Table 1. Functional properties[a] of whole pulse and cereal flours.

Flour Type	Oil Binding Capacity (g oil/g flour)	Water Hydration Capacity (g H_2O/g flour)	Foaming Capacity (%)	Foaming Stability (%)	Emulsion Activity (%)	Emulsion Stability (%)
Kabuli Chickpea	1.40 ± 0.08	1.02 ± 0.07	173 ± 9.4	83.5 ± 0.6	20.7 ± 4.1	96.0 ± 5.7
Desi Chickpea	1.53 ± 0.43	1.09 ± 0.06	193 ± 13.0	83.5 ± 0.1	20.5 ± 4.4	90.3 ± 19.6
Green Pea	1.81 ± 0.01	1.37 ± 0.01	175 ± 16.5	79.0 ± 2.0	20.1 ± 1.0	96.4 ± 5.1
Yellow Pea	1.88 ± 0.20	1.13 ± 0.04	166 ± 3.5	72.9 ± 2.0	21.5 ± 4.9	90.6 ± 2.4
Red Lentil	1.90 ± 0.01	1.23 ± 0.01	203 ± 0.0	77.3 ± 0.8	21.2 ± 1.5	93.1 ± 5.1
Faba Bean	1.93 ± 0.07	1.01 ± 0.01	176 ± 1.2	75.8 ± 0.5	25.7 ± 2.9	89.1 ± 1.2
Durum Wheat	1.39 ± 0.04	1.13 ± 0.01	146 ± 19.9	16.3 ± 2.2	16.3 ± 1.0	97.7 ± 2.3
CWRS Wheat	1.50 ± 0.14	1.13 ± 0.05	199 ± 9.2	28.7 ± 2.2	17.2 ± 2.6	77.3 ± 3.6
Hull-less Barley	1.62 ± 0.22	1.42 ± 0.05	149 ± 0.8	20.2 ± 2.3	5.0 ± 0.5	83.1 ± 1.4
Oat	1.51 ± 0.13	1.16 ± 0.09	125 ± 4.8	39.2 ± 3.1	6.9 ± 0.3	52.2 ± 5.0

	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown Viscosity (RVU)	Final Viscosity (RVU)	Setback Viscosity (RVU	Pasting Temperature (ºC)
Kabuli Chickpea	92.25± 2.17	86.75 ± 1.58	5.48 ± 0.58	115.67 ± 0.50	28.83 ± 1.08	6.25 ± 0.00
Desi Chickpea	71.67 ± 6.33	70.08 ± 4.25	1.61 ± 2.08	89.83 ± 7.92	19.75 ± 3.67	6.67 ± 0.25
Green Pea	62.42 ± 1.33	62.33 ± 1.33	0.08 ± 0.00	100.67 ± 3.67	38.33 ± 1.08	6.50 ± 0.08
Yellow Pea	60.75 ± 1.17	60.75 ± 1.17	0	97.83 ± 0.08	37.08 ± 1.08	6.50 ± 0.08
Red Lentil	92.00 ± 0.08	82.42 ± 0.25	9.67 ± 0.08	138.75 ± 0.50	56.33 ± 0.75	6.17 ± 0.00
Faba Bean	39.17 ± 3.42	39.17 ± 4.08	0	71.75 ± 6.25	32.58 ± 2.08	6.17 ± 0.17
Durum Wheat	130.17 ± 17.75	86.75 ± 13.17	43.42 ± 4.50	254.82 ± 28.67	168.08 ± 15.50	7.33 ± 0.00
CWRS Wheat	109.83 ± 2.67	69.58 ± 3.50	40.25 ± 6.25	174.17 ± 5.50	104.58 ± 2.00	7.42 ± 0.00
Hull-less Barley	241.67 ± 16.92	110.33 ± 10.08	131.33 ± 6.92	321.00 ± 39.25	210.67 ± 29.25	7.25 ± 0.08
Oat	279.33 ± 11.75	171.25 ± 18.58	108.17 ± 6.83	418.08 ± 3.42	246.83 ± 15.17	7.50 ± 000

[a]Data represents two biological replications analyzed in duplicate

Adapted from Stone et al. (2019) *A comparative study of the functionality and protein quality of a variety of legume and cereal flours.* Cereal Chemistry.

Please note that flour functionality will vary as a result of:

- Pulse Type & Variety
- Agronomic Practices
- Growing Environment
- Milling Method & Applied Settings
- Processing History
- Storage Conditions
- Analytical Method

Table 2. Pasting and functional properties of whole and split yellow pea flour milled with various methods.

