USDA Database for the Flavonoid Content of Selected Foods

Prepared by the

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March 2003

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Documentation for the USDA Database for Flavonoids for Selected Foods

Recent interest by the scientific community in the types and levels of flavonoids in foods centers on the varied biological properties of certain flavonoid compounds: These include antioxidative, antimicrobial, and possibly anticarcinogenic, and/or cardioprotective effects. To address these needs a database of the flavonoid content of foods was developed. The collaborators are the Nutrient Data Laboratory (NDL) and the Food Composition Laboratory (FCL) of the Beltsville Human Nutrition Research Center (BHNRC) of the ARS/USDA, the Epidemiology Group at Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts, Tufts University School of Nutrition Science & Policy, and the Frances Stern Nutrition Center at Tufts New England Medical Center, Boston, MA., Bell Institute of Health and Nutrition, General Mills, Minneapolis, MN and Unilever Bestfoods, North America, Englewood Cliffs, NJ.

The project consists of two phases. The first phase was to survey the scientific literature for articles containing data on the flavonoid content of foods and this is now completed. The second phase will be the analysis, already underway, of about sixty fresh fruits, nuts and vegetables at the FCL. Literature searches were conducted using several databases which include international scientific journals. Key words for individual flavonoids plus taxonomic names, genus and species for fruits, nuts and vegetables and other flavonoid containing foods such as tea were used to search for scientific articles in the databases. The relevant articles were reviewed and those papers containing analytical data were retrieved. Articles that contained data on selected compounds in the five subclasses of the dietary flavonoids were retained for critical evaluation. These subclasses were chosen because dietary flavonoids consist mainly of these classes. Only the most commonly occurring compounds from each subclass were included in the database making a total of 19 compounds. The NDL had released a separate database, "USDA-Iowa State University Isoflavones Database" on its web site in 1999. Therefore isoflavones are not included in this database. Similarly proanthocyanidins are also not included in the present database as we are in the process of developing a separate database for these compounds.

Subclasses of flavonoids and selected compounds:

- FLAVONOLS: Quercetin, Kaempferol, Myricetin, Isorhamnetin (Figure 1)
- FLAVONES: Luteolin, Apigenin (Figure 2)
- FLAVANONES: Hesperetin, Naringenin, Eriodictyol (Figure 3)
- FLAVAN-3-OLS: (+)-Catechin, (+)-Gallocatechin, (-)-Epicatechin, (-)-Epigallocatechin, (-)-Epicatechin 3-gallate, (-)-Epigallocatechin 3-gallate, Theaflavin, Theaflavin 3-gallate, Theaflavin 3'-gallate, Theaflavin 3,3' digallate, Thearubigins (Figure 4)
- ANTHOCYANIDINS: Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin (Figure 5)

Procedures for generating the table

The data from analytical studies which used only acceptable procedures defined as those which lead to good separation of flavonoid compounds (e.g. column chromatography or HPLC-high-performance liquid chromatography) were used. Papers that contained data generated by thin layer or paper chromatography, radioimmunoassay (RIA), pH differential methods or only spectrophotometric quantitation were not retained because of the lack of specificity of these methods. Similarly values for total flavonoids or only the totals by subclass of flavonoids, were not included. That is, the objective was to collect values for specific flavonoid compounds.

Most of the compounds in foods are present in glycosylated forms except for the Flavan-3-ols (catechins and theaflavins) which are present either in free forms or as gallic acid esters (e.g. in tea). Most of the analytical procedures converted the glycosides into aglycones and results were reported as aglycones. However, when the individual glycosides were determined the values for glucosides were converted into aglycone forms using conversion factors based on molecular weights. The catechins and epicatechins which were reported as gallic acid esters, such as epicatechin gallate, epigallocatechin gallate etc. were retained. Values in the database are reported as mg/100g of fresh weight of edible portion of food. Values for beverages were adjusted by their respective specific gravities and are reported as served. The practice of brewing tea infusions varies in different countries and according to individual preferences. Therefore, it is difficult to compare flavonoid data for teas obtained from different sources. Adjustment for brewing time was not undertaken as a majority of tea flavonoids are extracted into the infusion after only short brewing times and do not increase substantially with extended brewing times (Arts, et al 2000, Hertog, et al 1993). Values for tea are given as mg/100ml (100g weight) of tea infusions (as consumed). Catechin and flavonol contents in tea infusions increased approximately in a linear way with the amount of tea leaves used for brewing. Therefore, all infusion values were standardized to 1% infusion. These values were calculated using the weight of the tea bag (or loose tea leaves) used to make the infusion. A separate table for flavonoids in dry tea (mg/100g of dry tea leaves) is also included. This table will help in comparing the flavonoid contents of different kinds of teas.

If a value was reported as “Trace” we calculated a value by multiplying the LOQ (Limit Of Quantitation), if available by 0.71 (Mangels, et al 1993), if the LOQ was available. A zero value reported in the database is a true zero (below the limit of detection), indicating that authors attempted to measure the compound in that food and did not find it. The lack of a value for a particular flavonoid in a food does not imply a zero value, but only that data were unavailable. The table of analytical values contains values for only those compounds and foods that were available in the literature at the time of this survey; it does not mean that other classes of compounds are not present in that particular food. For example, while red or black grapes contain anthocyanidins, no values for anthocyanidins are listed in the table, as data for these compounds were not available. A precise analytical method for the resolution of individual anthocyanidin peaks is not widely available and therefore, limited data have been generated. As mentioned earlier, values for total anthocyanidins, usually given as equivalent of the standard used for quantitation, are not used in the database because considerable discrepancy was

observed in the values of the same food if the total was obtained by adding individual anthocyanidin values.

Preliminary review of available data indicated considerable variation in the flavonoid content in foods. Flavonoid compounds are often produced by plants in response to stress. Stress may be caused by diseases, insects, climate, ultraviolet radiation, etc. Other sources of variability include cultivar, growing location, agricultural practices, processing and storage conditions, and preparation methods.

In this database, mean values for individual flavonoids in a particular food frequently come from different data sources and are compiled to generate a mean value. Also most of the values are based on a limited number of samples. This may account for the higher apparent variability in flavonoid content. Furthermore, users of the data should exercise caution when comparing flavonoid values for different forms of a food, such as between raw and cooked forms of the same food. As with any nutrient database, values for different forms of the food are collected from different sources. If a value in the cooked food is less than in the raw food, it does not necessarily mean that the particular flavonoid was reduced by cooking. This kind of comparison is valid only when paired samples are used for both the raw and cooked food.

Data evaluation

The data were evaluated for quality using new procedures developed by scientists at the NDL as part of the new Nutrient Databank System (Holden, et al, 2002). These procedures were based on criteria described earlier by Holden, et al, 1987 and Mangels, et al, 1993 with some modifications. Criteria evaluated include: sampling plan, sample handling, number of samples, analytical method and analytical quality control. We had to modify the criteria for the sampling plan rating at the aggregation stage to accommodate the international characteristic of this database. For aggregated data which included data from countries in addition to the United States, we used the number of countries in place of the number of regions. The major change in the evaluation process was made in the analytical method rating. It now has two facets, the method itself (processing of samples, analysis and quantitation method) and validation and quality control of the method by the laboratory (accuracy and precision). The information presented in each manuscript was evaluated for each criteria, which then received a rating ranging from 0 to 20 points. The ratings for each of the five criteria are summed to yield a Quality Index or QI–the maximum score is 100 points. The Confidence Code (CC) is derived from the QI and is an indicator of relative quality of the data and the reliability of a given mean. The CC is assigned as follows:

QI	CC
75-100	A
74-50	B
49-25	C
<25	D

The data were aggregated where possible to match the foods in the USDA Nutrient Database for

Standard Reference (SR). The foods are arranged in alphabetical order and each food has a NDB number (a five digit numerical code used in the USDA Nutrient Database for Standard Reference). As the data came from various sources, both in the United States and other countries, there are a number of foods which are not included in Standard Reference. In these cases, we assigned a temporary NDB number. These numbers begin with "99" and are not unique to this table, as they may have been used in other special interest databases produced by NDL. Subsequently, the mean value (mg/100g), standard error of the mean (SEM), minimum (Min.) and maximum (Max.) values were determined for each food and flavonoid. Mean values are weighted to account for the different number of samples among the various studies used. The weighted mean is, in turn, used to calculate the standard error based on the total number of samples in each aggregated food. These values along with the confidence code and sources of data are given in the table.

