a green house for 12 weeks. A minimum of 40% of each test was grown out to ensure an accurate seed count. All tests were triple replicated. Annual Ryegrass seed tested: 1. *Lolium Multiflorum* - Annual Ryegrass - 3.25g /1000 seeds. 2. *Lolium Rigidum* - Annual Ryegrass - 2.75g /1000 seeds

**Table 1:** Individual treatment efficacy (%) for annual ryegrass control vs. seed type

| Chaff infeed (kg/s) | <i>Lolium Multiflorum</i> - 3.25g/k | <i>Lolium Rigidum</i> - 2.75 g/k |
|---------------------|-------------------------------------|----------------------------------|
| 0.75                | 98%                                 | 98%                              |
| 1                   | 97%                                 | 97%                              |
| 1.5                 | 96%                                 | 96%                              |
| 2                   | 94%                                 | 93%                              |

**Figure 1:** Annual Ryegrass control vs chaff feed rate vs weed seed type



## RESULTS

**Answer:** Although the *Lolium Rigidum* ryegrass seed was 15% smaller than *Lolium Multiflorum* ryegrass seed there was not any significant change in annual ryegrass control with the SCU. *Lolium Rigidum* control is very similar to *Lolium Multiflorum* - **there is no significant difference.**