

Table 4

CAROTENOIDS



Table 4. CAROTENOIDS

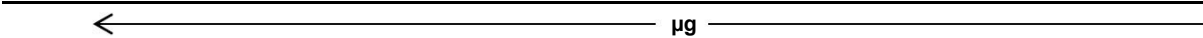
(All values are expressed per 100g edible portion; All blank space in the table represent below detectable limit)

Food Name			Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
			←				μg	→		
			LUTN	ZEAX	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
A CEREALS AND MILLETS										
A001	Amaranth seed, black (<i>Amaranthus cruentus</i>)	1	10.25							121
A002	Amaranth seed, pale brown (<i>Amaranthus cruentus</i>)	6	4.11±1.16							59.68±3.09
A003	Bajra (<i>Pennisetum typhoideum</i>)	6	29.69±8.72	9.30±1.23					28.23±9.42	293±55.7
A004	Barley (<i>Hordeum vulgare</i>)	6	5.39±2.77	1.90±0.35						69.87±28.88
A005	Jowar (<i>Sorghum vulgare</i>)	6	9.08±1.77	7.48±2.41					8.29±1.30	212±48.9
A006	Maize, dry (<i>Zea mays</i>)	6	186±19.4	42.4±15.7		110±10.1			186±19.2	893±154
A007	Maize, tender, local (<i>Zea mays</i>)	6	110±28.1	26.53±3.59		37.26±4.60			36.27±11.33	1428±225
A008	Maize, tender, sweet (<i>Zea mays</i>)	4	108±25.0	28.19±4.22		58.41±4.60			47.01±6.23	1035±154
A009	Quinoa (<i>Chenopodium quinoa</i>)	1	11.88	10.05					5.12	153
A010	Ragi (<i>Eleusine coracana</i>)	5	25.53±5.82	1.45±0.23					1.53±0.25	154±25.6
A011	Rice flakes (<i>Oryza sativa</i>)	6	1.46±0.25							33.61±4.26
A012	Rice puffed (<i>Oryza sativa</i>)	6	1.51±0.31							50.46±4.52
A013	Rice, raw, brown (<i>Oryza sativa</i>)	6	13.15±4.03							159±13.9
A014	Rice, parboiled, milled (<i>Oryza sativa</i>)	6	1.46±0.72							46.90±8.29
A015	Rice, raw, milled (<i>Oryza sativa</i>)	6	1.49±0.46							16.87±5.61
A016	Samai (<i>Panicum miliare</i>)	6	7.82±1.76	5.24±1.66					1.91±0.89	120±9.0
A017	Varagu (<i>Setaria italica</i>)	5	59.40±7.01	3.91±1.08					1.41±0.29	272±25.1
A018	Wheat flour, refined (<i>Triticum aestivum</i>)	6	24.41±9.21	1.30±0.72					1.97±0.80	270±69.0

Foodcode	Food Name	No. of	µg							
			Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
			←──							

B GRAIN LEGUMES

B001	Bengal gram, dal (<i>Cicer arietinum</i>)	6	314±82.4	1.05±0.44					165±22.8	1018±16.9
B002	Bengal gram, whole (<i>Cicer arietinum</i>)	6	385±39.4	24.74±12.0					172±21.0	999±240
B003	Black gram, dal (<i>Phaseolus mungo</i>)	6	83.87±22.87						10.11±2.10	279±54.8
B004	Black gram, whole (<i>Phaseolus mungo</i>)	6	95.42±2.13						12.80±0.50	463±34.2
B005	Cowpea, brown (<i>Vigna catjang</i>)	6	83.34±26.30						7.08±1.58	218±16.8
B006	Cowpea, white (<i>Vigna catjang</i>)	1	78.52						8.21	250
B007	Field bean, black (<i>Phaseolus vulgaris</i>)	1	48.99							207
B008	Field bean, brown (<i>Phaseolus vulgaris</i>)	1	53.18							254
B009	Field bean, white (<i>Phaseolus vulgaris</i>)	5	58.47±4.55							256±33.2
B010	Green gram, dal (<i>Phaseolus aureus</i>)	6	113±22.6	2.98±1.73					122±2.7	619±61.9
B011	Green gram, whole (<i>Phaseolus aureus</i>)	6	187±20.7	5.63±2.50					137±33.5	889±106
B012	Horse gram, whole (<i>Dolichus biflorus</i>)	6	67.26±9.84	2.92±1.81					58.57±9.13	267±42.8
B013	Lentil dal (<i>Lens culinaris</i>)	6	5.92±3.05						6.34±0.82	812±93.3

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			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
B014	Lentil whole, brown (<i>Lens culinaris</i>)	6	6.85±2.24						10.29±1.09	924±89.0
B015	Lentil whole, yellowish (<i>Lens culinaris</i>)	2	7.76						12.64	939
B016	Moth bean (<i>Vigna aconitifolia</i>)	6	148±21.2						3.57±1.03	622±72.9
B017	Peas, dry (<i>Pisum sativum</i>)	6	474±35.6	23.41±7.12					65.71±8.07	933±94.1
B018	Rajmah, black (<i>Phaseolus vulgaris</i>)	2	6.38						1.95	86.67
B019	Rajmah, brown (<i>Phaseolus vulgaris</i>)	6	7.18±1.82						2.16±0.50	90.26±14.96
B020	Rajmah, red (<i>Phaseolus vulgaris</i>)	3	6.76±2.55						1.60±0.24	103±29.2
B021	Red gram, dal (<i>Cajanus cajan</i>)	6	11.69±1.31						127±26.3	484±90.6
B022	Red gram, whole (<i>Cajanus cajan</i>)	6	25.25±6.15						149±21.0	579±44.8
B023	Ricebean (<i>Vigna umbellata</i>)	1	6.88							29.02
B024	Soya bean, brown (<i>Glycine max</i>)	6	35.47±13.69						3.50±1.01	262±22.4
B025	Soya bean, white (<i>Glycine max</i>)	1	28.50						2.82	282

