

DISTRIBUTION OF FREE SUGARS IN VEGETABLES

				% Fresh Basis							
Code No	Common Name	Scientific Name	Variety	Total					Unidentified	Unidentified	
				Solids	Glucose	Fructose	Sucrose	Raffinose	Stachyose	Sugar #1	Sugar #2
1	Asparagus	<i>Asparagus officinalis</i> L.	Mary Washington	8.99	1.02	1.40	0.30			0.02(N0.36)	
2			UC 309	9.30	0.82	1.20	0.26				
3	Beet	<i>Beta vulgaris</i>	Perry's Detroit Dark Red	11.17	0.08	0.12	6.64	0.06	0.04		
4			Ruby Queen (size 3)	11.20	0.28	0.20	5.58				
5	Broccoli	<i>Brassica oleracea</i> var. <i>botrytis</i>	Primo	12.28	0.60	0.52	0.40	0.10	0.18	0.10(N 0.34)	
6			Spartan Early	11.08	0.86	0.87	0.50				
7			Waltham 29	12.51	0.74	0.62	0.36	0.16	0.22	0.06(N0.22)	0.06(N0.34)
8	Brussel sprout	<i>Brassica oleracea</i> var. <i>gemmifera</i>	Jade Cross	11.72	0.52	0.60	0.40	0.16		0.10(N0.35)	
9			Long Island Improved								
			Catskill Strain	11.19	0.80	0.90	0.42	0.22		0.20(N 0.35)	
10	Cabbage	<i>Brassica oleracea</i> var. <i>capitata</i> Linn.	Early Head	5.97	1.40	1.14	0.26			0.10(N0.08)	
11			Glory 61	6.62	1.62	1.06	0.02				
12			Red	9.06	2.06	1.74	0.50	0.10	0.06		
13			Special Golden Acre	7.42	1.72	1.40	0.16	0.06		0.08(N 0.34)	
14	Chinese cabbage	<i>Brassica pekinensis</i>	Michihli	5.04	0.82	0.64					
15	Carrot	<i>Daucus carota</i>	Danvers 126	12.42	0.92	0.94	4.24				
16			Imperator 408	12.49	0.74	0.84	4.50			0.03(N0.56)	
17			Nantes Long Strain	11.45	0.92	0.82	3.68				
18			Red Core Chantenay	11.64	0.82	0.80	4.54				
19	Cauliflower	<i>Brassica oleracea</i> var. <i>botrytis</i>	Agway Early Snow Ball	7.92	1.06	0.98	1.02				
20			Seneca Snow Ball	8.49	0.62	0.50	0.54	0.06	0.08	0.08(N 0.34)	
21			Super Snow Ball	7.75	0.81	0.74	0.46	0.02		0.02(N 0.34)	
22	Celery	<i>Apium graveolens</i>	Early Fortune	8.37	0.36	0.36	0.24				
23			Tall Green Light	8.67	0.68	0.64	0.28				
24			Tall Utah 52-70	7.84	0.44	0.30	0.42				
25	Cucumber	<i>Cucumis sativus</i>	Ashley	4.40	0.82	0.82	0.08				
26	Cucumber		Crusader	3.50	0.87	0.97	0.07				
27			Spartan Dawn	3.56	0.88	0.80	0.04			0.02(N0.15)	
28			SMR 18	2.36	0.88	0.86	0.04			0.02(N0.11)	
29	Dandelion	<i>Taraxacum officinale</i>	Wild	14.17	0.50	0.38	1.46			0.12(N0.28)	
30	Eggplant	<i>Solanum melongena</i> var. <i>esculentum</i>	Black Beauty	7.68	1.36	1.36	0.08			0.11(N 0.34)	
31			Black Magic	9.29	1.66	1.70	0.42				
32	Endive	<i>Cichorium endivia</i> Linn.	Green Curled	5.60	0.07	0.16	0.07				
33	Escarole	<i>Cichorium endivia</i> Linn.	Florida Deep Heart	6.15	0.16	0.32	0.10				
34	Kale	<i>Brassica oleracea</i> var. <i>acephala</i>	Curled Halftall Green								
			Scotch	10.61	0.30	0.24				0.06(N 0.35)	
35			Vates	8.86	0.24	0.17					