Format of the tables

The USDA Database for the Flavonoid Content of Selected Foods is presented as a PDF file. You will need the Adobe Acrobat ® reader to view the report of the database. A compressed file (flav.zip) containing the complete database in ASCII and documentation, is being prepared and will be available for downloading from this web site. This will allow the user to use the database on his/her own computer with other programs.

Flavonoid content of selected foods

This table contains flavonoid values for 225 foods. The fields are as follows:

Field Name	Description
NDB No.	USDA Nutrient Data Bank number[1]
Description	Food description
Subclass	The flavonoid subclass
Flavonoid	Name of the flavonoid
Mean	Mean value (mg/100g edible portion)
Standard Error	Standard Error of the Mean (mg/100 g edible portion)
N	Number of samples
Min	Minimum value (mg/100g edible portion)
Max	Maximum value (mg/100g edible portion)
CC	Confidence Code[2]
Sources of data	Data source(s) from which flavonoid values were obtained[3]

[1] The NDB number is a five digit numerical code used in the USDA Nutrient Database for

Standard Reference. Foods in the USDA Flavonoids Database which do not have corresponding entries in the USDA Nutrient Database for Standard Reference (SR), are indicated by '99—' in the NDB column. For more information SR, see the NDL Web site (http://www.nal.usda.gov/fnic/foodcomp) or contact the Nutrient Data Laboratory, 10300 Baltimore Avenue, Bldg. 005, Rm. 107, BARC-WEST, Beltsville, MD 20705. Tel. No. 301-504-0630, e-mail: ndlinfo@rbhnrc.usda.gov

[2] The Confidence Code designated as A, B, C, or D is a general indicator of the quality of the data (A=best). The procedure for determining Confidence Code is described in Holden, et al (J. Food Comp. Anal. 15:339-348, 2002).

[3] Documentation for each data source can be found under "Sources of Data"

Flavonoid content of Dry Teas

This table contains flavonoid values for dry leaves of black, green (regular and decaffeinated) and oolong teas. The fields in this table are exactly the same as in the table, "Flavonoid Content of Selected Foods".

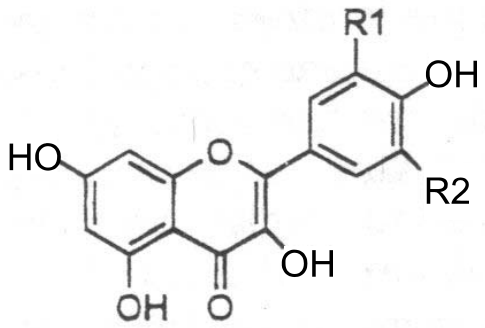
Sources of Data

Flav_src provides a list of 97 data sources from which values for flavonoids for foods were obtained. The data source numbers correspond with the "Sources of Data" column in the data tables. Published references list authors, title, journal citation, as well as foods and flavonoids analyzed. Sources of unpublished data are also provided.

References Cited in the Documentation

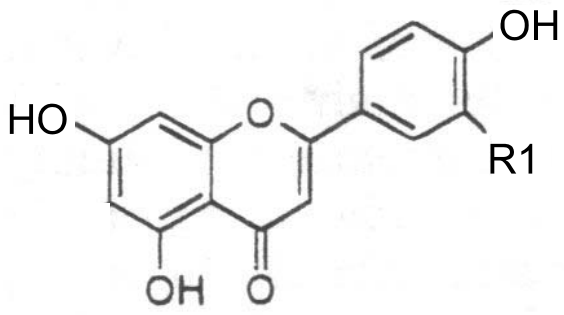
Arts, et al, J. Agric. Food Chem., 2000, 48(5), 1752-1757
Hertog, et al, J. Agric. Food Chem., 1993, 41(8), 1242-1246
Holden, et al, J. Food Comp. Anal., 2002, 15(4), 339-348
Holden et al. Food Nutr. Bull., 1987, 9(suppl.), 177-193
Mangels, J. Am. Diet Assoc., 1993, 93, 284-296

Figure 1. Chemical structure of flavonols (quercetin, kaempferol, myricetin, isorhamnetin)



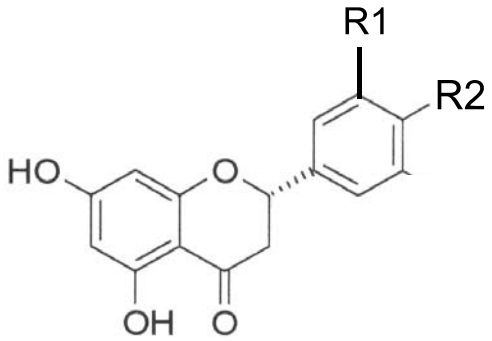
Flavonol	R1	R2
Quercetin	OH	H
Kaempferol	H	H
Myricetin	OH	OH
Isorhamnetin	OMe	H

Figure 2. Chemical structure of flavones (luteolin, apigenin)



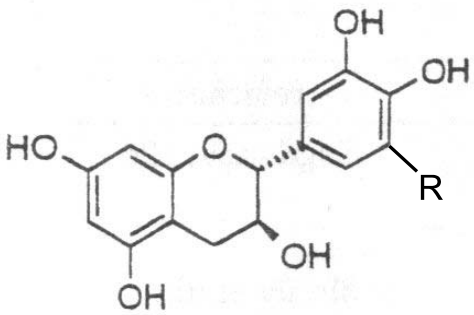
Flavone	R1
Apigenin	H
Luteolin	OH

Figure 3. Chemical structure of flavanones (eriodictyol, hesperetin, naringenin)

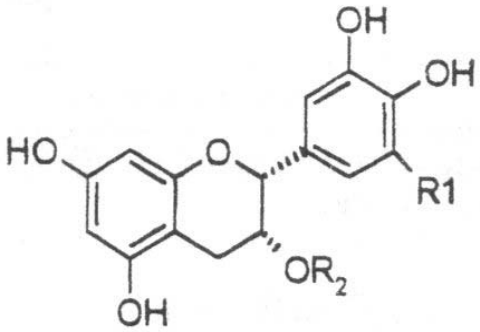


Flavonone	R1	R2
Eriodictyol	OH	OH
Hesperetin	OH	OMe
Naringenin	H	OH

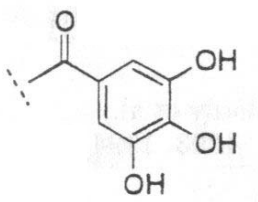
Figure 4. Structure of flavan-3-ols (catechins, epicatechins, theaflavins, and thearubigins[1])



Catechins	R
(+)-Catechin	H
(+)-Gallocatechin	OH

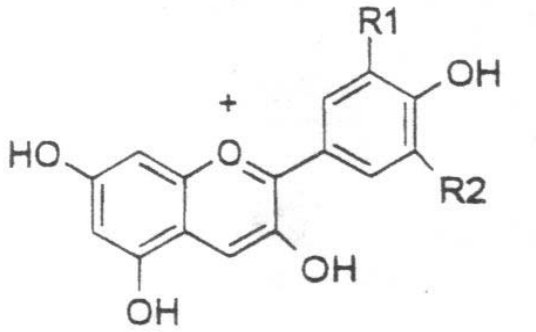


Epicatechins	R1	R2
(!)-Epicatechin (EC)	H	H
(!)-Epigallocatechin (EGC)	OH	H
(!)-Epicatechin-3-gallate (ECG)	H	Gallate
(!)-Epigallocatechin-3-gallate (EGCG)	OH	Gallate



