

Wet weather favors greater infestation of grain crops by perennial broadleaf weed species, which can be both persistent and difficult to control with herbicides. One relatively inexpensive control strategy has been to use fall applied 2,4-D; however, wet weather can also delay seeding and extend maturity, often meaning that harvest and fall applications of 2,4-D are postponed. Delaying application of high rates of 2,4-D increases the risk of residues remaining in the soil and potentially damaging sensitive crops such as canola, field peas and flax. In fact, fall 2,4-D applications at even the lowest rates are not recommended for either canola or flax due to the high risk of crop injury. In the case of field pea, early fall applications at low rates are not likely to cause crop injury, but late fall and early spring applications should be avoided.

Field trials were conducted at Indian Head, Melfort, Scott, Prince Albert, and Redvers, Saskatchewan in 2013 and 2014 to demonstrate the frequency and extent of damage to canola, field pea and flax arising from high rates of fall-applied 2,4-D. The demonstrations were replicated small plot trials with rates of 0, 85, 170, 340, and 680 g 2,4-D amine per acre. Treatments were applied during the last week of September or early October. In the following spring, canola, flax (or lentil at 1 site), and pea were seeded into the plots and evaluated for residual effects from the 2,4-D. The observed effects of fall applications of high rates of 2,4-D amine were unexpected in that no significant reductions in emergence, seedling injury or negative impacts on seed yield were observed with any of the crops evaluated. However, these results should not be considered conclusive evidence that such applications are safe, even in heavy soils or under good moisture conditions. Previous research has shown that fall applications of 2,4-D preceding these crops can cause significant injury and yield reduction, particularly at high rates required for effective perennial weed control. While these results suggest that the risks traditionally associated with 2,4-D applications preceding flax, field peas and canola are less than expected and injury may not always occur, without further study this must still be considered an unsafe practice which should generally be avoided.

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Figures: Canola, flax, and peas at Indian Head (2013) treated with 680 g/ac of 2,4-D amine the previous fall.