C GREEN LEAFY VEGETABLES

C001	Agathi leaves (<i>Sesbania grandiflora</i>)	1	12941	559	12582	36087
C002	Amaranth leaves, green (<i>Amaranthus gangeticus</i>)	6	8397±1005	164±32.3	8553±1813	20473±1060
C003	Amaranth leaves, red (<i>Amaranthus gangeticus</i>)	1	7439	118	8457	21449
C004	Amaranth leaves, red and green (<i>Amaranthus gangeticus</i>)	4	7390±1361	148±30.0	8464±1753	20181±1961
C005	Amaranth spinosus, leaves, green (<i>Amaranthus spinosus</i>)	4	1861±203	126±16.3	1594±315	4174±815
C007	Basella leaves (<i>Basella alba</i>)	2				
C006	Amaranth spinosus, leaves, red and green (<i>Amaranthus spinosus</i>)	2	1748	160	1487	4540
			2962	241	2473	5824

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			← μg →							
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
C008	Bathua leaves (<i>Chenopodium album</i>)	2	1795	132					1075	3469
C009	Beet greens (<i>Beta vulgaris</i>)	6	1495±329.1	146±53.2					1703±146	3340.97±143.39
C010	Betel leaves, big (kolkata) (<i>Piper betle</i>)	6	4253±1026	60.31±18.37				191±39.0	4186±524	13735±1594
C011	Betel leaves, small (<i>Piper betle</i>)	4	5783±460	79.80±13.41				427±64.0	4676±622	16563±1292
C012	Brussels sprouts (<i>Brassica oleracea</i> var. <i>gemmifera</i>)	1	1653	35.64					360	2564
C013	Cabbage, Chinese (<i>Brassica rupa</i>)	1	58.00	1.50					5.50	103
C014	Cabbage, collard greens (<i>Brassica oleracea</i> var. <i>viridis</i>)	1	143	2.68					104	358
C015	Cabbage, green (<i>Brassica oleracea</i> var. <i>capitata</i> f. <i>alba</i>)	6	3.98±1.34						20.48±2.21	273±7.3
C016	Cabbage, violet (<i>Brassica oleracea</i> var. <i>capitata</i> f. <i>rubra</i>)	2	44.50	2.20					31.17	339
C017	Cauliflower leaves (<i>Brassica oleracea</i> var. <i>botrytis</i>)	6	152±21.2	1.97±0.39					146±15.6	1742±9.4
C018	Colocasia leaves, green (<i>Colocasia anti-quorum</i>)	6	5222±1363	136±28.9					5758±1836	26820±3413
C019	Drumstick leaves (<i>Moringa oleifera</i>)	3	15580±3760	235±19.4					17542±1425	38765±7172
C020	Fenugreek leaves (<i>Trigonella foenum graecum</i>)	5	2275±754	28.28±9.53					9245±974	12755±1221
C021	Garden cress (<i>Lepidium sativum</i>)	2	1354	16.63					88.72	5048
C022	Gogu leaves, green (<i>Hibiscus cannabinus</i>)	4	5276±985	18.72±10.90					5285±856	16088±3497
C023	Gogu leaves, red (<i>Hibiscus cannabinus</i>)	1	4782	20.50					5143	15934
C024	Knol-Khol, leaves (<i>Brassica oleracea</i> var. <i>gongylodes</i>)	2	15.62	2.77					12.04	154
C025	Lettuce (<i>Lactuca sativa</i>)	3	1858±322	5.64±2.79					1285±167	7532±1363
C026	Mustard leaves (<i>Brassica juncea</i>)	3	2939±562	8.13±3.96					2619±372	6397±1014
C027	Pak Choi leaves (<i>Brassica rapa</i> var. <i>Chinensis</i>)	1	2655	5.50					2450	5111
C028	Parsley (<i>Petroselinum crispum</i>)	3	3574±455	11.92±7.28					2710±349	6558±578

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			μg							
			LUTN	ZEAX	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
C029	Ponnaganni (<i>Alternanthera sessilis</i>)	2	5201	105					5288	24206
C030	Pumpkin leaves, tender (<i>Cucurbita maxima</i>)	6	6139 \pm 982	45.28 \pm 17.23					1455 \pm 146	8247 \pm 720
C031	Radish leaves (<i>Raphanus sativus</i>)	6	1741 \pm 190	22.71 \pm 10.72					2591 \pm 572	9339 \pm 854
C032	Rumex leaves (<i>Rumex patientia</i>)	2	2370	18.98					2754	8290
C033	Spinach (<i>Spinacia oleracea</i>)	6	3850 \pm 926	17.23 \pm 5.40					2605 \pm 521	9553 \pm 1491
C034	Tamarind leaves, tender (<i>Tamarindus indica</i>)	3	58.83 \pm 10.16	1.88 \pm 0.26					168 \pm 21.2	4002 \pm 389

