



Canola Harvest Methods

Canola is ready to harvest at seed moisture content between 8 and 10 percent and should be harvested promptly due to the risk of pod shattering from wind and severe weather.¹ Most of the canola grown in the northern Great Plains and Canada is swathed prior to harvest due to the need for accelerated, uniform dry-down.² However, with warm, windy conditions of the southern Great Plains, direct combining is the most common method for harvesting canola for that area.³ Swathing can still be an option for southern areas when risk of pre-harvest shattering is high. Other canola harvesting methods include pushing and desiccation.

Direct Combining

Direct combining works well when the crop is relatively heavy, tall, partially lodged or with pods “laced” together. Also, direct combining is most successful when the crop matures evenly and crop density is uniform. These conditions reduce the risk of pod drop and pre-harvest shattering.

Canola should be cut just below the seed pods to reduce the amount of green material entering the combine. The reel should be set as far back over the grain table as possible to reduce the effects of shattering by the header. The reel speed should match ground speed and placed just far enough into the seedpods to lightly pull the crop onto the grain table. Direct combining canola is at a slower speed compared to combining wheat.

Start with the settings for rapeseed or canola in the operator’s manual. Adjustments should be made based on what is coming out the back of the combine. Check for grain losses ahead of the combine (shattering), behind the header (header loss), and behind the combine (tailings). Always refer to the manufacturer’s operating manual before performing any adjustments.

Harvest should begin based on seed color and seed moisture content. Waiting until all seed pods are brown and dry may result in potential yield loss. Do not wait until the stems dry down to begin combining.

Advantages of direct combining include:

- Usually results in the highest quality, oil, and potential seed yields.
- Can harvest during hot, dry conditions and still maintain high-quality seed.
- One-pass harvest using the same equipment as wheat harvest.
- Decreased risk of diseases, or poor drying and maturing, compared to swathed canola.

Disadvantages of direct combining include:

- Must harvest when the crop is ready.
- Wet fields or inclement weather may delay harvest which increases the risk of shattering.

Swathing

Swathing is generally implemented in cool areas where dry-down may be slow. A pull-type (Figure 1) or self-propelled draper swather should be used; do not use a swather with a crimper. Cut the crop just below the seed pod area so adequate residue remains to hold the windrow above the ground and increase airflow for ripening. Later the swaths can be harvested with a combine equipped with a pickup header (Figure 2). Depending on drying conditions, combining may occur about 7 to 14 days after swathing or until seed moisture content is 8 to 10%.^{1,3}



Figure 1. Swathing canola with a roller. Photo courtesy of M. Stamm, Kansas State University.



Figure 2. Combine with a pick-up header used for swathed canola. Photo courtesy of M. Stamm, Kansas State University.

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Seed color change is used to determine when canola is ready to swath (Figure 3). The optimum time for swathing is when the crop is between 40 to 60% seed color change with 30 to 40% seed moisture content.^{1,3} Consider swathing during the cooler morning or evening hours, which allows the seed to dry down at a slower rate.



Figure 3. Canola pods with various seed colors.

Advantages of swathing canola include:

- May be the preferred harvest method for fields with thin stands that have uneven maturity.
- Earlier harvest (8 to 10 days) compared to other methods which may increase the potential for double-cropping in some geographies.
- Lower risk for yield losses due to shattering and wind damage compared to standing canola.

Disadvantages of swathing include:

- Potential yield and oil content may be reduced because the stems are cut prior to grain fill completion. Research has indicated a 10% yield reduction when plots were swathed at the optimum stage compared to direct combining.³
- Additional equipment and a two-pass harvesting process.
- Light, fluffy field windrows can be picked up and blown by the wind.

Pushing

A canola pusher is a convex shield mounted on the front of a tractor. The goal is to lean or “push” the plant over (forced lodging), but not resulting in a kink or pinch in the canola stem, therefore allowing grain fill to continue. Canola plants that have been pushed lay about 1 to 2 feet from the soil surface and are held in place by other plants. The result allows for airflow around the plant and continued seed ripening. A standard combine header may be able to be used for combining but the header width should match the width of the pusher.

Advantages of pushing include:

- The grain continues to fill and may have a higher potential yield and seed quality when compared to swathing.
- Pushing can be accomplished in less time with less expensive equipment compared to swathing.
- Best for tall dense canola crops.

Disadvantages of pushing include:

- Canola must fully ripen before combining, increasing the risk for shattering.
- Canola pushing does not increase the ripening process.
- Harvesting is slower because more material goes through the combine.
- Harvesting takes place low to the ground surface level, generally leaving the least amount of standing stubble when compared to other harvesting methods.

Desiccation

Herbicides can be used as a desiccant prior to harvest to even out maturity differences within a field, control weeds, and stop growth when excessive lodging exists. Desiccation should take place when 85% of the seeds on the main stem have turned color from dark green to reddish-brown, brown, or black. Always follow pesticide label directions. Generally, any canola that is run over from ground herbicide application will be lost. However, desiccation can be a viable option when conditions are not favorable for swathing or pushing, and the standing crop needs to be harvested promptly.

Sources: ¹ Stamm, M., Roozeboom, K., and Holman, J. 2013. Harvest management of canola. MF3092 Kansas State University Research and Extension. <https://www.bookstore.ksre.ksu.edu/>.
² Stamm, M. and Godsey, C. A comparison of direct combining and swathing winter canola prior to harvest. Kansas State University Research and Extension; Oklahoma State University. <http://www.uscanola.com/>.
³ Boyles, M., Peeper, T., and Medlin, C. Harvesting Oklahoma winter canola swathing vs. direct combining. Oklahoma State University. <http://canola.okstate.edu/>.
⁴ Boyles, M., Peeper, T., Bushong, J., and Sanders, H. Harvesting options for winter canola. Publication PSS-2154. Oklahoma Cooperative Extension Service. <http://pods.dasnr.okstate.edu/>.
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Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** 160125143101 092018DLB