

When to Swath

Research indicates that the optimum stage to swath is up to an average of 60% seed colour change (SCC) on the main stem. Delaying swathing of any canola variety up to this stage can typically improve yield and quality through increased seed size, reduced green seed and higher oil content, while avoiding economic shattering losses prior to or during swathing. This enables growers with large canola acreages to wait for at least 30% SCC to swath their first fields and still finish their last fields within the optimum swathing stage.

Seed colour. It is more important than the exterior plant or pod colour when determining the stage of maturity. Visual plant or pod colour will vary among varieties and growing conditions. Some varieties can appear ripe on the outside before the seeds are mature. Hot and/or dry weather at ripening can increase this tendency.

Seed in all pods on a plant reach physiological maturity and complete filling at about 40% moisture. Physiologically mature seed loses moisture at about 1 to 3% per day. Seeds slowly turn from green to light yellow, reddish-brown, brown or even black, depending on the weather and variety.

Seed colour change will typically increase about 10% every two to three days. It can occur more rapidly under hot, dry conditions, while it may take much longer with good moisture and cool temperatures due to delayed seed dry down. The crop is at the optimum swathing stage for only three to five days under good drying weather.

Uneven maturity. Variations in plant emergence, field topography, soil type and soil moisture levels can contribute to a wide range in the maturity of plants within a field. Delay swathing of the least mature areas or plants until there is at least some seed colour change in the lower pods (and firm green seed in the least mature pods), provided this does not put the crop at risk of frost damage or excessive shattering of the ripest plants.

Avoiding green seed. Extreme temperatures (either hot and dry or frost) in fall can lead to rapid desiccation of plant cells, which deactivates the enzymes that clear chlorophyll from the seeds. When conditions are hot (30°C or higher) and dry, avoid swathing. Swathing during the cool evening to early morning hours allows plants in the swath to dry down at a slower rate and reduces the chance of downgrading due to green seed.

If conditions are cool in late August or early September and significant frost is forecasted, swathing prior to the frost event as early as 10% seed colour change may reduce green seed. Drying of the swath will lower seed moisture content and help prevent damage, but sufficient drying to provide protection will likely take about three days under normal conditions. However, canola seed does not continue to fill while the plants cure in the swath. If the seed has not accumulated its full complement of oil and protein at the time of swathing, no further accumulation will occur in the swath and some potential yield will be lost from immature seed even if the frost does not occur.



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Canola Swathing Guide

For more information on managing canola swathing and harvest, contact your local Canola Council of Canada Agronomy Specialist, sign up to our Canola Watch email newsletter, go to www.canolacouncil.org or call toll-free at 1-866-834-4378.

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Main Stem

Seed Colour Change

Assess the Field



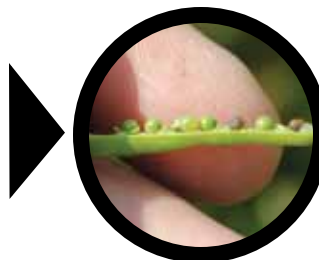
Illustration for determining seed colour change

The seeds in the pods near the top of the plant will look like this.



The seeds are still green, but should be firm. They should not crush easily when rolled between the thumb and forefinger.

Immature translucent seeds like the ones in this pod will shrink substantially in the swath, resulting in reduced yield.



The seeds in the pods approximately half way up the plant will look like this.

Note that there are seeds with colour (tan, brown) on them. These seeds are considered to be "turned."



The seeds in the pods at the bottom of the plant will be "turned" and look like this.



The change in seed colour from green to yellow, reddish-brown, brown or black (depending on the variety and growing conditions) indicates they have completed filling and seed moisture content is declining. This is more important than other visual indicators like overall plant, pod or field colour in determining the stage of crop maturity, because the combination of genetics and environmental conditions can cause some varieties to appear ripe on the outside before the seeds are sufficiently mature.

Tips for assessing seed colour change:

1. Start inspecting your canola field approximately 10 days after flowering ends. The end of flowering is reached when only 10% of plants have any flowers remaining.
2. Take time to assess a field. Sample at least 5 plants in several locations throughout the field to make an accurate assessment of the overall maturity of the crop. Stand on the road or in the back of your truck box to help identify the ripest and least mature areas of the field (e.g. low lying vs. higher elevated areas of the field,) and ensure these areas are included in your sampling.
3. Use the illustration to assist in determining seed colour percentage on the main stem. Include seeds with small patches of colour (spotting). Also look for firm seeds in the top pods that should roll between the thumb and the forefinger without being easily crushed.
4. Low plant populations can lead to plants with numerous branches (see picture top right). For these plants assess not only the main stem, but side branches as well to ensure seeds that are still green are firm with no translucency.
5. Once all areas are sampled, average out the percent seed colour change for that particular field. Also note the range in maturity observed among sampling locations.
6. Continue inspections every two to three days until ready to swath.

Swathing and Harvest Tips

1. **Anchor your swaths.** Leave as much stubble height as possible and use a swath roller to help anchor the swath and reduce risk of wind damage. Smooth the top of the swath and tuck the edges into the stubble, but be careful not to push the swath tight onto the ground.
2. **Prevent bunching.** Adjust canvas speed and widen the swather opening as needed to prevent bunching at the desired speed of travel. Match reel speed to ground speed to minimize shattering during swathing.
3. **Allow time for curing.** The crop needs time to cure after swathing. Lack of moisture and cool temperatures will slow enzyme breakdown of chlorophyll in the seed. Start checking green seed levels about 8 to 10 days after swathing, though they may take up to three weeks or more to drop to acceptable levels for harvesting.