Recent surveys indicate that approximately half of all western Canadian canola growers have crop densities of less than 40 plants per square metre (about 4 plants per square foot), yet optimal, consistent yields require a minimum of 50 plants per square metre.

Adding to stand establishment challenges is that, in recent years, canola seed size has increased substantially. Seed weights greater than 6 g per 1,000 seeds are not uncommon. Large seed means a lower number of seeds per square metre are planted if seeding rate is based just on pounds per acre, and this approach could run the risk of less than 50 plants per square metre.

A three-year study investigated the influence of seed size on seedling emergence, and canola yield and quality. In 2013, direct-seeded experiments were conducted at nine western Canada locations. Four canola seed sizes (1,000-seed weights ranging from 4.0 to 5.7 g) and one unsized treatment (4.4 g average) were seeded at two rates (75 and 150 seeds per square metre).

At the time of research, the largest seed available wasn’t representative of the largest seed size available in the marketplace. In 2014 and 2015, two seed sizes were compared at sixteen western Canadian sites; averaging 3.4 g for small seed and 5.2 g for the large seed and five seeding rates (50, 75, 100, 125 or 150 seeds per square metre).

Increasing the seeding rate of small canola seed improved canola yield (2014-15 results). For large seed, seeding rate regression effect was not significant.

When it comes to crop biomass, there was no interaction for seed size and seeding rate, so results are averaged over seed size. (2014-15 data)