Parameter[a]	Seed Type	Milling Method				
		Stone	Hammer	Coarse Pin	Fine Pine	Roller
Pasting Properties						
Peak Viscosity (RVU)	Whole	103.5 ± 4.07	128.8 ± 5.66	160.0 ± 3.36	173.3 ± 0.65	175.1 ± 0.59
	Split	110.42 ± 0.83	137.00 ± 1.06	189.63 ± 0.18	192.21 ± 4.65	228.42 ± 3.77
Hot Paste Viscosity (RVU)	Whole	89.5 ± 2.42	105.5 ± 2.59	130.1 ± 2.59	130.7 ± 0.41	134.3 ± 0.47
	Split	103.17 ± 1.65	123.92 ± 1.53	173.04 ± 1.47	173.30 ± 5.48	187.88 ± 3.12
Breakdown (RVU)	Whole	13.9 ± 1.65	23.3 ± 3.06	38.8 ± 1.48	42.6 ± 0.23	40.8 ± 0.12
	Split	7.25 ± 0.82	13.09 ± 0.47	16.59 ± 1.65	18.92 ± 0.83	40.55 ± 6.89
Final Viscosity (RVU)	Whole	134.3 ± 3.42	159.0 ± 1.88	185.9 ± 1.77	181.5 ± 0.30	211.1 ± 2.82
	Split	175.29 ± 3.95	212.29 ± 2.42	338.06 ± 8.42	339.04 ± 5.71	349.59 ± 2.95
Setback (RVU)	Whole	44.7 ± 1.00	53.5 ± 0.71	55.8 ± 0.30	50.8 ± 0.71	76.8 ± 2.35
	Split	72.13 ± 2.30	88.38 ± 0.88	166.22 ± 6.53	165.75 ± 0.24	161.71 ± 0.18
Pasting Time (RVU)	Whole	4.9 ± 0.05	4.8 ± 0.05	4.7 ± 0.05	4.8 ± 0.04	4.7 ± 0.00
	Split	5.49 ± 0.05	5.19 ± 0.09	5.25 ± 0.10	5.28 ± 0.14	5.05 ± 0.10
Functional Properties						
Starch Damage (%starch)	Whole	1.1 ± 0.03	1.0 ± 1.01	1.0 ± 0.03	1.4 ± 0.01	2.8 ± 0.11
	Split	1.54 ± 0.02	1.31 ± 0.00	1.24 ± 0.04	1.50 ± 0.01	2.98 ± 0.01
WAC (g H_2O/g flour)	Whole	1.9 ± 0.05	1.6 ± 007	1.3 ± 0.01	1.3 ± 0.00	1.4 ± 0.00
	Split	1.12 ± 0.04	1.12 ± 0.06	1.04 ± 0.01	1.04 ± 0.01	1.35 ± 0.03
OAC (g oil/g flour)	Whole	0.8 ± 0.01	0.9 ± 0.01	1.0 ± 0.02	0.9 ± 0.00	0.9 ± 0.03
	Split	0.76 ± 0.01	0.74 ± 0.01	0.82 ± 0.01	0.77 ± 0.01	0.82 ± 0.01
Foam Stability (%)	Whole	58.1 ± 6.29	60.0 ± 1.63	58.2 ± 0.66	51.9 ± 5.24	59.2 ± 10.68
	Split	63.5 ± 19.02	75.0 ± 3.96	59.4 ± 22.10	69.3 ± 25.16	65.9 ± 6.51 ±
Foam Capacity (%)	Whole	16.5 ± 2.12	21.5 ± 2.12	15.0 ± 7.07	13.0 ± 1.41	18.0 ± 2.83
	Split	20.0 ± 8.49	23.0 ± 1.41	18.0 ± 2.83	21.0 ± 4.24	20.0 ± 14.14
Emulsifying Activity (%)	Whole	43.4 ± 3.69	42.6 ± 2.62	35.8 ± 2.67	36.5 ± 0.84	38.7 ± 2.62
	Split	47.0 ± 2.62	43.1 ± 2.69	44.9 ± 1.07	43.8 ± 5.16	42.8 ± 0.28
Emulsifying Stability (%)	Whole	10.0 ± 0.57	7.4 ± 3.04	9.1 ± 4.88	16.7 ± 7.86	8.1 ± 4.31
	Split	36.3 ± 2.05	29.4 ± 1.84	18.4 ± 0.00	13.4 ± 4.87	16.6 ± 3.82

[a]Data represented as the mean of duplicate analysis ± standard deviation

Adapted from Maskus et al. (2016) *Effects of grinding method on the composition, physical, and functional properties of whole and split yellow pea flours.* Cereal Foods World.