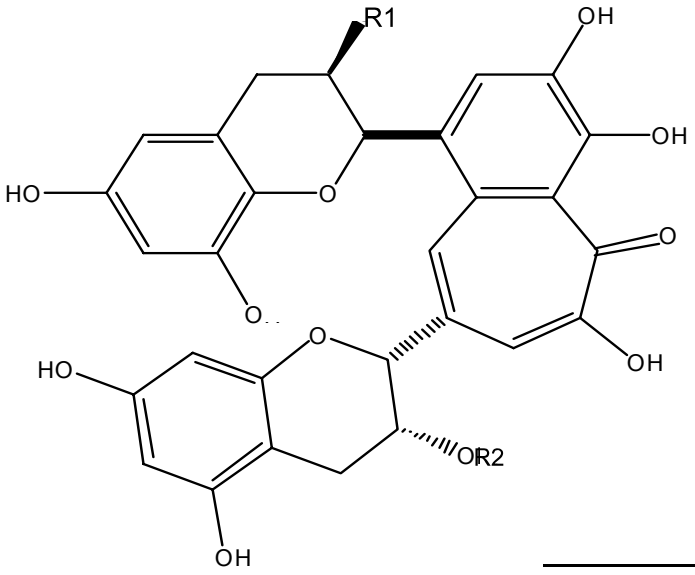
Gallate

Figure 5. Chemical structure of anthocyanidins (cyanidin, delphinidin, malvidin, pelargonidin, peonidin, and petunidin)



Anthocyanidin	R1	R2
Cyanidin	OH	H
Delphinidin	OH	OH
Malvidin	OMe	OMe
Pelargonidin	H	H
Petunidin	OMe	OH
Peonidin	OMe	H

Chemical structure of theaflavins



Theaflavins	R1	R2
Theaflavin	H	H
Theaflavin-3-gallate	Gallate	H
Theaflavin-3'-gallate	H	Gallate
Theaflavin-3,3'-gallate	Gallate	Gallate

[1] A definitive structure for thearubigin, a polymer, has not been determined

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
14003	Alcoholic beverage, beer, regular	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	6
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(+)-Catechin	0.00		1	0.00	0.00	B	6
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	6
		Flavones	Apigenin	0.00		1	0.00	0.00	C	39
			Luteolin	0.00		1	0.00	0.00	C	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	39
			Myricetin	0.05		1	0.05	0.05	C	39
			Quercetin	0.05		1	0.05	0.05	C	39
99323	Alcoholic beverage, wine, berry, colored	Flavonols	Kaempferol	0.03	0.00	28	0.00	0.33	B	59, 94
			Myricetin	0.72	0.02	28	0.13	2.26	B	59, 94
			Quercetin	0.63	0.01	28	0.14	2.43	B	59, 94
99074	Alcoholic beverage, wine, berry, white	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	B	94
			Myricetin	0.00	0.00	2	0.00	0.00	B	94
			Quercetin	0.20	0.14	2	0.00	0.41	B	94
99075	Alcoholic beverage, wine, sherry	Flavonols	Isorhamnetin	0.00	0.00	3	0.00	0.00	C	75
			Kaempferol	0.00	0.00	3	0.00	0.00	C	75
			Myricetin	0.00	0.00	3	0.00	0.00	C	75
			Quercetin	0.01	0.00	3	0.01	0.01	C	75
14096	Alcoholic beverage, wine, table, red	Anthocyanidins	Cyanidin	0.27	0.02	15	0.00	0.95	B	3, 27
			Delphinidin	0.68	0.05	10	0.17	0.74	B	3, 31
			Malvidin	5.68	0.20	29	0.00	25.67	B	3, 27, 31, 86
			Peonidin	1.17	0.11	10	0.10	1.29	B	3, 31
			Petunidin	1.39	0.13	10	0.19	1.52	B	3, 31
		Flavan-3-ols	(-)-Epicatechin	4.29	0.03	52	0.23	16.50	B	3, 6, 27, 31, 54, 76, 77, 86
			(-)-Epicatechin 3-gallate	0.00	0.00	12	0.00	0.00	A	6

[1] Table contains data for those compounds where analytical data were available; lack of data does not mean the compound is not present in a particular food.

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(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin	0.00	0.00	12	0.00	0.00	A	6
			(-)-Epigallocatechin 3-gallate	0.00	0.00	12	0.00	0.00	A	6
			(+)-Catechin	7.61	0.06	51	0.00	39.00	B	6, 27, 31, 54, 76, 77, 86
			(+)-Gallocatechin	0.00	0.00	12	0.00	0.00	A	6
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	39
			Luteolin	0.00	0.00	4	0.00	0.00	B	39
		Flavonols	Isorhamnetin	0.02	0.00	25	0.00	0.16	B	75, 82
			Kaempferol	0.05	0.00	55	0.00	0.36	B	39, 75, 76, 77, 82, 94
			Myricetin	0.73	0.00	91	0.00	1.79	B	27, 39, 44, 54, 75, 76, 77, 82, 94
			Quercetin	0.84	0.00	91	0.00	3.36	B	27, 39, 44, 54, 75, 76, 77, 82, 94
14106	Alcoholic beverage, wine, table, white	Anthocyanidins	Cyanidin	0.00	0.00	6	0.00	0.00	C	27
			Malvidin	0.06	0.01	7	0.00	0.24	B	27, 86
		Flavan-3-ols	(-)-Epicatechin	0.59	0.01	47	0.05	6.00	B	3, 6, 9, 27, 76, 86
			(-)-Epicatechin 3-gallate	0.00	0.00	6	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00	0.00	6	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00	0.00	6	0.00	0.00	B	6
			(+)-Catechin	0.79	0.01	47	0.00	5.80	B	3, 6, 9, 27, 76, 86
			(+)-Gallocatechin	0.00	0.00	6	0.00	0.00	B	6
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	39
			Luteolin	0.00	0.00	2	0.00	0.00	B	39
		Flavonols	Isorhamnetin	0.00	0.00	36	0.00	0.02	B	75, 82
			Kaempferol	0.01	0.00	23	0.00	0.27	B	39, 75, 76, 82, 94
			Myricetin	0.01	0.00	29	0.00	0.10	B	27, 39, 75, 76, 82, 94

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NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Quercetin	0.04	0.00	60	0.00	0.84	B	9, 27, 39, 75, 76, 82, 94
99001	Annual saw-thistle, leaves	Flavones	Apigenin	3.80		1	3.80	3.80	B	89
			Luteolin	6.50		1	6.50	6.50	B	89
		Flavonols	Isorhamnetin	0.70		1	0.70	0.70	B	89
			Kaempferol	3.80		1	3.80	3.80	B	89
			Myricetin	3.60		1	3.60	3.60	B	89
			Quercetin	16.00		1	16.00	16.00	B	89
99083	Apple cider (European)	Flavan-3-ols	(-)-Epicatechin	0.62	0.25	6	0.00	1.15	C	85
			(+)-Catechin	4.87	0.47	2	4.20	5.53	C	3
		Flavonols	Quercetin	0.48	0.34	2	0.00	0.96	C	3, 46
09016	Apple juice, canned or bottled, unsweetened, without added ascorbic acid	Flavan-3-ols	(-)-Epicatechin	0.62	0.12	5	0.00	1.43	B	6, 80
			(-)-Epicatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(+)-Catechin	0.12	0.05	5	0.00	0.33	B	6, 80
			(+)-Gallocatechin	0.00	0.00	2	0.00	0.00	B	6
		Flavones	Apigenin	0.00		1	0.00	0.00	B	39
			Luteolin	0.00		1	0.00	0.00	B	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	39
			Myricetin	0.05		1	0.05	0.05	B	39
			Quercetin	0.34	0.04	6	0.18	0.55	C	39, 69, 80
09003	Apples, raw, with skin	Flavan-3-ols	(-)-Epicatechin	8.14	0.05	28	6.71	10.32	A	5
			(-)-Epicatechin 3-gallate	0.00	0.00	28	0.00	0.00	A	5
			(-)-Epigallocatechin	0.00	0.00	28	0.00	0.00	A	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	28	0.00	0.00	A	5
			(+)-Catechin	0.95	0.01	28	0.40	1.56	A	5
			(+)-Gallocatechin	0.00	0.00	28	0.00	0.00	A	5
		Flavones	Apigenin	0.00	0.00	6	0.00	0.00	B	38
			Luteolin	0.00	0.00	6	0.00	0.00	B	38

