Good Value from Certified Hybrid Canola Seed?

George Clayton[1], Stewart Brandt[2], K. Neil Harker[1], John O'Donovan[3], Robert Blackshaw[4], Kim Stonehouse[5] and Cecil Vera[6].

Agriculture and Agri-Food Canada: [1]Lacombe, [3]Beaverlodge and [4]Lethbridge, Alberta;
Agriculture and Agri-Food Canada: [2]Scott, and [6]Melfort, Saskatchewan:
East Central Research Foundation: [5]Canora, Saskatchewan
E-Mail: claytong@agr.gc.ca or brandts@agr.gc.ca

Summary

Innovation with canola is advancing rapidly, including herbicide tolerance, hybrids and more highly effective seed treatments. These changes have increased seed costs substantially prompting some growers to question whether farm saved seed is a suitable cost saving option. With open pollinated [OP] cultivars, farm saved seed would be expected to be very similar to the original cultivar. Experience with other hybridized crops suggests this would not work well with hybrid canola cultivars. None of the farm-saved progeny [F2] would be the same as the parent hybrid [F1], resulting in loss of hybrid vigour. There could also be changes in crop stature, maturity, disease resistance and crop quality. Some highly effective seed treatments used on most certified seed are unavailable for use on farm saved seed. For this reason, the farm saved seed issue becomes confounded with seed treatment. There is considerable speculation that selecting only large seed from a lower yielding OP variety or from farm saved seed from a hybrid, effectively overcomes much of the yield advantage of hybrids. Others have speculated that some of the advantage of hybrids could be overcome by using higher seed rates with farm saved seed from a hybrid crop.

A research project was initiated to evaluate the implications of using farm saved seed from canola hybrids rather than Certified seed to produce a canola crop. We also attempted to identify whether this practice differs from using farm saved seed of open pollinated cultivars. Experiments were conducted at Scott, SK. and at Lacombe AB. in 2004, and at Scott, Melfort and Canora SK and Lacombe, Beaverlodge and Lethbridge AB in 2005. One experiment compared Helix-treated Certified and Farm Saved seed of the 2 cultivars at 2 rates of seeding [120 & 240 viable seeds per m^2]. A second study compared Certified seed, sized and unsized, treated with Helix and farm saved seed that was either untreated or had Helix [insecticide and fungicide], Foundation Lite [fungicide only], or Gaucho [insecticide and fungicide] seed treatment. In 21 of 25 comparisons during 2004 and 2005, yield of certified hybrid was greater than farm-saved seed where both were treated with Helix seed treatment. Without Helix the yield loss of the farm saved compared with Certified hybrid seed [5-24 bu/ac] typically exceeded any potential savings even with $5 per bushel canola. Hybrid seed was most beneficial, particularly when canola was under stress. No benefit from using larger seed was noted for any seed lot. Seed treatment had little impact on performance of any of the seed lots likely because fleabeetle and seedling disease pressure was low. An overall summary of this work will be available in late winter 2006.