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% Fresh Basis

Code No.	Common Name	Scientific Name	Variety	% Fresh Basis							Unidentified Sugar #1	Unidentified Sugar #2
				Total Solids	Glucose	Fructose	Sucrose	Raffinose	Stachyose			
36	Kohlrabi	<i>Brassica oleracea</i> var. <i>gongylodes</i>	Early White Vienna	7.55	1.34	1.24	0.58					
37	Leek	<i>Allium porrum</i> Linn.	Beyersdorf Special	13.67	0.88	1.56	1.44			0.96(N0.10)	0.24(N0.13)	
38			Large American Flag	10.23	1.08	1.38	0.68	0.12	0.56			
39	Lettuce	<i>Lactuca sativa</i>	Grand Rapids									
			Waldmann's Strain	5.06	0.17	0.24	0.10	0.12		0.07(N 0.24)		
40			Paris Island Cos	6.55	0.32	0.64	0.12					
41			Pennlake	4.14	0.22	0.54	0.06			0.03(N0.52)		
42			White Boston	4.14	0.30	0.40	0.12					
43	Melon											
	(Honeydew)	<i>Cucumis melo</i>		25.48	2.56	2.62	5.86			0.06(N0.37)		
44	(Musk)	<i>Cucumis melo</i> var. <i>reticulatus</i>	Decconinck Bender	8.73	1.60	1.90	2.36					
45			Saticoy Hybrid	12.94	1.84	2.16	4.76			0.14(N0.10)	0.04(N 0.35)	
46	(Water)	<i>Citrullus vulgaris</i>	Grey Belle	10.59	1.80	3.50	3.72					
47			Sugar Baby	8.54	1.82	3.58	0.97			0.06(N0.34)		
48	Okra	<i>Hibiscus esculentus</i> L.	Emerald	10.70	1.03	1.06	0.75					
49	Onion	<i>Allium cepa</i>	Autumn Splendor									
			Hybrid	11.68	2.08	1.26	1.00	1.06	1.16			
50			Iowa 44	12.47	2.10	0.94	0.94	1.06	0.98	1.30(N 0.10)	1.24CN0.21)	
51			Premier Hybrid	10.27	1.76	1.18	0.84	0.66	0.32			
52			Southport White Globe	11.82	2.34	1.00	0.80	0.42	0.24	0.46(N 0.35)		
53	Green Onion	<i>Allium cepa</i>	Evergreen White									
			Bunching	9.59	0.56	0.76	0.86	0.04	0.06			
54	Parsley	<i>Petroselinum hortense</i>	Peerless	11.37	0.08		0.26					
55			Perfection	11.18	0.12		0.14					
56	Parsnip	<i>Pastinaca sativa</i>	Harris Model	20.99	0.18	0.24	2.98		0.01			
57	Pepper	<i>Capsicum frutescens</i>	Early Galwonder	5.93	1.06	0.86	0.06					
58			Pimento	6.93	0.76	0.92	0.20	0.06				
59			Staddons Selection	5.77	0.88	0.82	0.06					
60	Potato	<i>Solatum tuberosum</i>	Katahdin	19.27	0.06	0.01	0.04					
61			(stored)*		0.96	1.16	1.72	0.05	0.09	0.02(N 0.44)		
62			Kennebec	19.87	0.10	0.12	0.10					
63			(stored)*		1.32	1.48	1.88	0.12	0.12	0.10(N0.35)		
64			New York 3	24.41	0.14	0.12	0.16			0.02(N0.36)		
65			Norgold Russet	19.21	0.22	0.12	0.24					
66			(stored)*		0.94	0.98	2.56					
67			Peconic	20.36	0.30	0.14	0.12	0.08				
68			(stored)*		1.14	1.22	1.32					
69			Russet Burbank	21.71	0.08	0.10	0.20					
70			(stored)*		0.82	0.90	0.96	0.10	0.16	0.10(N 0.28)		
71	Pumpkin	<i>Cucurbit a pepo</i>	Small sugar	8.33	1.84	1.66	1.80	0.04	0.06	0.02(gala)	0.04(N 0.34)	
72			Young's Beauty	5.92	1.54	1.20	0.80	0.10	0.16	0.01(gala)	0.02(N 0.34)	