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NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
		Flavonols	Kaempferol	0.00	0.00	6	0.00	0.00	B	38
			Myricetin	0.00	0.00	6	0.00	0.00	B	38
			Quercetin	4.42	0.16	11	2.10	7.39	B	38, 69
09004	Apples, raw, without skin	Flavan-3-ols	(-)-Epicatechin	6.23	0.01	68	1.00	14.00	B	16
			(-)-Epicatechin 3-gallate	0.00	0.00	28	0.00	0.00	A	5
			(-)-Epigallocatechin	0.00	0.00	28	0.00	0.00	A	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	28	0.00	0.00	A	5
			(+)-Catechin	0.86	0.02	28	0.28	1.65	A	5
			(+)-Gallocatechin	0.00	0.00	28	0.00	0.00	A	5
		Flavonols	Quercetin	1.50	0.02	24	0.00	2.00	B	16, 44
09019	Applesauce, canned, unsweetened, without added ascorbic acid	Flavan-3-ols	(-)-Epicatechin	5.41		1	5.41	5.41	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.69		1	0.69	0.69	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	2.00	0.00	4	2.00	2.00	B	38
09023	Apricots, canned, water pack, without skin, solids and liquids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
09021	Apricots, raw	Flavan-3-ols	(-)-Epicatechin	6.06	0.00	4	6.06	6.06	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Catechin	4.95	0.00	4	4.95	4.95	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	B	38
			Luteolin	0.00		1	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	38
			Myricetin	0.00		1	0.00	0.00	B	38
			Quercetin	2.55	0.04	2	2.50	2.60	C	38, 44
09037	Avocados, raw, all commercial varieties	Flavan-3-ols	(-)-Epicatechin	0.56	0.00	4	0.56	0.56	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
09040	Bananas, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
20004	Barley	Flavan-3-ols	(+)-Catechin	3.84	0.13	8	2.60	5.50	C	42
02044	Basil, fresh	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
16029	Beans, kidney, all types, mature seeds, canned	Flavan-3-ols	(-)-Epicatechin	0.35		1	0.35	0.35	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Catechin	1.66		1	1.66	1.66	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
11056	Beans, snap, green, canned, regular pack, drained solids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.02	0.00	5	0.00	0.09	C	38, 68
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	1.49	0.05	5	0.63	1.70	C	38, 68
11060	Beans, snap, green, frozen, all styles, unprepared	Flavonols	Kaempferol	0.24		1	0.24	0.24	C	25
			Quercetin	1.30		1	1.30	1.30	C	25
11061	Beans, snap, green, frozen, cooked, boiled, drained without salt	Flavonols	Kaempferol	0.26	0.02	4	0.20	0.31	C	25
			Quercetin	1.25	0.07	4	1.00	1.50	C	25
11052	Beans, snap, green, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	16	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	16	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	16	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	16	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	16	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	16	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	8	0.00	0.00	B	38
			Luteolin	0.00	0.00	12	0.00	0.00	B	38
		Flavonols	Kaempferol	0.41	0.01	40	0.00	0.89	B	37, 38, 68
			Myricetin	0.00	0.00	12	0.00	0.00	B	38
			Quercetin	2.73	0.03	44	0.50	9.09	B	37, 38, 44, 68
11722	Beans, snap, yellow, raw	Flavonols	Kaempferol	0.42	0.03	9	0.20	0.71	C	37
			Quercetin	3.03	0.14	9	0.95	6.85	C	37
43201	Bee Pollen	Flavonols	Isorhamnetin	0.68	0.00	11	0.64	0.78	B	13
			Kaempferol	1.12	0.02	11	0.71	1.68	B	13
			Myricetin	3.34	0.13	11	0.00	13.64	B	13
			Quercetin	20.95	0.46	11	16.22	31.76	B	13
11080	Beets, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	C	38, 52
			Luteolin	0.37	0.33	5	0.00	1.83	C	38, 52
		Flavonols	Kaempferol	0.00	0.00	5	0.00	0.00	C	38, 52
			Myricetin	0.00	0.00	5	0.00	0.00	C	38, 52
			Quercetin	0.13	0.12	5	0.00	0.67	C	38, 52
99006	Bilberries, raw	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33
			Myricetin	1.09	0.15	8	0.00	2.10	B	33, 34, 35
			Quercetin	3.04	0.14	8	1.70	4.12	B	33, 34, 35
99065	Bilberry soup	Flavonols	Quercetin	0.60		1	0.60	0.60	C	34
99007	Black Currant Juice	Flavonols	Myricetin	1.86	0.38	4	0.66	3.16	C	34
			Quercetin	1.15	0.39	4	0.65	2.52	C	34
09042	Blackberries, raw	Flavan-3-ols	(-)-Epicatechin	18.08	0.00	4	18.08	18.08	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.66	0.00	4	0.66	0.66	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavonols	Kaempferol	0.08	0.00	9	0.01	0.21	C	12
			Myricetin	0.00	0.00	9	0.00	0.00	C	12
			Quercetin	1.03	0.03	9	0.20	1.94	C	12
99313	Blood orange juice, raw	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	C	8
		Flavonols	Quercetin	0.00	0.00	2	0.00	0.00	C	8
		Flavanones	Eriodictyol	0.00	0.00	13	0.00	0.00	B	55
			Hesperetin	13.12	0.07	60	8.53	18.57	B	8, 55, 57
			Naringenin	1.68	0.00	60	1.30	3.85	B	8, 55, 57

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
09054	Blueberries, frozen, unsweetened	Flavonols	Myricetin	1.47	0.02	6	0.80	1.90	C	35
			Quercetin	3.93	0.12	6	2.20	6.70	C	35
09050	Blueberries, raw	Anthocyanidins	Cyanidin	15.02	0.84	12	4.79	28.72	B	29
			Delphinidin	29.54	0.14	12	20.82	47.37	B	29
			Malvidin	49.21	1.42	12	32.95	69.44	B	29
			Peonidin	7.05	0.53	12	1.01	19.37	B	29
			Petunidin	11.73	0.09	12	7.19	18.25	B	29
		Flavan-3-ols	(-)-Epicatechin	1.11	0.00	4	1.11	1.11	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavonols	Kaempferol	0.00	0.00	6	0.00	0.00	B	12, 33
			Myricetin	0.82	0.15	6	0.00	2.60	B	12, 33
			Quercetin	3.11	0.04	7	1.70	7.30	B	12, 33, 44
99326	Bog whortleberries, wild, frozen	Flavonols	Kaempferol	0.00		1	0.00	0.00	C	33
			Myricetin	7.30	3.32	2	2.60	12.00	C	33, 35
			Quercetin	17.70	1.34	2	15.80	19.60	C	33, 35
18075	Bread, whole-wheat, commercially prepared	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.00		1	0.00	0.00	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
16054	Broadbeans (fava beans), mature seeds, canned	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.00		1	0.00	0.00	C	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.35	0.00	4	0.35	0.35	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.55	0.00	4	0.55	0.55	B	38
11089	Broadbeans, immature seeds, cooked, boiled, drained, without salt	Flavan-3-ols	(-)-Epicatechin	7.82	0.00	4	7.82	7.82	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	4.65	0.00	4	4.65	4.65	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	8.16	0.00	4	8.16	8.16	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
11088	Broadbeans, immature seeds, raw	Flavan-3-ols	(-)-Epicatechin	22.51	0.00	4	22.51	22.51	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	14.03	0.00	4	14.03	14.03	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	12.83	0.00	4	12.83	12.83	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	C	38
			Luteolin	0.00		1	0.00	0.00	C	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	38
			Myricetin	2.60		1	2.60	2.60	C	38
			Quercetin	2.00		1	2.00	2.00	C	38
11091	Broccoli, cooked, boiled, drained, without salt	Flavonols	Kaempferol	1.38		1	1.38	1.38	D	67
			Quercetin	1.06		1	1.06	1.06	D	67
11090	Broccoli, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	C	38, 52
			Luteolin	0.00	0.00	2	0.00	0.00	C	38, 52
		Flavonols	Kaempferol	6.16	0.02	9	3.08	9.15	B	38, 44, 52, 54, 67
			Myricetin	0.00	0.00	2	0.00	0.00	C	38, 52
			Quercetin	3.21	0.06	9	1.50	4.31	B	38, 44, 52, 54, 67
11098	Brussels sprouts, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	C	38, 52
			Luteolin	0.34	0.24	2	0.00	0.67	C	38, 52
		Flavonols	Kaempferol	0.95	0.06	4	0.74	1.28	B	38, 44, 52
			Myricetin	0.00	0.00	2	0.00	0.00	C	38, 52
			Quercetin	0.30	0.09	4	0.00	0.60	B	38, 44, 52
20008	Buckwheat	Flavonols	Quercetin	23.09	0.21	12	15.60	36.29	C	61
20011	Buckwheat flour, whole-groat	Flavan-3-ols	(-)-Epicatechin	3.53		1	3.53	3.53	D	74
		Flavonols	Quercetin	2.72	0.01	11	1.15	2.88	C	46, 74
20009	Buckwheat groats, roasted, dry	Flavones	Apigenin	0.28	0.00	5	0.16	0.65	C	22
		Flavonols	Quercetin	5.84	0.16	5	2.14	8.79	C	22
11116	Cabbage, chinese (pak-choi or bok-choy), raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.01	0.01	2	0.00	0.03	C	19, 52

