

AXIAL[®] Wild Oats Selective Spray Topping



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With the new later crop timing registration of AXIAL[®] for the Selective Spray Topping of Wild Oats in wheat and barley, growers now have the ability to manage Wild Oat seed numbers and viability later in the season than was previously possible.

Wild Oats are highly competitive weeds, and even in low numbers they are able to cause significant crop yield losses. It has been calculated that a Wild Oat population of 100 plants per square metre can result in a yield reduction in excess of 25%.

The seedling germination of Wild Oats is controlled by short term seed dormancy, which is generally broken when the temperature reaches the range of 10-26°C and there is sufficient soil moisture. The largest germinations are generally in May and June however they can germinate periodically throughout the rest of winter and into spring.

In min-till situations, most Wild Oat seed is found in the top 1-5 cm of soil. Wild Oat seed in this area of the soil does not persist for long periods. Research has shown that about three quarters of the seed bank in the top 10 cm of soil is lost after one year, and 98% after two years, without any seed replenishment.

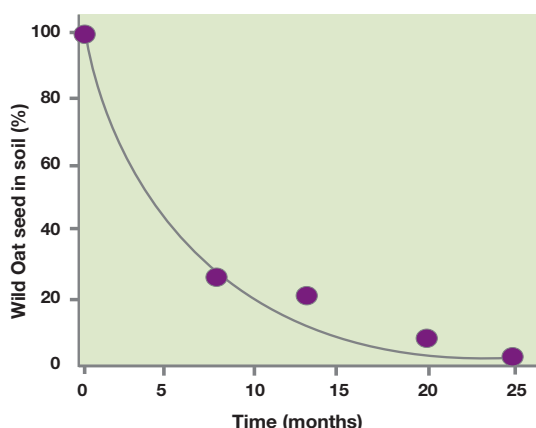


Fig. Persistence of wild oat seeds in the soil with no replenishment.

Soil samples were collected at regular intervals from a farmer's paddock in the North Star district. (Source: S Walker, QLD DPI&F, Toowoomba)

Wild Oat seed reproduction rather than seed carryover is the main mechanism of persistence in Wild Oat



populations. Wild Oats are prolific seed producers and one plant can produce 225 seeds and an infestation can produce 20,000 seeds/m² (McGillion & Storrie 2006).

Therefore to manage Wild Oats, you need to minimise the number of viable seeds returning to the soil.

Selective Spray Topping (SST)

Selective Spray Topping is the relatively late use of a selective herbicide in crop to reduce the amount of viable seed returning to the seed bank.

Wild Oat top resistance continues to increase, and cross-resistance to Flamprop-m-methyl continues to be found. The registration of AXIAL for SST provides growers with a crop-safe, flexible, effective and less environmentally influenced tool to minimise Wild Oat seeds returning to the seed bank.

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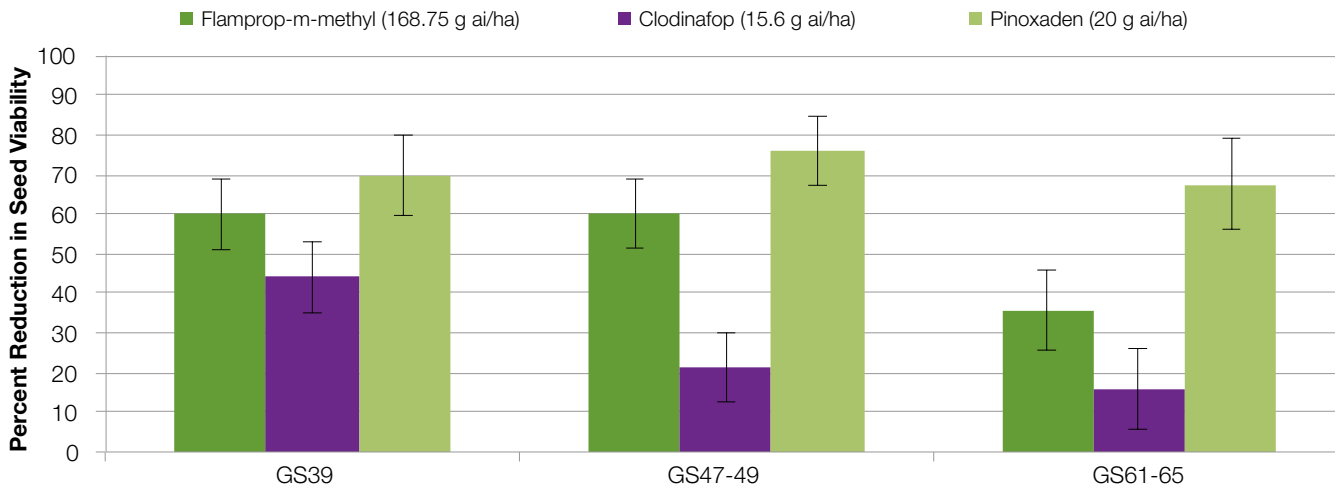
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AXIAL can now be applied in wheat and barley at 200 mL/ha from stem elongation (GS30) to flag leaf sheath opening (GS47) of the Wild Oats. This gives AXIAL one of the widest application windows for Wild Oat control of any product in cereals. Note: this application must be made no later than when the first awns are visible (GS49) of the crop.

AXIAL SST Results

In trials and commercial use to date, AXIAL has been equal to or better than Flamprop-m-methyl in reducing Wild Oat panicle numbers and reducing seed viability. When applied at GS31, AXIAL has provided a 100% reduction in the number of Wild Oat panicles present and when applied at GS47, there has been a 80% reduction in the amount of viable seed returning to the seed bank.

Applications of AXIAL earlier in the SST window will have a greater impact on the number of panicles present, while applications closer to GS47 will see a greater reduction in the amount of viable seed produced.



Mean of 15 field trials conducted during 2008 and 2009 across WA, SA, VIC, NSW and QLD. Left hand column represents reduction in seed viability (%).

AXIAL SST use pattern

- Crops:** Wheat and barley
- Rate:** AXIAL 200 mL/ha + 0.5% ADIGOR
- Crop timing:** 2 leaf (GS12) to first awns visible (GS49)
- Wild Oats timing:** Stem elongation (GS30) to flag leaf sheath opening (GS47) of the Wild Oats



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