

Aspects influencing the choice of canola cultivars in 2018

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When choosing a canola cultivar, producers should bear in mind that the season determines the speed of physiological development. As a result, the Swartland region and Southern Cape will differ each year. It is also important that cultivars maintain their position in relation to other cultivars – fast cultivars must remain fast and slow cultivars must remain slow. *Table 1* contains a summary of the characteristics of all locally tested cultivars.

When choosing a cultivar, it is important for producers to know whether

seed of their cultivar of choice is available and whether it is a proven cultivar that has previously been tested in the national cultivar trials. Yield potential and yield over years are summarised in *Table 2* and 3. The ideal is to compare more than one year's data.

In addition, it is important to evaluate the cultivar's performance in the Swartland and Southern Cape region, as it is an indication of adaptability.

Hybrids are the preferred choice

Open pollinated cultivars are almost unobtainable, and were not tested in 2017. Hence the choice of

cultivars resides mainly in the hybrid group, as hybrids are more vigorous with a higher yield potential.

Weeds that exhibit resistance, can determine cultivar choice. Producers must plan properly beforehand and consider weed history before deciding on a cultivar. A chemical herbicide programme is determined by the type of cultivar (conventional, TT and CL).

Conventional and CL cultivars are more vigorous than TT cultivars. Average yields obtained from the first two groups, were approximately 10% higher than the TT group in 2017.

Table 1: Characteristics of cultivars tested from 2015 to 2017.

Cultivar	Type	Year 1st test	Days to flower			Days to end flowering (Long.)	Black stem index #	Black stem index + Jockey #	Black stem resistance group #	
			Rùens	Swartland	Growth period.					
CB Agamax	Hybrid Conv	Agricol	2008	96	72	med. early	med. early	ms ²⁰¹⁴	mr ²⁰¹⁴	AB
Hyola 50	Hybrid Conv	K2 Seed	2009	98	77	med.	late	r ²⁰¹⁶	r ²⁰¹⁶	AD
CB Tango	Hybrid Conv	Agricol	2013	91	66	early	early	ms ²⁰¹⁴	mr ²⁰¹⁴	B
Belinda	Hybrid Conv	Bayer	2014	100	76	med.	med.	-	mr ^s	-
Diamond	Hybrid Conv	Agricol	2015	90	65	early	early	mr ²⁰¹⁷	-	ABF
Hyola 575 CL	Hybrid CL	K2 Seed	2011	97	75	med. early	med. late	r ²⁰¹⁷	r ²⁰¹⁵	BF
45Y88 CI	Hybrid CL	Pioneer	2013	103	80	med. late	med. late	ms ²⁰¹⁷	r-mr ²⁰¹⁷	A
44Y89 CI	Hybrid CL	Pioneer	2014	100	74	med.	early	mr ²⁰¹⁷	r ²⁰¹⁷	BC
Hyola 577CL	Hybrid CL	Barenbr.	2014	103	79	med. late	late	r ²⁰¹⁶	r ²⁰¹⁵	B
44Y90 CI	Hybrid CL	Pioneer	2016	100	76	med.	early	r-mr ²⁰¹⁷	r ²⁰¹⁷	B
45Y91 CI	Hybrid CL	Pioneer	2016	103	80	med. late	med.	mr ²⁰¹⁷	r ²⁰¹⁷	B
43Y92	Hybrid CL	Pioneer	2017	98	72	med. early	early	w-mr ²⁰¹⁷	r ²⁰¹⁷	B
CB Atomic HT	Hybrid TT	Agricol	2013	99	77	med	med.	ms ²⁰¹⁵	mr ²⁰¹⁵	AB
Hyola 555 TT	Hybrid TT	K2 Seed	2011	94	74	med. early	early	mr ²⁰¹⁴	r ²⁰¹⁴	D
Hyola 559 TT	Hybrid TT	Barenbr.	2014	96	75	med. early	late	r-mr ²⁰¹⁷	-	ABD
Hyola 650 TT	Hybrid TT	Barenbr.	2017	99	75	med.	late	r ²⁰¹⁷	-	ABD
AG4510 TT	Hybrid TT	Agricol	2017	97	75	med. early	med.	ms-mr ²⁰¹⁷	r ²⁰¹⁷	BF
CHTB2112 TT	Hybrid TT	Agricol	2017	98	71	med. early	early	-	r-mr ^s	-

w = resistance; mr = moderate resistance; ms = moderately susceptible; s = susceptible. # Data from Australia in "Blackleg Management Guide Fact Sheet - Western and Southern Regions" (2014-2017). Swartland black stem data was used when no other data is available.

Table 2: Swartland seed yields expressed as a percentage for 2015 to 2017.

