

Chickpea Varieties for Western Canada

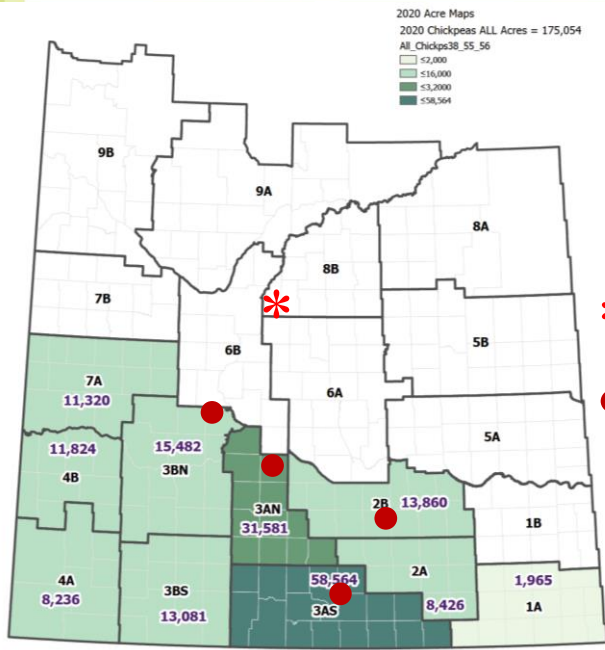
Bunyamin Tar'an



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2020 SK
 chickpea
 acreage



* Saskatoon main
 breeding station

● Chickpea breeding
 nurseries:
 Elrose
 Lucky Lake
 Moose Jaw
 Limerick

SK Specialty Crop Report
 (2020)



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The main goals of the chickpea breeding program in Canada:

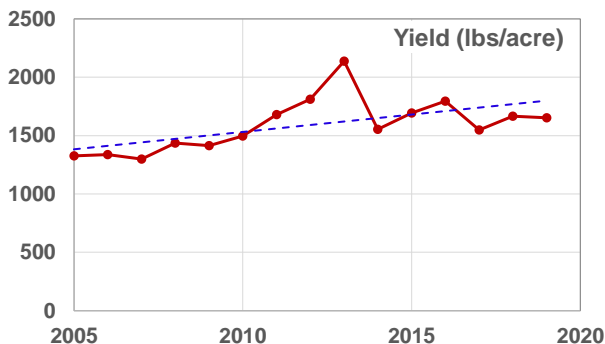
- Competitive advantage for farmers:
Yield (x seed size) x price
- Reduced risk and minimized production cost:
ascochyta blight resistance; early maturity;
abiotic stress tolerance
- Ease of management: herbicide tolerance;
plant stature
- Seed Quality



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Chickpea yield, SK



Gain at the farm level: 26 lbs/acre/year (2005-2019)

Source: SK Crop Stat



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Chickpea

Main Characteristics of Varieties

Variety	Years Tested	Yield (% Amit)		Ascochyta Blight ²	Height (cm)	Days to Flower	Maturity	Seed Weight (g/1000)	Seed Shape ³	Seed or Seed Coat Colour ⁴	Tolerance to Solo ADV (imazamox) herbicide
		Area 1 ¹	Area 2 ¹								
Kabuli											
Amit (B-90) ☉	19	100	100	4.4	47	56	L	258	Ro	B	no
CDC Alma	12	92	91	6.0	41	53	L	363	RH	B	yes
CDC Frontier	19	107	104	4.5	45	55	L	350	RH	B	no
CDC Leader	15	107	105	4.5	42	54	M	390	RH	B	no
CDC Luna	18	98	100	5.7	40	53	ML	368	RH	B	no
CDC Orion	14	105	102	5.6	44	50	L	428	RH	B	no
CDC Palmer ☽	10	105	100	4.9	42	52	ML	415	RH	B	no
Desi											
CDC Consul	13	111	108	4.0	46	53	M	299	P	LT	no
CDC Cory	12	112	106	4.3	47	56	M	268	A/P	T	yes

¹ Area 1: Brown soil zone; Area 2: Dark Brown soil zone; see map on page 2.

² Ascochyta Blight at pod filling period: 0-9 scale; 0 = no symptom; 9 = plants are completely blighted. Scores 4-6 are considered intermediate resistance (I).

³ Seed shape: Ro = Round; RH = Ram-head; P = plump; A = angular.

⁴ Seed or seed coat colour: B = beige; LT = light tan; T = tan.



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Performance of Chickpea Varieties in 2019 - 2020

Market class	Variety	Yield 2019 (8)	Yield 2020 (4)	1000 Seed Weight 2019 (3)	1000 Seed Weight 2020 (3)	Ascochyta 2019 (4)	Ascochyta 2020 (3)
Kabuli	Amit (B-90) ^	100	100	265	228	5.1	4.4
	CDC Frontier	106	111	352	332	4.8	4.6
	CDC Leader	99	90	368	372	5.2	5.3
	CDC Orion	99	47	388	403	5.6	6.7
	CDC Palmer^	107	87	403	394	5.3	5.5
Desi	CDC Consul	105	100	292	263	4.6	4.5



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New Releases

Year	Name	Type	Yield	1000 Seed weight (g)		Ascochyta blight		Tolerance to imazamox herbicide
				2019-2020	2019	2020	2019	
2019	CDC Lancer	K	107	396	367	5.2	5.0	Yes
2020	CDC Orkney	K	105	411	361	4.6	5.1	Yes
2021	3647	K	104	326	328	4.8	4.7	Yes
2021	3652	K	86	528	423	4.8	5.1	Yes
2021	2510-2	D	103	286	296	4.9	4.5	Yes
2021	2570-2	BD	100	248	242	4.2	4.9	Yes



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2020 release



**CDC Orkney
(1748-1)**

- Yield: 105 of Amit (2019-2020)
- 386 g/1000 seeds similar to CDC Leader (2019-2020)
- Ascochyta blight score = 4.9 (better than CDC Leader and CDC Palmer)



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2021



3647

- Small seeded kabuli
- Yield 104% of Amit (2019-2020; 10 station-year)
- Seed weight = 327g/1000 seeds
- Ascochyta blight = 4.8 (2019-2020)
- Earlier maturity than Amit



3652

- Large kabuli (476g/1000 seeds; ~10 mm)
- Yield: 86-90 % of Amit (2019-2020)
- AB = 5.0 (2019-2020)



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2021 desi/specialty chickpeas



2570-2

- Black seed coat desi
- Yield 100% of Amit (2019-2020)
- Seed weight = 245 g/1000 seeds
- Ascochyta blight = 4.6 (2019-2020)
- Earliest maturity of all Regional Entries



2510-2

- Desi type
- Yield: 103 % of Amit (2019-2020)
- Seed weight= 291g/1000 seeds
- AB = 4.7 (2019-2020)



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Acknowledgments: Pulse Breeding and Research Support



Government
of
Saskatchewan



Acknowledgments:

- CSFL Pulse Breeding Staff
- Kernen Research Farm/Breeder Seed Staff
- Cooperators → Breeding Trials and Breeder seed increase
- CDC Pulse Pathology group
- Grain Innovation Lab.



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