D OTHER VEGETABLES

D001	Ash gourd (<i>Benincasa hispida</i>)	6	18.29 \pm 4.23	5.76 \pm 2.93						66.67 \pm 10.19
D002	Bamboo shoot, tender (<i>Bambusa vulgaris</i>)	1	2.50							11.60
D003	Bean scarlet, tender (<i>Phaseolus coccineus</i>)	5	98.51 \pm 21.39	2.67 \pm 0.33					35.52 \pm 3.88	1055 \pm 156
D004	Bitter gourd, jagged, teeth ridges, elongate (<i>Momordica charantia</i>)	6	282 \pm 101	5.83 \pm 2.55					122 \pm 10.9	717 \pm 179
D005	Bitter gourd, jagged, teeth ridges, short (<i>Momordica charantia</i>)	4	244 \pm 82.0	6.96 \pm 2.53					126 \pm 7.10	505 \pm 86
D006	Bitter gourd, jagged, smooth ridges, elongate (<i>Momordica charantia</i>)	1	313	7.20					130	481
D007	Bottle gourd, elongate, pale green (<i>Lagenaria vulgaris</i>)	6	28.88 \pm 8.19						44.05 \pm 11.68	95.12 \pm 13.56
D008	Bottle gourd, round, pale green (<i>Lagenaria vulgaris</i>)	5	29.64 \pm 2.98	8.60 \pm 2.23					47.13 \pm 3.49	92.56 \pm 17.23
D009	Bottle gourd, elongate, dark green (<i>Lagenaria vulgaris</i>)	1	28.98	2.50					44.82	97.02
D010	Brinjal-1 (<i>Solanum melongena</i>)	1	126	1.90					126	186
D011	Brinjal-2 (<i>Solanum melongena</i>)	1	130	2.80					130	167
D012	Brinjal-3 (<i>Solanum melongena</i>)	2	131	3.29					138	155
D013	Brinjal-4 (<i>Solanum melongena</i>)	4	142 \pm 18.5	3.90 \pm 1.39					140 \pm 15.0	138 \pm 34.2

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			← μg →							
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
D014	Brinjal-5 (<i>Solanum melongena</i>)	3	122±10.1	2.78±1.52					123±12.7	136±3.9
D015	Brinjal-6 (<i>Solanum melongena</i>)	2	126	4.16					129	168
D016	Brinjal-7 (<i>Solanum melongena</i>)	1	155	4.50					155	166
D017	Brinjal-8 (<i>Solanum melongena</i>)	3	162±19.2	3.77±1.89					162±16.1	190±12.3
D018	Brinjal-9 (<i>Solanum melongena</i>)	2	160	2.89					158	232
D019	Brinjal-10 (<i>Solanum melongena</i>)	2	161	2.39					161	162
D020	Brinjal-11 (<i>Solanum melongena</i>)	6	152±11.5	2.02±0.63					162±22.2	227±28.0
D021	Brinjal-12 (<i>Solanum melongena</i>)	2	147	2.89					144	217
D022	Brinjal-13 (<i>Solanum melongena</i>)	1	138	3.90					138	116
D023	Brinjal-14 (<i>Solanum melongena</i>)	3	137±12.2	4.12±2.23					134±21.4	493±142
D024	Brinjal-15 (<i>Solanum melongena</i>)	4	169±24.2	4.35±1.76					162±41.9	346±84.4
D025	Brinjal-16 (<i>Solanum melongena</i>)	1	155	1.80					155	364
D026	Brinjal-17 (<i>Solanum melongena</i>)	1	146	1.90					146	564
D027	Brinjal-18 (<i>Solanum melongena</i>)	3	128±15.1	2.88±1.48					130±11.4	364±94.2
D028	Brinjal-19 (<i>Solanum melongena</i>)	3	119±14.7	3.68±1.70					119±16.8	552±90.6
D029	Brinjal-20 (<i>Solanum melongena</i>)	5	139±12.6	4.08±1.72					139±18.5	651±37.7
D030	Brinjal-21 (<i>Solanum melongena</i>)	2	156	4.44					155	670
D031	Brinjal - all varieties (<i>Solanum melongena</i>)	6	144±18.7	3.21±1.55					146±24.0	309±188
D032	Broad beans (<i>Vicia faba</i>)	3	106±33.5	24.25±8.69					6.38±0.62	574±5.14
D033	Capsicum, green (<i>Capsicum annuum</i>)	6	164±43.9	21.41±8.02					328±61.7	2511±776
D034	Capsicum, red (<i>Capsicum annuum</i>)	4	165±33.2	18.28±6.66					246±47.2	3047±785
D035	Capsicum, yellow (<i>Capsicum annuum</i>)	4	280±57.2	17.95±5.26					166±15.0	2717±203

