

Management practices

to increase oil content in your canola crop

1. Use high oil genetics.
2. Find the best fertility balance.
3. Seed early.
4. Harvest later.

Some canola growers earn extra cash for their canola because it has a higher oil content. Typically, these incentives take the form of a premium paid to

the grower if oil content hits a targeted level. As this type of bonus becomes more common, you need to know exactly what management practices help increase canola oil content and which do not.

✓ HIGH OIL PRACTICE #1 USE HIGH OIL GENETICS.

Breeders are beginning to drive up oil content in new genetics. Canola crushers have taken note and some are creating bonus programs that focus on particular varieties with high oil genetics.

Traditionally canola varieties have been chosen based on yield and other performance characteristics. Seed guides and other sources of variety information typically have not provided information on oil content. To capture an oil premium, start by looking at the types of oil bonus programs offered by crushers in your area. Individual companies will be the best source of information on their oil bonus programs.

Chart 1 shows a subset of data from the 2007 WCC/RRC report. When low and high oil varieties are grown under the same environmental conditions and management practices, oil content will be higher in high oil varieties. Selecting a variety with genetics for higher oil content does increase the chance of growing a crop that will reach a specific oil content target.

Variation in oil content does exist and is influenced by both environmental

conditions and crop management. As such, canola oil content will vary from location to location within a growing season. However, as can be seen in Chart 1, high oil genetics consistently produce higher oil content than low oil genetics when compared under the same environmental conditions and crop management.

Weather has a significant impact on oil content. One long-term weather study showed that in-season precipitation impacted oil content positively – with every 1 ¾ inches of rain adding 1% of oil. The flip side is that every 1 ¾ inches shortfall in rain will lead to a decrease in oil. Very high temperatures mid- to late-season can also decrease oil content and/or quality.

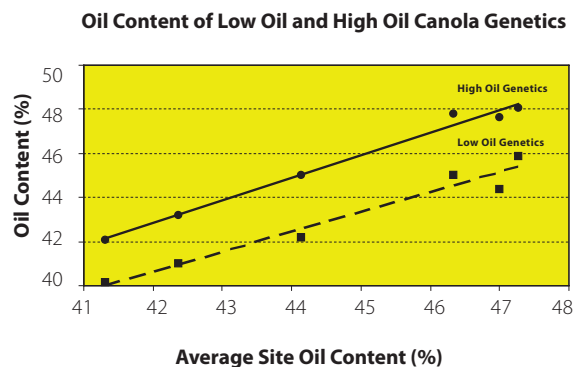


Chart 1: Comparison of oil content potential of low and high oil genetics.

Both rainfall and adverse temperatures can ultimately hurt oil quantity and quality, which may offset or neutralize oil boosting efforts. However, the right combination of management practices will make it possible to produce a high oil content canola crop.



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✓ HIGH OIL PRACTICE #2

FIND THE BEST FERTILITY BALANCE.

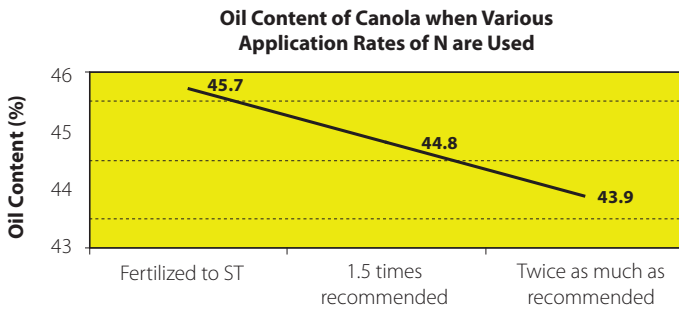


Chart 2: Oil content of canola when N is applied to soil test for targeted yield versus at 1.5 to 2 times targeted application recommendations.

You already know that all elements of fertility must be balanced. But when it comes to maximizing oil, pay special attention to N. The best oil content comes from using enough nitrogen but *not too much*. Too much N drives down oil content. However, keep in mind that higher N rates do increase canola yield, and higher yield may more than offset the profit you would make from an oil content premium.

Over six field seasons, Canola Council of Canada (CCC) agronomists compared fertilizer applications of N, P, K and S at a range of target yield/soil test recommendations to over-application of the same elements. The practice that best maximized oil content was applying N as recommended by the soil test – and to not over-apply N (see Chart 2). These trials found that ensuring adequate available S was essential as well.

✓ HIGH OIL PRACTICE #3

SEED EARLY.

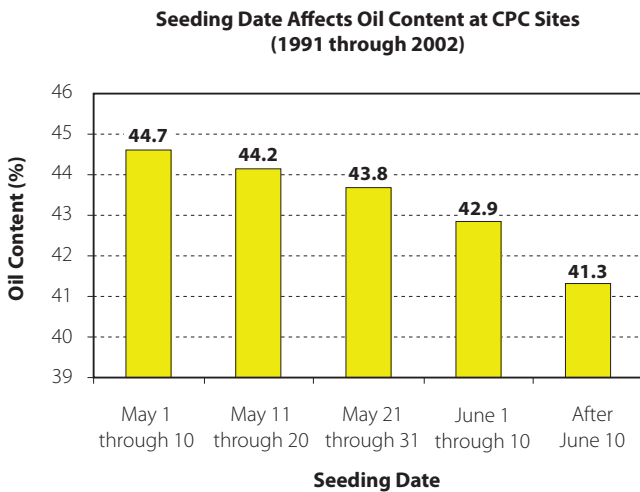


Chart 3: Early seeding leads to higher oil content.