73	Radish	<i>Raphanus sativus</i> Linn.	White Icicle	4.40	0.84	0.30					
74			Champion	5.46	1.34	0.74	0.22				
75	Rhubarb	<i>Rheum rhaponticum</i> L.	Chipman's Canada Red	5.71	0.46	0.44	0.10				
76			Victoria	6.69	0.38	0.34	0.07				
77	Rutabaga	<i>Brassica napobrassica</i>	American Purple Top								
			Yellow	10.97	1.66	1.42	0.72				0.04 (Maltose)
78	Spinach	<i>Spinacia oleracea</i>	Chesapeake Hybrid	8.25	0.12	0.05	0.10				
79			Packer Hybrid	8.55	0.10	0.04	0.08				
80			Virginia Savoy	7.31	0.05	0.03					
81	Spinach										
	(New Zealand)	<i>Tetragonia expansa</i>	New Zealand	4.42	0.03	0.01	0.02				
82	Squash										
	(Summer)	<i>Cucurbita pepo</i>	Crookneck F-1	6.76	0.70	0.82	0.16				0.06(N 0.35)
83			Hybrid Ambassador	5.12	1.02	1.14	0.10				
84			Seneca Zucchini	4.78	0.58	0.50	0.02				
85	(Winter)	<i>Cucurbita maxima</i>	Butternut	11.64	1.18	1.52	1.42	0.02	0.03		0.03(gal)
86			Green Hubbard	16.54	1.05	1.15	0.66				
87			Mammoth Table Queen	10.75	0.60	0.76	3.60	0.09	0.08		0.05(gal)
88			Red or Golden Hubbard	13.38	1.02	1.20	0.74	0.04	0.14		0.03(gal)
89	Sweet Corn	<i>Zea mays</i> Linn.	F. M. Cross	20.06	0.20	0.20	2.72				0.04(N 0.34)
90			Seneca Arrow	23.13	0.40	0.42	2.62		0.20		
91			Seneca Chief	21.47	0.52	0.56	3.10				
92			Seneca Explore	22.08	0.20	0.15	2.96				
93			Seneca 60-V	26.63	0.15	0.11	2.76				
94			Tastyvee	22.77	0.54	0.40	4.00				0.04(N0.50)
95	Swiss Chard	<i>Beta vulgaris</i> var. <i>cicla</i>	Fordhook Giant	9.20	0.17	0.09	0.06				
96	Sweet Potato	<i>Ipomoea batatas</i> Poir		22.53	0.33	0.30	3.37				1.32(N0.48)
97	Tomato	<i>Lycopersicon</i>									
		<i>esculentum</i>	Fireball	4.86	1.25	1.48					
98			Galaxy	4.67	1.08	1.46	0.01				
99			Heinz 1548	5.04	0.88	1.08					
100			New Yorker	6.18	1.20	1.34	0.02				0.01 (gal)
101			Rocket	5.42	1.17	1.47					
102	(Paste)		Belarina	5.58	1.20	1.46	0.02				
103			Harvester	6.16	1.22	1.35	0.03				0.01 (N 0.29)
104			Bouncer	5.01	1.00	1.22	0.01				
105			Roma V. F.	5.20	1.04	1.30	0.03	0.01			0.06(gal)
106	Turnip	<i>Brassica rapa</i>	Purple Top White Globe	7.40	1.50	1.18	0.42				0.04(N0.35)

*Stored potatoes at 35°F for 4>£ month. In parenthesis shows the preliminary identification, gal = galactose, and Rg value in neutral solvents (N).