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D036 Cauliflower (<i>Brassica oleracea</i>)	6	31.3 \pm 7.69	5.77 \pm 2.61					1.59 \pm 0.66	50.48 \pm 4.22
D037 Celery stalk (<i>Apium graveolens</i>)	3	161 \pm 15.4	2.61 \pm 1.56					465 \pm 57.3	2439 \pm 280
D038 Cho-cho-marrows (<i>Sechium edule</i>)	4	8.56 \pm 1.67	1.80 \pm 1.29					1.57 \pm 0.31	24.53 \pm 9.12
D039 Cluster beans (<i>Cyamopsis tetragonoloba</i>)	6	538 \pm 164	21.49 \pm 8.50					241 \pm 32.8	1192 \pm 250
D040 Colocasia, stem, black (<i>Colocasia antiquorum</i>)	1	97.12	5.30					4.97	631
D041 Colocasia, stem, green (<i>Colocasia antiquorum</i>)	5	99.6 \pm 19.5	1.96 \pm 0.90					2.30 \pm 1.25	597 \pm 153
D042 Corn, Baby (<i>Zea mays</i>)	6	5.79 \pm 3.45	1.90 \pm 0.84					1.52 \pm 0.33	72.89 \pm 13.79
D043 Cucumber, green, elongate (<i>Cucumis sativus</i>)	6	2.22 \pm 1.12						5.33 \pm 0.93	171 \pm 46.8
D044 Cucumber, green, short (<i>Cucumis sativus</i>)	6	4.86 \pm 1.82						4.80 \pm 1.45	172 \pm 44.8
D045 Cucumber, orange, round (<i>Cucumis sativus</i>)	2	3.19						5.55	134
D046 Drumstick (<i>Moringa oleifera</i>)	6	145 \pm 18.8	5.52 \pm 3.79					17.28 \pm 1.85	350 \pm 62.0
D047 Field beans, tender, broad (<i>Vicia faba</i>)	2	467	21.54				83.48	555	1738
D048 Field beans, tender, lean (<i>Vicia faba</i>)	6	297 \pm 55.7	2.79 \pm 2.18				74.32 \pm 6.96	556 \pm 6.0	1837 \pm 86.5
D049 French beans, country (<i>Phaseolus vulgaris</i>)	5	235 \pm 71.8	21.21 \pm 10.10				3.57 \pm 0.71	413 \pm 10.4	1501 \pm 171
D050 French beans, hybrid (<i>Phaseolus vulgaris</i>)	2	228	13.35				3.18	388	1449
D051 Jack fruit, raw (<i>Artocarpus heterophyllus</i>)	5	4.86 \pm 2.54	2.92 \pm 1.65						17.66 \pm 1.17
D052 Jack fruit, seed, mature (<i>Artocarpus heterophyllus</i>)	5	2.13 \pm 0.82	1.56 \pm 1.11						19.63 \pm 2.17
D053 Knol - Khol (<i>Brassica oleracea</i>)	6	2.51 \pm 0.83	1.55 \pm 1.24						28.82 \pm 2.36
D054 Kova, big (<i>Coccinia cordifolia</i>)	6	170 \pm 14.3	5.74 \pm 2.43					134 \pm 9.8	498 \pm 66.2
D055 Kova, small (<i>Coccinia cordifolia</i>)	1	157	4.50					147	586
D056 Ladies finger (<i>Abelmoschus esculentus</i>)	6	798 \pm 83.0	3.53 \pm 1.91					69.10 \pm 10.41	1223 \pm 118


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D057	Mango, green, raw (<i>Mangifera indica</i>)	6	122±13.7	1.52±1.18		11.94±0.73			72.37±6.60	517±53.6
D058	Onion, stalk (<i>Allium cepa</i>)	6	575±175	2.43±0.68					700±2.6	3488±11.1
D059	Papaya, raw (<i>Carica papaya</i>)	6	266±55.8	7.88±0.32		76.80±18.04			164±60.8	548±67.5
D060	Parwar (<i>Trichosanthes dioica</i>)	6	322±102	10.77±3.25					13.10±1.50	965±15.0
D061	Peas, fresh (<i>Pisum sativum</i>)	6	68.6±19.1	11.40±2.54					121±12.5	1286±259
D062	Plantain, flower (<i>Musa x paradisiaca</i>)	6	75.7±5.0	5.90±2.93					35.36±7.72	149±19.5
D063	Plantain, green (<i>Musa x paradisiaca</i>)	6	28.9±9.85	3.45±1.94					3.01±1.65	224±29.8
D064	Plantain, stem (<i>Musa x paradisiaca</i>)	6	26.3±6.75	3.68±1.72					2.39±1.25	69.31±6.73
D065	Pumpkin, green, cylindrical (<i>Cucurbita maxima</i>)	1	394	26.60				63.91	363	1319
D066	Pumpkin, orange, round (<i>Cucurbita maxima</i>)	6	161±17.5	34.91±4.73				90.74±12.40	149±16.8	1449±167
D067	Red gram, tender, fresh (<i>Cajanus cajan</i>)	1	190						165	495
D068	Ridge gourd (<i>Luffa acutangula</i>)	6	129±20.5	19.50±3.17					348±31.4	838±101
D069	Ridge gourd, smooth skin (<i>Luffa acutangula</i>)	3	127±25.8	18.83±2.68					349±23.4	851±84.6
D070	Snake gourd, long, pale green (<i>Trichosanthes anguina</i>)	6	38.9±8.68	3.67±2.30					61.29±2.40	190±18.8
D071	Snake gourd, long, dark green (<i>Trichosanthes anguina</i>)	2	39.60	5.41					61.64	188
D072	Snake gourd, short (<i>Trichosanthes anguina</i>)	1	32.75	4.50					62.84	188
D073	Tinda, tender (<i>Praecitrullus fistulosus</i>)	6	8.19±2.71	2.22±1.62					7.96±1.10	49.81±2.51
D074	Tomato, green (<i>Lycopersicon esculentum</i>)	6	38.9±8.90	2.48±1.34	35.97±13.4		5.80±0.79		32.33±3.91	546±59.3
D075	Tomato, ripe, hybrid (<i>Lycopersicon esculentum</i>)	6	1568±530	10.96±2.17	2481±495		7.32±1.16		1513±146	5826±828
D076	Tomato, ripe, local (<i>Lycopersicon esculentum</i>)	6	965±167	17.52±6.44	1736±278		9.37±0.53		905±58.4	4656±636
D077	Zucchini, green (<i>Cucurbita pepo</i>)	2	87.86	16.23					85.79	963