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Luteolin	0.06	0.04	2	0.00	0.12	C	19, 52
		Flavonols	Kaempferol	0.37	0.25	2	0.01	0.73	C	19, 52
			Myricetin	0.00	0.00	2	0.00	0.01	C	19, 52
			Quercetin	0.01	0.01	4	0.00	0.02	C	19, 52
11109	Cabbage, raw	Flavones	Apigenin	0.01	0.00	10	0.00	0.09	B	19, 38, 52
			Luteolin	0.04	0.00	10	0.00	0.42	B	19, 38, 52
		Flavonols	Kaempferol	0.12	0.01	10	0.00	1.19	B	19, 38, 52
			Myricetin	0.00	0.00	10	0.00	0.00	B	19, 38, 52
			Quercetin	0.01	0.00	15	0.00	0.16	B	19, 38, 44, 52
11112	Cabbage, red, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.01	0.00	10	0.00	0.11	B	19, 38, 52
			Luteolin	0.06	0.01	10	0.00	0.63	B	19, 38, 52
		Flavonols	Kaempferol	0.00	0.00	11	0.00	0.00	B	11, 19, 38, 52
			Myricetin	0.00	0.00	10	0.00	0.00	B	19, 38, 52
			Quercetin	0.37	0.01	11	0.02	0.92	B	11, 19, 38, 52
02054	Capers, canned	Flavonols	Kaempferol	135.56	0.82	17	59.49	247.97	B	41
			Quercetin	180.77	2.47	17	45.05	519.85	B	41
11128	Carrots, canned, regular pack, drained solids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
11124	Carrots, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	C	38, 52
			Luteolin	0.00	0.00	5	0.00	0.00	C	38, 52
		Flavonols	Kaempferol	0.00	0.00	5	0.00	0.00	C	38, 52
			Myricetin	0.00	0.00	5	0.00	0.00	C	38, 52
			Quercetin	0.07	0.06	5	0.00	0.35	C	38, 52
11935	Catsup	Flavonols	Kaempferol	0.01	0.00	3	0.01	0.01	C	84
			Quercetin	0.86	0.00	3	0.86	0.86	C	84
11135	Cauliflower, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	C	38, 52
			Luteolin	0.08	0.07	5	0.00	0.40	C	38, 52
		Flavonols	Kaempferol	0.25	0.22	5	0.00	1.25	C	38, 52
			Myricetin	0.00	0.00	5	0.00	0.00	C	38, 52
			Quercetin	0.03	0.03	5	0.00	0.15	C	38, 52
11141	Celeriac, raw	Flavones	Apigenin	2.41		1	2.41	2.41	D	52
			Luteolin	0.00		1	0.00	0.00	D	52
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	52
			Myricetin	0.00		1	0.00	0.00	D	52
			Quercetin	0.18		1	0.18	0.18	D	52
99118	Celery hearts, green	Flavones	Apigenin	19.10		1	19.10	19.10	D	21
			Luteolin	3.50		1	3.50	3.50	D	21
99009	Celery hearts, white	Flavones	Apigenin	1.70		1	1.70	1.70	C	21
			Luteolin	0.66		1	0.66	0.66	C	21

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
11143	Celery, raw	Flavones	Apigenin	4.61	0.03	9	0.00	10.80	B	21, 40, 44
			Luteolin	1.31	0.15	9	0.00	4.00	B	21, 40, 44
		Flavonols	Quercetin	3.50		1	3.50	3.50	C	20
09063	Cherries, sour, red, raw	Anthocyanidins	Cyanidin	6.64	2.54	2	3.05	10.23	C	96
09365	Cherries, sweet, canned, water pack, drained	Flavan-3-ols	(-)-Epicatechin	4.31		1	4.31	4.31	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.00		1	0.00	0.00	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	3.20	0.00	4	3.20	3.20	B	38
09070	Cherries, sweet, raw	Anthocyanidins	Cyanidin	111.43	3.71	7	50.23	145.09	C	30
			Pelargonidin	0.84	0.16	7	0.36	1.88	C	30
			Peonidin	5.15	0.23	7	1.93	10.99	C	30
		Flavan-3-ols	(-)-Epicatechin	9.53	0.00	4	9.53	9.53	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	2.17	0.00	4	2.17	2.17	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	B	38
			Luteolin	0.00		1	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	38
			Myricetin	0.00		1	0.00	0.00	B	38
			Quercetin	1.25	0.18	2	1.00	1.50	B	38, 44
11152	Chicory greens, raw	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
11154	Chicory roots, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
11156	Chives, raw	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	43, 89
			Luteolin	0.15	0.11	2	0.00	0.30	B	43, 89
		Flavonols	Isorhamnetin	6.75	1.24	2	5.00	8.50	B	43, 89
			Kaempferol	10.00	1.02	3	5.50	12.50	C	11, 43, 89
			Myricetin	0.00		1	0.00	0.00	B	89
			Quercetin	4.77	2.30	3	0.90	10.40	C	11, 43, 89
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
99321	Chocolate bar, dark	Flavan-3-ols	(-)-Epicatechin	41.50	6.19	2	32.74	50.25	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	2	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	5
			(+)-Catechin	11.99	0.88	2	10.75	13.24	B	5
			(+)-Gallocatechin	0.00	0.00	2	0.00	0.00	B	5
99320	Chocolate bar, milk	Flavan-3-ols	(-)-Epicatechin	10.45	0.83	3	6.25	12.61	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	3	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	3	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	3	0.00	0.00	B	5
			(+)-Catechin	2.90	0.38	3	2.17	3.83	B	5
			(+)-Gallocatechin	0.00	0.00	3	0.00	0.00	B	5
99334	Chokeberries, frozen	Flavonols	Kaempferol	0.00		1	0.00	0.00	C	33