Seeding early also drives up oil content. It simply gives the crop more time at the end of the season to produce oil and store it in the seed.

Chart 3 shows results of work conducted at the CCC Canola Production Centres. Seeding canola between May 1 and May 10, versus May 21 - 31, produced almost a full percentage point more oil.

Combining early seeding with early weed control can increase the odds of attaining both high oil and high yield. CCC trials showed that spraying weeds at the 2 to 4-leaf stage, in combination with early seeding, resulted in higher oil content.

✓ HIGH OIL PRACTICE #4

HARVEST LATER.

The best time to swath is when average seed colour change on the main stem is 50 - 60%. To be considered sufficiently changed in colour, green seeds must have visible patches of colour or spotting.

The benefit of commencing harvest at 50 - 60% seed colour change can be seen in Table 1 on the next page.

In CCC trials, oil content was an average of 1% higher in crops swathed at 50 - 60 versus 30 - 40% seed colour change.

Straight combining has a positive impact on oil content because delaying harvest even further allows for a longer period of oil deposition in the seed. However, this benefit must be balanced against the potential for harvest losses from shattering or pod drop.

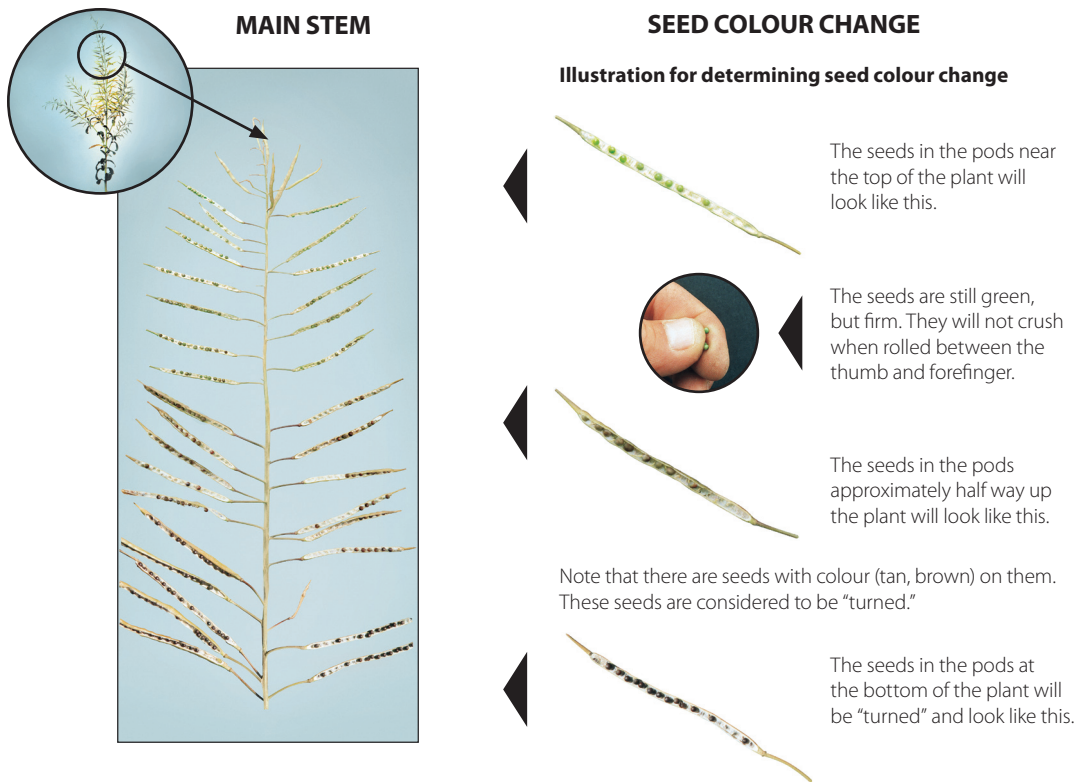


Figure 1: Ideal time to swath for maximum yield and quality.

YEAR	LOCATION	SWATH TIMING – % COLOUR CHANGE			
		30 to 40	40 to 50	50 to 60	OIL +/-*
2000	RUSSELL	49.8	51.2	50.8	1
2000	GRENFELL	47.1	46.5	46.8	-0.3
2000	VEGREVILLE	45.8	46.5	46.8	1
2000	RYCROFT	45.8	48.4	48.4	2.6
2001	DAUPHIN	40	40.4	40.3	0.3
2001	GRENFELL	43	43.4	43.9	0.9
2001	N BATTLEFORD	43.1	45	45.1	2
2001	VEGREVILLE	44.5	45	45.1	0.6
2001	BEISEKER	39	39.1	39.2	0.2
2001	ROLLA	43.3	44.5	44.1	0.8
AVERAGE		44.1	45	45.1	1.0

Table 1: The benefit of commencing harvest at 50 - 60% seed colour change

*Difference in oil content between swathing at 50-60% and 30-40% seed colour change.