Food code	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β -Cryptoxanthin	γ -Carotene	α -Carotene	β -Carotene	Total Carotenoids
			μg							
			LUTN	ZEAX	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
D078	Zucchini, yellow (<i>Cucurbita pepo</i>)	2	294	25.60					69.90	1177
E FRUITS										
E001	Apple, big (<i>Malus domestica</i>)	6	36.4 \pm 5.19	1.90 \pm 0.95					2.41 \pm 2.13	229 \pm 98.5
E002	Apple, green (<i>Malus domestica</i>)	6	40.2 \pm 18.8	1.91 \pm 0.77					2.20 \pm 0.93	196 \pm 47.5
E003	Apple, small (<i>Malus domestica</i>)	6	38.8 \pm 2.95	1.71 \pm 0.48					2.08 \pm 0.82	198 \pm 25.6
E004	Apple, small, Kashmir (<i>Malus domestica</i>)	1	46.26	1.98					2.11	344
E005	Apricot, dried (<i>Prunus armeniaca</i>)	6	4.98 \pm 2.79	2.33 \pm 1.08					1806 \pm 106	4313 \pm 123
E006	Apricot, processed (<i>Prunus armeniaca</i>)	3	3.07 \pm 1.49	1.98 \pm 0.62					1372 \pm 198	3357 \pm 748
E007	Avocado fruit (<i>Persea americana</i>)	1	25.13	2.50					12.00	321
E008	Bael fruit (<i>Aegle marmelos</i>)	1	36.12	2.20					2.50	172
E009	Banana, ripe, montham (<i>Musa x paradisiaca</i>)	1	47.32	1.90				3.57	53.06	260
E010	Banana, ripe, poovam (<i>Musa x paradisiaca</i>)	2	34.67	2.75				1.71	57.33	252
E011	Banana, ripe, red (<i>Musa x paradisiaca</i>)	1	47.08	2.50				2.12	51.52	261
E012	Banana, ripe, robusta (<i>Musa x paradisiaca</i>)	6	26.9 \pm 6.18	2.33 \pm 0.87				3.57 \pm 1.67	56.78 \pm 11.56	314 \pm 64.8
E013	Black berry (<i>Rubus fruticosus</i>)	5	105 \pm 17.5	2.37 \pm 0.98					52.32 \pm 2.65	166 \pm 2.4
E014	Cherries, red (<i>Prunus cerasus</i>)	4	92.9 \pm 12.4	5.69 \pm 2.12					40.78 \pm 1.15	259 \pm 36.4
E015	Currants, black (<i>Ribes nigrum</i>)	1	242	12.90					62.48	453
E016	Custard apple (<i>Annona squamosa</i>)	1	12.45	1.80						142
E017	Dates, dry, pale brown (<i>Phoenix dactylifera</i>)	6	281 \pm 77.8	8.95 \pm 1.88					2700 \pm 345	3483 \pm 551
E018	Dates, dry, dark brown (<i>Phoenix dactylifera</i>)	2	285	4.83					2705	3280
E019	Dates, processed (<i>Phoenix dactylifera</i>)	2	305	86.34					2781	3288

Foodcode	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
			← μg →							
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
E020	Fig (<i>Ficus carica</i>)	6	19.0±2.27	2.01±0.64					2.40±0.59	454±51.3
E021	Goosberry (<i>Embllica officinalis</i>)	5	38.7±9.78	2.86±1.61					1.58±0.09	62.01±6.45
E022	Grapes, seeded, round, black (<i>Vitis vinifera</i>)	4	27.8±8.85	3.59±2.20					29.36±8.37	213±29.4
E023	Grapes, seeded, round, green (<i>Vitis vinifera</i>)	5	31.3±8.77	4.06±1.60					30.77±11.10	208±28.8
E024	Grapes, seeded, round, red (<i>Vitis vinifera</i>)	5	17.2±3.04	7.58±2.28					19.94±1.29	314±99.9
E025	Grapes, seedless, oval, black (<i>Vitis vinifera</i>)	5	19.4±3.07	8.14±1.73					19.73±1.76	321±50.6
E026	Grapes, seedless, round, green (<i>Vitis vinifera</i>)	5	25.8±7.90	6.82±3.77					25.46±6.66	216±31.3
E027	Grapes, seedless, round, black (<i>Vitis vinifera</i>)	5	16.1±2.90	7.95±1.73					20.58±2.36	232±27.9
E028	Guava, white flesh (<i>Psidium guajava</i>)	5	19.7±4.59	5.92±3.06					298±32.8	996±108
E029	Guava, pink flesh (<i>Psidium guajava</i>)	5	90.3±11.5	8.94±2.21	2843±340				267±88.2	4078±477
E030	Jack fruit, ripe (<i>Artocarpus heterophyllus</i>)	5	19.3±6.91	2.42±1.27					23.53±1.24	59.61±4.90
E031	Jambu fruit, ripe (<i>Syzygium cumini</i>)	2	18.49	5.68					1.55	66.50
E032	Karonda fruit (<i>Carissa carandas</i>)	1	6.12	1.14					15.64	55.89
E033	Lemon, juice (<i>Citrus limon</i>)	6	9.68±2.22	1.72±0.50					2.62±0.34	85.99±3.36
E034	Lime, sweet,pulp (<i>Citrus limetta</i>)	6	13.2±3.54	1.89±0.44					2.54±0.30	85.13±10.71
E035	Litchi (<i>Nephelium litchi</i>)	4	27.33±9.81	1.61±0.62					1.47±0.21	129±15.1
E036	Mango, ripe, banganapalli (<i>Mangifera indica</i>)	6	3.19±1.51	1.62±0.22		2.72±1.31			1168±141	1424±308
E037	Mango, ripe, gulabkhas (<i>Mangifera indica</i>)	2	4.18	1.64		4.58			666	1350
E038	Mango, ripe, himsagar (<i>Mangifera indica</i>)	3	6.26±2.09	1.19±0.14		5.60±3.84			1181±136	1423±201
E039	Mango, ripe, kesar (<i>Mangifera indica</i>)	4	3.71±2.21	2.33±0.17		6.96±3.31			1264±172	1438±314
E040	Mango, ripe, neelam (<i>Mangifera indica</i>)	2	2.95	1.67		2.51			1291	1376
E041	Mango, ripe, paheri (<i>Mangifera indica</i>)	2	2.51	7.19		2.49			1061	1210