DISTRIBUTION OF FREE SUGARS IN FRUITS % Fresh basis

Code No.	Common Name	Scientific Name	Variety	Total					Unidentified	Unidentified
				Solids	Glucose	Fructose	Sucrose	Maltose	Sugar #1	Sugar #2
1	Apple	<i>Pyrus Malus</i>	Cox Rome	14.46	0.72	6.50	4.44	0.08	0.18*	0.60(A 0.76)
2			Farmer Spy	15.19	1.08	5.28	3.84			
3			Golden Delicious	18.83	0.98	7.10	3.80	0.38	0.32*	0.72(A 0.77)
4			McIntosh	15.00	1.32	6.12	3.00			
5			Rhode Island Greening	14.44	1.30	5.20	3.96			
6			Vance Delicious	17.84	1.64	6.04	3.64			
7	Apricot	<i>Prunus Armeniaca</i>	Alfred	13.86	1.86	0.92	5.82			
8			Curtis	15.02	1.60	1.63	5.86	0.06		
9	Blackberry	<i>Rubus sp.</i>	Darrow	14.89	2.18	1.76	0.60	0.96		
10			Hedrick	15.66	2.78	2.54	0.58	0.36		
11	Blueberry	<i>Vaccinium corymbosum</i>	Blue Crop	15.68	3.92	4.04	0.24	0.12		
12			Rancocas	16.11	3.60	3.60	0.14	0.04		
13	Currant	<i>Ribes sativum</i>	Red Lake (Red)	15.96	2.92	3.18	0.82			
14			Wilder (Red)	14.71	3.60	3.98	0.54			
15		<i>Ribes nigrum</i>	Consort (Black)	22.53	3.64	4.12	1.26	2.54		
16		<i>Ribes sativum</i>	White Imperial (White)	17.50	3.14	3.44	1.16			
17	Gooseberry	<i>Ribes grossularia-R. hirtellum hybrids</i>	Downing (White)	14.74	3.20	3.80	0.92			
18			Poorman (Red)	15.95	3.60	3.96	1.70			
19			Welcome (Red)	13.74	3.08	3.94	1.02			
20	Grape	<i>Vitis Labruscana</i>	Concord	16.40 ¹	6.94	6.78	1.26	0.10	0.42**	
21			Delaware	22.40 ¹	7.28	7.60	2.72	2.62	3.04**	
22			Himrod	17.50 ¹	5.54	8.48	2.10	0.98	0.96**	
23			New York Muscat	20.20 ¹	7.68	8.50	2.90	2.98	1.32**	
24		<i>Vitis vinifera</i>	Riesling	21.70 ¹	6.36	6.34	1.90	3.08	3.62**	
25			Seibel 1000	15.80 ¹	3.78	3.70	0.32	2.82	0.74**	
26			Seibel 5898	16.40 ¹	5.90	5.94	1.74	0.68	0.90**	
27	Peach	<i>Prunus Persica</i>	Babygold	12.60	0.72	1.10	5.84			
28			Champion	14.92	1.08	1.40	9.94	0.04	0.12*	0.08 (A 0.79)
29			Elberta	14.51	1.26	1.40	7.12			
30			Red Haven	9.27	0.66	0.80	4.92	0.52		0.18(A 0.73)
31			Red Skin	12.68	0.82	1.20	6.80	0.02		0.18 (A 0.74)
32	Pear	<i>Pyrus communis</i>	Bartlett	12.47	1.00	7.88	1.28	0.48	0.18*	0.36(A 1.06)
33			Bosc	14.74	1.08	6.22	2.46	0.10	0.04*	
34			Clapp's Favorite	13.53	0.76	6.20	1.10	0.36	0.40*	
35	Plum	<i>Prunus domestica</i>	Green Gage	14.71	3.35	1.48	5.48			
36			Italian Prune	23.24	4.64	2.40	5.68	0.46		
37			Stanley	15.97	2.48	0.72	3.68			
38	Raspberry (Red)	<i>Rubus idaeus</i>	Cuthbert	20.67	2.40	1.58	3.68			0.16(A 0.54)
39	(Black)	<i>Rubus occidentalis</i>	Huron	28.22	4.56	4.84	1.90			0.40 (A 0.21)
40	Sour Cherry	<i>Prunus cerasus</i>	Early Richmond	15.28	5.17	3.32	1.02			
41			English Morello	13.77	4.68	3.44	0.58			
42			Meteor	14.89	2.88	2.63				
43			Montmorency	16.26	4.49	3.74				

