

Fall dormant seeding with polymer seed coating falls short

Several previous research studies have found that premature germination is the major yield-reducing factor for fall dormant seeded canola. However, researchers hypothesized that polymer seed coating (PSC) technology could delay and reduce the risk associated with late fall or early spring germination – factors that reduce plant stand and yield. If successful, PSC could allow farmers to seed canola in the fall to spread out the workload, and to take advantage of potential yield benefits over spring seeded canola.

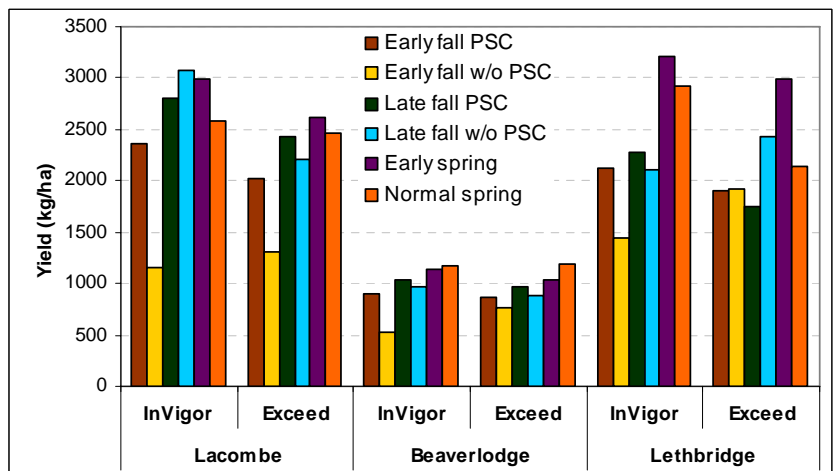
Field experiments were conducted at Lacombe, AB (1999–2001), Beaverlodge, AB (1999–2001) and Lethbridge, AB (2000–2001) to evaluate PSC technology relative to time of seeding. The cultivars used were InVigor 2153 (hybrid) and Exceed (open-pollinated). The time of seeding and seed coatings were early fall seeding (Oct. 08 to 23) with and without PSC, late fall seeding (Oct. 25 to Nov. 21) with and without PSC, early spring seeding (Apr. 19 to May 03) without PSC, and normal spring seeding (May 03 to 24) without PSC.

Highest yields with early spring seeding

The research found that while PSC did provide some benefit in delaying germination until spring for fall seeded treatments, average yield varied considerably across treatments. Despite the variation, some general patterns were observed. Early spring seeding had the highest average yields. Spring seeding (early or normal)

generally produced higher average yields than fall seeding (with or without PSC). Late fall dormant seeding (with or without PSC) had higher average yields than early fall. The lowest yield was consistently associated with early fall seeding without PSC.

For producers, the research shows that PSC technology for use with fall dormant seeding falls short of early spring yields and net returns. Fall dormant seeding without PSC cannot deliver consistently high yields, either, and net returns will be lower if seeded too early. For best canola yields, producers are advised to shift their canola seeding dates from normal spring seeding to early spring seeding – as early in the spring as possible.



Average canola yields (kg/ha) from selected seeding decisions across locations and by cultivar.

Note: 1 bushel/acre = 56 kg/ha.

Source: Upadhyay, B. M., Smith, E. G., Clayton, G. W., Harker, K. N., O'Donovan, J. T. and Blackshaw, R. E. 2005. Economic evaluation of seeding decisions in hybrid and open-pollinated herbicide-resistant canola (*Brassica napus*). *Can. J. Plant Sci.* 85: 761–769.