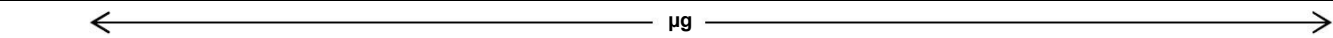
			Carotenoids							
			Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
Food Name			μg							
No. of Regions			LUTN	ZEAX	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
103	E042	Mango, ripe, totapari (<i>Mangifera indica</i>)	1	13.27	2.86	4.56			602	1632
	E043	Mangosteen (<i>Garcinia mangostana</i>)	1	16.81	5.40				1.80	181
	E044	Manila tamarind (<i>Pithecellobium dulce</i>)	1	36.50	10.50				2.20	154
	E045	Musk melon, orange flesh (<i>Cucumis melon</i>)	5	20.17±3.03	2.52±0.84				771±96.4	925±43.6
	E046	Musk melon, yellow flesh (<i>Cucumis melon</i>)	6	22.48±9.44	2.69±1.16				6.87±0.36	92.15±6.04
	E047	Orange, pulp (<i>Citrus aurantium</i>)	6	13.8±1.83	31.88±6.66	44.02±13.91		5.76±1.79	31.94±2.12	675±11.0
	E048	Palm fruit, tender (<i>Borassus flabellifer</i>)	1	5.80	1.50					50.00
	E049	Papaya, ripe (<i>Carcia papaya</i>)	6	5.43±0.87	280±43.9	833±82.9	648±85.2		694±84.5	2472±81.1
	E050	Peach (<i>Prunus communis</i>)	1	5.80	1.50					50.00
	E051	Pear (<i>Pyrus</i> sp.)	6	14.7±1.34	2.77±1.18		1.44±0.28		13.16±1.78	92.30±8.23
4Table	E052	Phalsa (<i>Grewia asiatica</i>)	2	157	3.11			5.68	1.71	396
	E053	Pineapple (<i>Ananas comosus</i>)	6	8.11±1.14	1.80±1.23				31.21±4.33	86.31±10.74
	E054	Plum (<i>Prunus domestica</i>)	3	5.67±0.98	2.39±1.04				1.32±0.22	430±82.9
	E055	Pomegranate, maroon seeds (<i>Punica granatum</i>)	6	27.8±7.62	2.51±0.82				2.05±0.58	47.28±7.09
	E056	Pummelo (<i>Citrus maxima</i>)	3	22.5±8.14	5.90±1.56	10.43±1.83			1.55±0.35	337±83.6
	E057	Raisins, dried, black (<i>Vitis vinifera</i>)	6	9.13±1.70	2.18±0.95				3.71±1.08	207±44.7
	E058	Raisins, dried, golden (<i>Vitis vinifera</i>)	6	28.3±4.93	3.53±1.13				2.53±0.63	272±38.6
	E059	Rambutan (<i>Nephelium lappaceum</i>)	1	16.80	2.50				2.90	175
	E060	Sapota (<i>Achras sapota</i>)	6	22.6±7.22	2.09±0.64				80.70±5.96	229±17.3
	E061	Soursop (<i>Annona muricata</i>)	1	29.80	5.30				2.20	78.00
E063	Strawberry (<i>Fragaria ananassa</i>)	1	26.80	2.60				1.40	152	
E062	Star fruit (<i>Averrhoa carambola</i>)	6	19.3±4.86	1.45±0.22				2.19±0.17	218±71.1	

Food code	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
			←──							

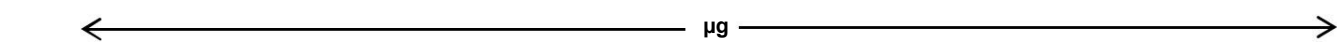
Food Code	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
										