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	0.00		1	0.00	0.00	C	33
			Quercetin	8.90		1	8.90	8.90	C	33
99337	Cloudberries, frozen	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33
			Myricetin	0.00	0.00	2	0.00	0.00	C	33
			Quercetin	0.60	0.00	2	0.60	0.60	C	33
19165	Cocoa, dry powder, unsweetened	Flavonols	Quercetin	20.13		1	20.13	20.13	C	48
14209	Coffee, brewed, prepared with tap water	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	6
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(+)-Catechin	0.00		1	0.00	0.00	B	6
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	6
		Flavones	Apigenin	0.00		1	0.00	0.00	C	39
			Luteolin	0.00		1	0.00	0.00	C	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	39
			Myricetin	0.05		1	0.05	0.05	C	39
			Quercetin	0.05		1	0.05	0.05	C	39
11165	Coriander, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	5.00		1	5.00	5.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
99014	Corn poppy, leaves	Flavones	Apigenin	0.10		1	0.10	0.10	B	89
			Luteolin	0.10		1	0.10	0.10	B	89
		Flavonols	Isorhamnetin	1.10		1	1.10	1.10	B	89
			Kaempferol	2.30		1	2.30	2.30	B	89
			Myricetin	1.10		1	1.10	1.10	B	89
			Quercetin	26.30		1	26.30	26.30	B	89

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
11167	Corn, sweet, yellow, raw	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.00		1	0.00	0.00	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
99015	Cowberries, raw	Flavonols	Kaempferol	0.50		1	0.50	0.50	C	44
			Quercetin	21.00		1	21.00	21.00	C	44
09078	Cranberries, raw	Flavan-3-ols	(-)-Epicatechin	4.20	0.00	4	4.20	4.20	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavonols	Kaempferol	0.09	0.01	14	0.00	0.27	B	12, 33
			Myricetin	4.33	1.21	16	0.40	23.00	B	12, 33, 40, 44
			Quercetin	14.02	0.13	16	7.30	25.00	B	12, 33, 40, 44
14242	Cranberry juice cocktail, bottled	Flavan-3-ols	(+)-Catechin	0.19		1	0.19	0.19	C	18
		Flavonols	Myricetin	0.27		1	0.27	0.27	C	18
			Quercetin	1.13		1	1.13	1.13	C	18
99110	Cranberry juice, raw	Flavan-3-ols	(+)-Catechin	0.92		1	0.92	0.92	C	18
		Flavonols	Myricetin	4.41		1	4.41	4.41	C	18
			Quercetin	16.41		1	16.41	16.41	C	18
11203	Cress, garden, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	1.00		1	1.00	1.00	C	43
			Kaempferol	13.00		1	13.00	13.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
99339	Crowberries, frozen	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	4.65	0.18	2	4.40	4.90	C	33
			Quercetin	5.45	0.11	2	5.30	5.60	C	33
99066	Crowberry juice	Flavonols	Myricetin	3.49	0.02	2	3.46	3.51	C	34
			Quercetin	3.88	0.08	2	3.76	3.99	C	34
99102	Crown daisy, leaves	Flavones	Apigenin	0.00		1	0.00	0.00	D	19
			Luteolin	0.01		1	0.01	0.01	D	19
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	19
			Myricetin	0.02		1	0.02	0.02	D	19
			Quercetin	0.16		1	0.16	0.16	D	19
11205	Cucumber, with peel, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	6	0.00	0.00	C	19, 38, 52
			Luteolin	0.00	0.00	6	0.00	0.01	C	19, 38, 52
		Flavonols	Kaempferol	0.06	0.01	6	0.00	0.33	C	19, 38, 52
			Myricetin	0.00	0.00	6	0.00	0.00	C	19, 38, 52
			Quercetin	0.04	0.01	6	0.00	0.24	C	19, 38, 52
99073	Currants, dried	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.00		1	0.00	0.00	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
09083	Currants, European black, raw	Flavan-3-ols	(-)-Epicatechin	0.47	0.00	4	0.47	0.47	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Catechin	0.70	0.00	4	0.70	0.70	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	33
			Myricetin	7.81	0.40	8	4.78	14.00	B	33, 34, 94
			Quercetin	5.69	0.15	8	4.40	8.60	B	33, 34, 94
99044	Currants, red, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	1.22	0.00	4	1.22	1.22	B	5
			(+)-Gallocatechin	1.22	0.00	4	1.22	1.22	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	B	38
			Luteolin	0.00		1	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33, 38
			Myricetin	0.00	0.00	2	0.00	0.00	C	33, 38
			Quercetin	0.95	0.04	8	0.80	1.30	B	33, 38
99045	Currants, white, raw	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.30		1	0.30	0.30	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33
			Myricetin	0.00	0.00	2	0.00	0.00	C	33
			Quercetin	1.95	0.88	2	0.70	3.20	C	33
11616	Dock, leaves, raw	Flavones	Apigenin	0.00		1	0.00	0.00	B	89
			Luteolin	0.00		1	0.00	0.00	B	89
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	B	89
			Kaempferol	10.30		1	10.30	10.30	B	89
			Myricetin	5.70		1	5.70	5.70	B	89

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Quercetin	86.20		1	86.20	86.20	B	89
99018	Elderberry, raw	Anthocyanidins	Cyanidin	749.24	24.48	13	379.15	1067.33	C	45
		Flavonols	Quercetin	42.00	0.40	13	29.00	60.00	C	45
11213	Endive, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	4.04	0.13	5	1.80	4.60	B	38, 40
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
99058	Fennel, leaves, raw	Flavones	Apigenin	0.00		1	0.00	0.00	B	89
			Luteolin	0.10		1	0.10	0.10	B	89
		Flavonols	Isorhamnetin	9.30		1	9.30	9.30	B	89
			Kaempferol	6.50		1	6.50	6.50	B	89
			Myricetin	19.80		1	19.80	19.80	B	89
			Quercetin	48.80		1	48.80	48.80	B	89
			Kaempferol	2.12		1	2.12	2.12	C	11
			Quercetin	0.12		1	0.12	0.12	C	11
09107	Gooseberries, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	1.67	0.00	4	1.67	1.67	B	5
			(+)-Gallocatechin	0.44	0.00	4	0.44	0.44	B	5
		Flavonols	Kaempferol	1.75	0.11	2	1.60	1.90	C	33
			Myricetin	0.00	0.00	2	0.00	0.00	C	33

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Quercetin	2.00	0.14	2	1.80	2.20	C	33
11220	Gourd, dishcloth (towelgourd), raw	Flavones	Apigenin	0.00		1	0.00	0.00	D	19
			Luteolin	0.01		1	0.01	0.01	D	19
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	19
			Myricetin	0.13		1	0.13	0.13	D	19
			Quercetin	0.03		1	0.03	0.03	D	19
09135	Grape juice, canned or bottled, unsweetened, without added vitamin C	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	6
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	6
			(+)-Catechin	0.19		1	0.19	0.19	B	6
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	6
		Flavones	Apigenin	0.00		1	0.00	0.00	C	39
			Luteolin	0.00		1	0.00	0.00	C	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	39
			Myricetin	0.58		1	0.58	0.58	C	39
			Quercetin	0.41		1	0.41	0.41	C	39
09123	Grapefruit juice, canned, unsweetened	Flavanones	Hesperetin	0.52		1	0.52	0.52	C	78
			Naringenin	18.11	0.01	526	13.96	26.33	B	24, 78, 79
09126	Grapefruit juice, frozen concentrate, unsweetened, diluted with 3 volume water	Flavanones	Naringenin	31.18	0.50	2	30.48	31.89	C	14
09404	Grapefruit juice, pink, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	8
		Flavonols	Quercetin	0.00		1	0.00	0.00	C	8
		Flavanones	Eriodictyol	0.00	0.00	24	0.00	0.00	B	8, 55
			Hesperetin	0.52	0.00	24	0.44	1.38	B	8, 55
			Naringenin	14.17	0.19	24	9.67	62.58	B	8, 55
09128	Grapefruit juice, white, raw	Flavones	Apigenin	0.00	0.00	18	0.00	0.00	C	8
			Luteolin	0.00		1	0.00	0.00	B	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	39