44	Sweet Cherrv	<i>Prunus avium</i>	Black Tartarian	26.91	16.14	8.64				
45			Emperor Francis	22.30	6.98	10.22	0.44	0.24		**
46			Napoleon	22.49	6.14	6.14				
47			Schmidt	20.31	6.32	5.94	0.64			**
48			Windsor	19.93	6.86	5.98			0.20	**
49	Strawberry	<i>Fragaria chiloensis</i> var.							0.16	
		<i>ananasso</i>	Earlidawn	8.42	1.98	2.28	0.50			
50			Sparkle	10.48	2.20	2.52	1.56	0.14		

¶ Solids expressed as soluble solids. Values in parenthesis are the Rg values in the acid solvent (A).

• Preliminary results indicate a pentose. **
Preliminary results indicate a trisaccharide.

DISTRIBUTION OF FREE SUGARS IN FOODS OF THE LEGUMINOSAE FAMILY

Cod No.	Common Name	Scientific Name	Variety	% Fresh Basis						
				Total Solids	Glucose	Fructose	Sucrose	Ramnose	Stachyose	Unidentified Sugar #1
1	Dry Bean	<i>Phaseolus vulgaris</i>	Michelite				2.40	0.80	3.40	
2	Fava Bean	<i>Viciajaba</i>	Broad improved long pod	16.61		0.18	3.36	0.66		0.40 (N 0.26)
3	Lima Bean	<i>Phaseolus lunatus</i>	Early Thorogreen	28.65	0.02	0.10	2.68	0.56*	0.70	0.42(N 0.30)
4			Green Seeded Fordhook	25.45	0.02	0.06	2.74	0.12*	0.22	0.02(N 0.35)
5			Milres	27.75	0.16		2.88		0.94	
6			S-400	22.74	0.02	0.12	2.78		0.26	
7			Thaxter	29.09		0.10	1.86	.032*	0.72	0.06(N 0.32)
8	Mung Bean	<i>Phaseolus aureus</i>					1.19	0.40	1.75	0.04 (gala)
9	Pea Bean	<i>Phaseolus vulgaris</i>					2.55	0.65	3.06	0.05 (gala)
10	Pole Lima Bean	<i>Phaseolus lunatus</i>	Sieva Pole	24.58	0.18		2.26	0.32*	0.60	0.20(N 0.36)
11	Pole Snap Bean	<i>Phaseolus vulgaris</i>	Kentucky Wonder	10.21	0.48	1.30	0.28	0.26*		0.06(N 0.34)
12	Red Kidney Bean	<i>Phaseolus vulgaris</i>	Red Kidney				2.73	0.56	3.44	0.02 (gala)
13	Snap Bean	<i>Phaseolus vulgaris</i>	Earlygreen (size 2)	8.51	1.32	1.42	0.32		0.28	
14			(size 4)	9.30	1.24	1.38	0.26	0.52	0.30	0.08(N 0.42)
15			(size 5)	10.07	1.08	1.28	0.40	0.14	0.28	
16			Earlywax (size 2)	4.92	1.43	1.78	0.12			
17			(size 4)	5.22	0.92	1.06	0.34		0.08	0.24(N 0.35)
18			(size 5)	5.76	0.84	0.90	0.06	0.14	0.38	0.02(N 0.36)
19			Kinghorn Wax (size 2)	4.92	0.49	0.50		0.07	0.05	0.04(N 0.34)
20			(size 5)	5.58	0.23	0.25	0.10			0.03(N 0.37)
21			Romano (size 4)	8.24	1.14	1.28	0.30			0.08(N 0.35)
22			Tendercrop (size 2)	8.03	1.38	1.64	0.78	0.40*	1.02	0.16(N 0.36)
23			(size 4)	8.31	1.26	1.06	0.12	0.14*	0.18	0.74(N 0.37)
24			(size 6)	8.95	1.28	1.48	0.16	0.18*	0.24	0.16(N 0.37)
25			White Seeded Tender Crop (size 2)	9.23	1.36	1.34	0.18			
26			(size 4)	9.67	1.10	1.40	0.32			
27			(size 5)	10.27	1.14	1.30	0.34			
28	Pea	<i>Pisum sativum</i>	Alaska (size 4)	28.54		0.08	3.00	0.06	0.68	