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
F015	Tapioca (<i>Manihot esculenta</i>)	3	5.93±1.86	2.38±0.95						60.90±8.50
F016	Water Chestnut (<i>Eleocharis dulcis</i>)	1	8.12	2.50						93.08
F017	Yam, elephant (<i>Amorphophallus campanulatus</i>)	6	168±14.8	10.43±2.76				32.32±3.56	176±19.3	599±70.0
F018	Yam, ordinary (<i>Amorphophallus campanulatus</i>)	4	273±51.3	8.69±3.43					158±31.8	51.04±7.68
F019	Yam, wild (<i>Dioscorea versicolor</i>)	2	11.39	1.20				8.95	230	94.53

G **CONDIMENTS AND SPICES-FRESH**

G001	Chillies, green-1 (<i>Capsicum annum</i>)	5	255±44.6	18.92±3.74		31.69±9.15	1135±403
G002	Chillies, green-2 (<i>Capsicum annum</i>)	3	283±66.7	24.48±6.29		232±91.3	1336±100
G003	Chillies, green-3 (<i>Capsicum annum</i>)	5	285±79.9	34.74±11.55		158±45.8	1107±317
G004	Chillies, green-4 (<i>Capsicum annum</i>)	3	207±56.1	45.64±13.89		67.84±5.44	1761±178
G005	Chillies, green-5 (<i>Capsicum annum</i>)	2	278±93.3	41.40±25.80		45.41±11.38	1539±477
G006	Chillies, green-6 (<i>Capsicum annum</i>)	1	234	35.50		508	1478
G007	Chillies, green-7 (<i>Capsicum annum</i>)	1	294	28.50		44.00	1891
G008	Chillies, green - all varieties (<i>Capsicum annum</i>)	6	261±60.9	31.47±13.46		125±122	1347±382
G009	Coriander leaves (<i>Coriandrum sativum</i>)	6	6351±1069	28.30±14.89		3808±891	13808±2107
G010	Curry leaves (<i>Murraya koenigii</i>)	6	2945±381	36.13±12.13	144±14.5	7663±704	21862±2168
G011	Garlic, big clove (<i>Allium sativum</i>)	6	4.02±1.61	1.55±0.28			33.91±6.10
G012	Garlic, small clove (<i>Allium sativum</i>)	3	5.09±1.50	1.57±0.37			30.48±6.94
G013	Garlic, single clove, Kashmir (<i>Allium sativum</i>)	1	2.52	1.36			26.58

Food code	Food Name	No.ofRegions	Lutein	Zeaxanthin	Lycopene	β-Cryptoxanthin	γ-Carotene	α-Carotene	β-Carotene	Total Carotenoids
										
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
G014	Ginger, fresh (<i>Zinziber officinale</i>)	6	15.0±4.48	5.97±3.00					88.85±0.92	329±53.7
G015	Mango ginger (<i>Curcuma amada</i>)	3	23.6±3.99	3.09±1.50					76.62±13.12	250±5.3
G016	Mint leaves (<i>Mentha spicata</i>)	4	2526±730	300±51.2					4602±553	18693±1938
G017	Onion, big (<i>Allium cepa</i>)	6	1.77±0.64	1.81±0.69					1.08±0.28	89.10±6.38
G018	Onion, small (<i>Allium cepa</i>)	5	15.3±0.92	1.69±0.09					1.10±0.06	31.04±12.49
G	CONDIMENTS AND SPICES-DRY									
G019	Asafoetida (<i>Ferula assa-foetida</i>)	6	23.8±6.80	1.52±0.29					6.42±0.75	168±24.7
G020	Cardamom, green (<i>Elettaria cardamomum</i>)	6	37.0±10.0	32.85±4.78					21.91±2.31	366±22.6
G021	Cardamom, black (<i>Elettaria cardamomum</i>)	4	56.9±17.6	10.31±2.62					77.48±13.27	1137±95.2
G022	Chillies, red (<i>Capsicum annum</i>)	6	1843±342	2712±789	36.44±10.4	1599±203			1542±288	101812±5619
G023	Cloves (<i>Syzygium aromaticum</i>)	6	16.9±3.39	1.55±0.23				8.55±0.71	73.51±2.74	356±38.2
G024	Coriander seeds (<i>Coriandrum sativum</i>)	6	225±34.0	10.96±2.23					122±13.5	996±50.0
G025	Cumin seeds (<i>Cuminum cyminum</i>)	6	170±10.8	42.60±6.86					89.19±19.24	553±32.5
G026	Fenugreek seeds (<i>Trigonella foenum graecum</i>)	6	586±91.3	201±12.0					142±1.5	1210±162
G027	Mace (<i>Myristica fragrans</i>)	6	135±26.7	196±22.4					2322±157	9203±880
G028	Nutmeg (<i>Myristica fragrans</i>)	6	4.01±1.18	1.33±0.26					15.37±1.11	80.91±9.87
G029	Omum (<i>Trachyspermum ammi</i>)	6	494±61.2	8.30±2.99		51.37±9.37			746±17.7	1836±22.1
G030	Pippali (<i>Piper longum</i>)	6	666±92.3	479±54.8		110±10.5		278±28.4	545±50.4	2401±205
G031	Pepper, black (<i>Piper nigrum</i>)	6	650±62.3	158±15.4		165±11.6		157±10.1	767±65.5	2219±56
G032	Poppy seeds (<i>Papaver somniferum</i>)	6	23.5±15.0	1.76±0.79					3.51±0.66	34.45±10.70