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	0.05		1	0.05	0.05	B	39
			Quercetin	0.05	0.05	9	0.00	0.47	C	8, 39
		Flavanones	Eriodictyol	0.65	0.02	29	0.00	11.36	B	8, 55, 56
			Hesperetin	3.42	0.09	29	0.00	34.93	B	8, 55, 56
			Naringenin	20.06	0.23	32	0.00	58.03	B	7, 8, 55, 56
99347	Grapefruit, raw	Flavonols	Kaempferol	0.40	0.00	2	0.40	0.40	C	44
			Quercetin	0.50	0.00	2	0.50	0.50	C	44
		Flavanones	Hesperetin	1.50	0.00	2	1.50	1.50	C	44
			Naringenin	53.00	0.00	2	53.00	53.00	C	44
99048	Grapes, black	Flavan-3-ols	(-)-Epicatechin	8.64	0.00	4	8.64	8.64	B	5
			(-)-Epicatechin 3-gallate	2.81	0.00	4	2.81	2.81	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	8.94	0.00	4	8.94	8.94	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	B	38
			Luteolin	0.00		1	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	38
			Myricetin	0.45		1	0.45	0.45	B	38
			Quercetin	2.54	0.37	4	1.26	3.70	B	38, 44, 63
99049	Grapes, black, juice	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epicatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(+)-Catechin	0.80	0.04	2	0.75	0.85	B	6
			(+)-Gallocatechin	0.00	0.00	2	0.00	0.00	B	6
99046	Grapes, red	Flavan-3-ols	(-)-Epicatechin	1.95	0.14	2	1.75	2.14	C	62
		Flavonols	Quercetin	3.54	0.31	2	3.11	3.98	C	62
99047	Grapes, white or green	Flavan-3-ols	(-)-Epicatechin	1.02	0.00	4	1.02	1.02	B	5
			(-)-Epicatechin 3-gallate	0.43	0.00	4	0.43	0.43	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	2.47	0.00	4	2.47	2.47	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	38
			Luteolin	0.00	0.00	2	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	B	38
			Myricetin	0.45	0.00	2	0.45	0.45	B	38
			Quercetin	0.87	0.14	3	0.20	1.20	C	38, 44
99016	Greek greens pie (prepared from wild greens)	Flavones	Apigenin	0.00		1	0.00	0.00	B	89
			Luteolin	6.60		1	6.60	6.60	B	89
		Flavonols	Isorhamnetin	1.80		1	1.80	1.80	B	89
			Kaempferol	4.30		1	4.30	4.30	B	89
			Myricetin	1.40		1	1.40	1.40	B	89
			Quercetin	12.40		1	12.40	12.40	B	89
99019	Hartwort, leaves	Flavones	Apigenin	0.00		1	0.00	0.00	B	89
			Luteolin	0.60		1	0.60	0.60	B	89
		Flavonols	Isorhamnetin	5.10		1	5.10	5.10	B	89
			Kaempferol	2.90		1	2.90	2.90	B	89
			Myricetin	1.60		1	1.60	1.60	B	89
			Quercetin	29.30		1	29.30	29.30	B	89
99079	Horseradish, root, whole	Flavones	Apigenin	0.00		1	0.00	0.00	C	52
			Luteolin	0.90		1	0.90	0.90	C	52
		Flavonols	Kaempferol	1.58	0.70	2	0.60	2.57	C	11, 52
			Myricetin	0.00		1	0.00	0.00	C	52
			Quercetin	0.28	0.20	2	0.00	0.57	C	11, 52
99114	Jam, cherry	Flavan-3-ols	(-)-Epicatechin	0.90		1	0.90	0.90	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Catechin	0.16		1	0.16	0.16	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
99113	Jam, forest fruit	Flavan-3-ols	(-)-Epicatechin	1.57		1	1.57	1.57	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.07		1	0.07	0.07	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
99038	Jam, sour orange	Flavanones	Eriodictyol	3.03	0.34	3	2.48	3.87	C	87
			Hesperetin	4.02	0.28	3	3.17	4.70	C	87
			Naringenin	4.56	0.36	3	3.72	5.43	C	87
19719	Jams and preserves, apricot	Flavan-3-ols	(-)-Epicatechin	0.50		1	0.50	0.50	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.47		1	0.47	0.47	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
		Flavonols	Kaempferol	0.11	0.00	6	0.06	0.16	C	87
			Quercetin	0.71	0.04	6	0.31	1.05	C	87
99064	Jams and preserves, strawberry	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.90		1	0.90	0.90	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
		Flavonols	Kaempferol	0.64	0.01	6	0.00	1.07	B	34, 87
			Quercetin	0.45	0.02	6	0.32	0.61	B	34, 87
99054	Kale, canned	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	38
			Luteolin	0.00	0.00	2	0.00	0.00	B	38
		Flavonols	Kaempferol	18.40	0.00	2	18.40	18.40	B	38

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	0.00	0.00	2	0.00	0.00	B	38
			Quercetin	4.50	0.00	2	4.50	4.50	B	38
99098	Kale, Chinese, raw	Flavones	Apigenin	0.01		1	0.01	0.01	D	19
			Luteolin	0.00		1	0.00	0.00	D	19
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	19
			Myricetin	0.01		1	0.01	0.01	D	19
			Quercetin	0.07		1	0.07	0.07	D	19
11233	Kale, raw	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	C	38, 52
			Luteolin	0.00	0.00	2	0.00	0.00	C	38, 52
		Flavonols	Kaempferol	26.74	2.71	8	0.48	47.00	B	11, 38, 44, 52
			Myricetin	0.00	0.00	2	0.00	0.00	C	38, 52
			Quercetin	7.71	0.57	8	0.00	12.00	B	11, 38, 44, 52
09148	Kiwifruit, (Chinese gooseberries), fresh, raw	Flavan-3-ols	(-)-Epicatechin	0.45	0.00	4	0.45	0.45	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
11241	Kohlrabi, raw	Flavones	Apigenin	0.00		1	0.00	0.00	D	52
			Luteolin	1.30		1	1.30	1.30	D	52
		Flavonols	Kaempferol	2.43		1	2.43	2.43	D	52
			Myricetin	0.00		1	0.00	0.00	D	52
			Quercetin	0.40		1	0.40	0.40	D	52
11246	Leeks, (bulb and lower leaf-portion), raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	B	38, 52