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% Fresh Basis

Code No.	Common Name	Scientific Name	Variety	% Fresh Basis						Unidentified Sugar #1
				Total Solids	Glucose	Fructose	Sucrose	Rafinnose	Stachyose	
29			Allsweet (size 4)	23.13	0.82	0.24	4.78	0.10	0.04	1.06(N0.36)
30			(size 5)	25.18	0.92		5.40	1.60	0.30	..
31			Perfected Freezer 60 (size 3)	20.72	0.04	0.04	6.06			
32			(size 4)	21.88	0.26	1.30	4.77	1.04	1.35	0.91 (N 0.40)
33			(size 5)	21.24	0.02	0.04	4.44	0.08	0.04	
34			Early Perfection 326 (size 3)	21.16	0.12	0.10	6.54	0.24		
35			(size 4)	23.13	0.24		5.90	1.22	1.46	0.72(N 0.37)
36			(size 5)	25.68	0.10	0.10	4.28	0.32	0.80	0.06(N 0.17)
37	Cow Pea	<i>Vigna sinensis</i>	Arkansas 203	39.30	0.08	0.06	1.86	0.10	1.66	0.48(N0.31)
38	Edible Podded Pea	<i>Pisum sativum</i>	B67-339	14.72	2.20	0.08	2.20			0.10(N 0.34)
39			B67-340	11.95	2.04	0.16	1.60			0.08(N 0.35)
40	Dry Pea Seed	<i>Pisum sativum</i>	Allsweet		0.37		3.74	2.12	7.30	
41			Fasc. 8b		0.25		3.07	0.63	0.89	
42			Freezer 37		0.23		4.45	2.76	10.36	
43			Lincoln		0.29		4.23	1.39	9.27	
44			Anthocyanin Line		0.23		2.58	1.33	6.83	
45			Miragreen		0.29		5.85	1.97	8.66	
46			Perfection		0.03		2.96		8.46	
47			Pixie		0.19		4.72	3.35	9.55	
48			Thos. Laxton		0.27		5.42	2.19	10.29	

* Contains a trace amount of manninotriose.

Parenthesis shows the Rg value in neutral solvent(N), and gala = galactose.

Editor's Note

This is a new series that replaces the former Research Circular series published by the New York State Agricultural Experiment Station at Geneva. It results from an intensive study made by a special committee, which recommended that all existing publication series be streamlined and modernized to better answer today's needs of both scientific and general audiences. It was thought important to identify each publication with its appropriate subject matter discipline, such as Biological Sciences, Food Sciences, or Plant Sciences, as well as with a departmental designation.