Food code	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β -Cryptoxanthin	γ -Carotene	α -Carotene	β -Carotene	Total Carotenoids
			μg							
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
G033	Turmeric powder (<i>Curcuma domestica</i>)	6	99.8 \pm 16.0	3.56 \pm 1.60					55.20 \pm 1.77	427 \pm 85.8
H NUTS AND OIL SEEDS										
H001	Almond (<i>Prunus amygdalus</i>)	6	5.93 \pm 1.89	1.79 \pm 0.12						11.31 \pm 1.57
H002	Arecanut, dried, brown (<i>Areca catechu</i>)	6	21.3 \pm 6.13	3.83 \pm 2.00						41.96 \pm 3.23
H003	Arecanut, dried, red color (<i>Areca catechu</i>)	3	27.5 \pm 7.24	3.12 \pm 1.66						63.72 \pm 3.91
H004	Arecanut, fresh (<i>Areca catechu</i>)	2	31.65	6.23						47.78
H005	Cashew nut (<i>Anacardium occidentale</i>)	6	5.87 \pm 1.91	3.21 \pm 1.77						16.94 \pm 3.30
H006	Coconut, kernal, dry (<i>Cocos nucifera</i>)	6	62.5 \pm 9.59	3.12 \pm 1.03						176 \pm 9.4
H007	Coconut, kernel, fresh (<i>Cocos nucifera</i>)	6	122 \pm 15.4	4.84 \pm 1.66					2.66 \pm 0.28	204 \pm 11.3
H008	Garden cress, seeds (<i>Lepidium sativum</i>)	5	22.5 \pm 7.41	33.93 \pm 10.2						559 \pm 34.6
H009	Gingelly seeds, black (<i>Sesamum indicum</i>)	6	22.9 \pm 11.0	2.67 \pm 1.21					13.09 \pm 2.67	60.78 \pm 13.60
H010	Gingelly seeds, brown (<i>Sesamum indicum</i>)	4	17.0 \pm 4.46	2.40 \pm 0.61					5.41 \pm 0.57	86.72 \pm 3.90
H011	Gingelly seeds, white (<i>Sesamum indicum</i>)	5	19.7 \pm 5.45	1.88 \pm 0.33					12.94 \pm 1.55	57.06 \pm 19.48
H012	Ground nut (<i>Arachis hypogea</i>)	6	4.42 \pm 1.04	8.07 \pm 2.32					22.75 \pm 2.13	82.80 \pm 6.06
H013	Mustard seeds (<i>Brassica juncea</i>)	6	192 \pm 16.3	6.54 \pm 2.42					36.72 \pm 7.07	675 \pm 77.0
H014	Linseeds (<i>Linum usitatissimum</i>)	6	5.67 \pm 0.81	7.22 \pm 0.70					1.05 \pm 0.03	92 \pm 22.8
H015	Niger seeds, black (<i>Guizotia abyssinica</i>)	4	22.1 \pm 4.41	9.61 \pm 1.59					2.15 \pm 0.81	295 \pm 39.1
H016	Niger seeds, gray (<i>Guizotia abyssinica</i>)	5	6.00 \pm 0.54	2.38 \pm 1.13		2.73 \pm 0.91			8.49 \pm 0.83	187 \pm 21.6
H017	Pine seed (<i>Pinus gerardiana</i>)	5	97.0 \pm 17.4	11.55 \pm 1.53					1.98 \pm 0.52	297 \pm 40.4
H018	Pistachio nuts (<i>Pistacia vera</i>)	6	171 \pm 6.8						110 \pm 10.4	519 \pm 31.3
H019	Safflower seeds (<i>Carthamus tinctorius</i>)	5	27.6 \pm 7.88	11.04 \pm 2.45					2.07 \pm 0.58	142 \pm 13.8

Food Code	Food Name	No. of Regions	Lutein	Zeaxanthin	Lycopene	β - Cryptoxanthin	γ - Carotene	α - Carotene	β - Carotene	Total Carotenoids
										
			LUTN	ZEA	LYCPN	CRYPXB	CARTG	CARTA	CARTB	CARTOID
M	EGG AND EGG PRODUCTS									
M001	Egg, poultry, whole, raw	6	17.61±2.89	37.23±7.16		0.97±0.44			13.60±2.04	135±2.6
M002	Egg, poultry, white, raw	6								
M003	Egg, poultry, yolk, raw	6	27.29±1.29	56.60±15.23		2.09±0.78			88.87±0.94	241±6.7
M004	Egg, poultry, whole, boiled	6	14.69±3.40	26.29±11.09		1.07±0.53			13.19±0.49	136±7.3
M005	Egg, poultry, white, boiled	6								5.30±0.31
M006	Egg, poultry, yolk, boiled	6	19.36±3.98	54.75±12.66		1.69±0.77			68.59±2.93	218±9.8
M007	Egg, poultry, omlet	3	14.47±0.35	19.03±0.96		0.75±0.10			11.36±0.84	111±1.0
M008	Egg, country hen, whole, raw	1	26.86	47.26		1.56			18.55	191
M009	Egg, country hen, whole, boiled	1	23.61	37.85		1.06			17.45	166
M010	Egg, country hen, omlet	1	20.55	30.85		0.95			14.75	161
M011	Egg, duck, whole, boiled	1	22.21	10.16		9.25			34.59	228
M012	Egg, duck, whole, raw	1	29.50	17.96		11.08			35.66	249
M013	Egg, duck, whole, omlet	1	20.05	9.55		8.98			30.08	213
M014	Egg, quial, whole, raw	1	14.83	28.48		3.57			12.96	242
M015	Egg, quial, whole, boiled	1	12.55	14.75		1.86			10.55	230