	2015	2016	2017		2016 & 17		2015-2017	
Diamond	125	112	108	1	110,3	1	115,3	1
Belinda	103	101	103	3	101,7	3	102,3	3
CB Tango	111	103	105	2	104,0	2	106,3	2
Hyola 50	102	102	100	4	100,7	4	101,2	5
Agamax	105	102	98	5	99,9	5	101,6	4
44Y90		106	114	1	110,0	1		
45Y91		109	104	4	106,7	2		
Hyola 577CI	88	90	95	7	92,4	6	90,8	4
44Y89	120	105	106	2	105,5	3	110,2	1
45Y88	84	103	100	6	101,6	4	95,8	3
Hyola 575 CI	98	96	100	5	98,1	5	97,9	2
43Y92			105	3				
Hyola 559 TT	93	91	90	5	90,6	2	91,3	1
CB Atomic HT	89	90	89	6	89,9	3	89,6	2
Hyola 555TT	82	90	94	3	92,2	1	88,9	3
Hyola 650 TT			93	4				
AG4510 TT			95	1				
CHTB2112 TT			94	2				

Table 3: Rûens seed yields expressed as a percentage for 2015 to 2017.

	2015	2016	2017		2016 & 17		2015-2017	
Diamond	125	112	108	1	110,3	1	115,3	1
Belinda	103	101	103	3	101,7	3	102,3	3
CB Tango	111	103	105	2	104,0	2	106,3	2
Hyola 50	102	102	100	4	100,7	4	101,2	5
Agamax	105	102	98	5	99,9	5	101,6	4
44Y90		106	114	1	110,0	1		
45Y91		109	104	4	106,7	2		
Hyola 577CI	88	90	95	7	92,4	6	90,8	4
44Y89	120	105	106	2	105,5	3	110,2	1
45Y88	84	103	100	6	101,6	4	95,8	3
Hyola 575 CI	98	96	100	5	98,1	5	97,9	2
43Y92			105	3				
Hyola 559 TT	93	91	90	5	90,6	2	91,3	1
CB Atomic HT	89	90	89	6	89,9	3	89,6	2
Hyola 555TT	82	90	94	3	92,2	1	88,9	3
Hyola 650 TT			93	4				
AG4510 TT			95	1				
CHTB2112 TT			94	2				

The rate of physiological development and, in particular, the number of days until flowering and flowering period, are important. Early moisture will occasionally be available in the Rûens, which could lead to fast cultivars being planted too soon. In areas experiencing brief rainfall periods, short growth season cultivars should preferably be planted (Table 1).

It is recommended that producers in areas with high black stem risk, plant cultivars with good black stem resistance (Table 1 and Canola Focus 51). In 2017, the occurrence of black stem in the Swartland and Southern Cape was higher than during the previous season. Alternating cultivars with different resistance genes are recommended.

Few cases of sclerotinia occurred in 2017. Yet the sclerotia (the source of infection) are still present in the soil and the disease will re-occur if the climate is favourable. The disease should be managed (see *Canola Focus* 63). Sclerotinia is a common disease in the Rûens and there is unfortunately no resistant cultivar available. The Swartland is showing an increased occurrence of sclerotinia.

Information and characteristics of the cultivars are contained in Table 1. The information includes days to flowering and flowering period. The black stem index is divided into two columns. The second column shows the black stem index after seed has been treated with the seed treatment agent, Jockey® or Galmano. Where international information for specific cultivars is not available, local data was used. The last column indicates the resistance genes of cultivars with the best black stem resistance.

Higher yield

The yield per cultivar, expressed as a percentage of the area average for 2015 to 2017, is summarised in Table 1 and 3. In 2017, 14 of the 18 cultivars were tested for two or more seasons.

In the Swartland, the conventional cultivar Diamond (110,3%) and the CL cultivar 44Y90 (110%) had the highest average percentage yield over the last two seasons. The TT cultivar with the highest percentage yield for 2016 and 2017 in the Swartland, was Hyola 555 TT, followed by Hyola 559 and CB Atomic HT. The best cultivars in their respective groups measured over three seasons were Diamond (conventional), 44Y89 (CL) and Hyola (TT).

In the Rûens, the conventional cultivar Diamond (114,8%), followed by the two CL cultivars 44Y90 (110,9%) and 45Y91 (110,6%), had the highest percentage yield (measured against the Rûens average) the past two seasons. The TT cultivar with the highest percentage yield for 2016 and 2017 in the Rûens was CB Atomic HT (89%), followed by Hyola 559 TT (88,8%) and Hyola 555 (88,4%). The best performing cultivars in their respective groups measured over three seasons were Belinda (conventional), 44Y89 (CL) and CB Atomic (TT). 🌱

Source acknowledgement:
Canola Focus 80: December 2017