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Luteolin	0.00	0.00	5	0.00	0.00	B	38, 52
		Flavonols	Kaempferol	2.95	0.02	9	0.64	4.58	B	11, 38, 40, 44, 52
			Myricetin	0.00	0.00	5	0.00	0.00	B	38, 52
			Quercetin	0.10	0.06	7	0.00	0.50	B	11, 38, 40, 52
99112	Lemon balm, leaves, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
09153	Lemon juice, canned or bottled	Flavanones	eriodictyol	11.64	0.30	22	6.28	19.01	C	32
			hesperetin	14.36	0.29	22	9.12	20.63	C	32, 44
09152	Lemon juice, raw	Flavones	Apigenin	0.00	0.00	10	0.00	0.00	B	8, 39
			Luteolin	0.00		1	0.00	0.00	B	39
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	39
			Myricetin	0.05		1	0.05	0.05	B	39
			Quercetin	0.28	0.05	9	0.00	1.81	C	8, 39
		Flavanones	eriodictyol	4.88	0.04	31	0.00	14.70	B	8, 32, 55
			hesperetin	12.02	0.21	31	1.90	142.24	B	8, 32, 55
			naringenin	1.43	0.05	27	0.00	18.22	B	8, 55
09150	Lemons, raw, without peel	Flavones	Luteolin	1.50		1	1.50	1.50	B	54
		Flavonols	Quercetin	2.29	0.84	2	1.10	3.47	C	54, 92
		Flavanones	Eriodictyol	21.36	2.66	2	17.60	25.13	C	54, 92
			Hesperetin	27.90	4.37	3	17.00	49.51	C	44, 54, 92
			Naringenin	0.55	0.04	2	0.50	0.60	B	44, 54
11250	Lettuce, butterhead (includes Boston and bibb types), raw	Flavonols	Kaempferol	0.02	0.01	3	0.00	0.04	C	11
			Quercetin	1.19	0.66	3	0.09	2.80	C	11
11252	Lettuce, iceberg (includes crisphead	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
	types), raw		(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.38	0.06	7	0.00	2.65	B	38, 52
			Luteolin	0.06	0.01	7	0.00	0.39	B	38, 52
		Flavonols	Kaempferol	0.07	0.01	13	0.00	0.84	B	11, 38, 52
			Myricetin	0.15	0.02	7	0.00	1.02	B	38, 52
			Quercetin	2.47	0.06	20	0.00	9.40	B	11, 21, 38, 40, 52
11253	Lettuce, looseleaf, raw	Flavones	Apigenin	0.01		1	0.01	0.01	C	19
			Luteolin	0.00		1	0.00	0.00	C	19
		Flavonols	Kaempferol	0.04	0.01	5	0.00	0.20	C	11, 19
			Myricetin	0.02		1	0.02	0.02	C	19
			Quercetin	1.95	0.43	5	0.04	5.40	C	11, 19
99104	Licorice root	Flavanols	Quercetin	0.00		1	0.00	0.00	D	36
09160	Lime juice, raw	Flavones	Apigenin	0.00	0.00	6	0.00	0.00	C	8
		Flavonols	Quercetin	0.51	0.14	6	0.00	1.78	C	8
		Flavanones	Eriodictyol	2.19	0.01	20	0.00	3.52	B	8, 55
			Hesperetin	8.97	0.19	20	5.18	21.37	B	8, 55
			Naringenin	0.38	0.01	23	0.00	4.62	B	8, 55, 97
09159	Limes, raw	Flavonols	Quercetin	0.40		1	0.40	0.40	C	44
		Flavanones	Naringenin	3.40		1	3.40	3.40	C	44
99021	Lingonberries, raw	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33
			Myricetin	0.00	0.00	2	0.00	0.00	C	33
			Quercetin	12.16	0.51	10	7.36	16.90	B	33, 34, 54
99067	Lingonberry juice	Flavonols	Quercetin	1.02	0.06	2	0.93	1.10	C	34
99111	Lovage, leaves, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Kaempferol	7.00		1	7.00	7.00	C	43
			Quercetin	170.00		1	170.00	170.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
20100	Macaroni, cooked, enriched	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.00		1	0.00	0.00	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
09176	Mangos, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	1.72	0.00	4	1.72	1.72	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
99022	Marrowfat pea, canned, drained solids	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	5.64		1	5.64	5.64	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	0.00		1	0.00	0.00	C	5
			(+)-Gallocatechin	4.33		1	4.33	4.33	C	5
01103	Milk, chocolate, fluid, commercial, reduced fat	Flavan-3-ols	(-)-Epicatechin	0.26	0.14	2	0.06	0.47	B	6
			(-)-Epicatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin	0.00	0.00	2	0.00	0.00	B	6
			(-)-Epigallocatechin 3-gallate	0.00	0.00	2	0.00	0.00	B	6
			(+)-Catechin	0.82	0.50	2	0.11	1.53	B	6
			(+)-Gallocatechin	0.00	0.00	2	0.00	0.00	B	6
			Apigenin	0.00		1	0.00	0.00	C	39
			Luteolin	0.00		1	0.00	0.00	C	39
			Kaempferol	0.00		1	0.00	0.00	C	39

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	0.05		1	0.05	0.05	C	39
			Quercetin	0.12		1	0.12	0.12	C	39
11264	Mushrooms, canned, drained solids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
11260	Mushrooms, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
09191	Nectarines, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	2.75	0.00	4	2.75	2.75	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
09193	Olives, ripe, canned (small-extra large)	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
11283	Onions, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.35	0.00	5	0.29	0.41	C	25
			Quercetin	19.36	0.42	14	8.70	31.00	B	21, 25
11282	Onions, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	B	38, 52
			Luteolin	0.00	0.00	5	0.00	0.00	B	38, 52
		Flavonols	Isorhamnetin	1.91	0.09	7	1.26	2.51	C	90
			Kaempferol	0.18	0.01	9	0.00	0.96	B	10, 25, 38, 52
			Myricetin	0.00	0.00	5	0.00	0.00	B	38, 52
			Quercetin	13.27	0.00	294	1.50	41.00	B	10, 25, 38, 44, 52, 54, 64, 65, 90
99055	Onions, red, raw	Anthocyanidins	Cyanidin	13.14	0.00	3	13.14	13.14	C	26
		Flavones	Apigenin	0.00		1	0.00	0.00	C	52
			Luteolin	0.00		1	0.00	0.00	C	52
		Flavonols	Isorhamnetin	17.94	1.34	4	3.97	22.60	C	26, 90
			Kaempferol	0.89	0.36	3	0.00	2.43	C	10, 40, 52
			Myricetin	0.00		1	0.00	0.00	C	52
			Quercetin	19.93	0.35	58	0.00	75.55	B	10, 21, 26, 40, 44, 52, 54, 65, 70, 90
11291	Onions, spring or scallions (includes tops and bulb), raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	52
			Luteolin	0.00		1	0.00	0.00	C	52
		Flavonols	Kaempferol	1.55	0.78	3	0.60	3.45	C	44, 52
			Myricetin	0.00		1	0.00	0.00	C	52
			Quercetin	14.24	3.07	3	6.71	18.00	C	44, 52
99057	Onions, white, sweet,	Flavonols	Isorhamnetin	0.00	0.00	3	0.00	0.00	C	90

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
	raw		Kaempferol	0.33	0.01	3	0.00	0.70	C	10
			Quercetin	5.19	0.01	78	0.00	63.40	B	10, 20, 21, 65, 70, 90
09209	Orange juice, chilled, includes from concentrate	Flavanones	Hesperetin	3.61		1	3.61	3.61	C	28
			Naringenin	1.47		1	1.47	1.47	C	28
09215	Orange juice, frozen concentrate, unsweetened, diluted with 3 volume water	Flavanones	Hesperetin	26.21	0.80	14	15.35	32.59	A	14, 60, 73
			Naringenin	3.27	0.03	14	2.56	4.38	A	14, 60, 73
09206	Orange juice, raw	Flavones	Apigenin	0.00	0.00	20	0.00	0.00	B	8, 39
			Luteolin	0.00	0.00	2	0.00	0.00	B	39
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	B	39
			Myricetin	0.05	0.00	2	0.05	0.05	B	39
			Quercetin	0.19	0.02	23	0.00	1.34	B	8, 17, 39
		Flavanones	Eriodictyol	0.17	0.00	127	0.00	1.88	B	8, 17, 53, 55
			Hesperetin	12.54	0.02	161	4.93	39.20	B	8, 17, 28, 44, 53, 55, 73
			Naringenin	2.27	0.01	161	0.00	6.37	B	8, 17, 28, 44, 53, 55, 73
99348	Oranges, raw	Flavanones	Hesperetin	32.73	1.58	6	31.00	41.40	B	44, 54
			Naringenin	11.15	0.14	6	11.00	11.90	B	44, 54
09200	Oranges, raw, all commercial varieties	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
99115	Oregano, fresh	Flavones	Apigenin	3.00	0.71	2	2.00	4.00	C	43
			Luteolin	1.50	1.06	2	0.00	3.00	C	43
		Flavonols	Isorhamnetin	0.00	0.00	2	0.00	0.00	C	43
			Kaempferol	0.00	0.00	2	0.00	0.00	C	43

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Quercetin	0.00	0.00	2	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00	0.00	2	0.00	0.00	C	43
11297	Parsley, raw	Flavones	Apigenin	302.00	26.16	5	0.00	630.00	C	43, 44, 52
			Luteolin	1.24	0.03	5	0.00	4.00	C	43, 44, 52
		Flavonols	Isorhamnetin	0.00	0.00	2	0.00	0.00	C	43
			Kaempferol	0.44	0.15	5	0.00	1.10	C	43, 44, 52
			Myricetin	8.08		1	8.08	8.08	C	52
			Quercetin	0.33	0.14	3	0.00	1.00	C	43, 52
		Flavanones	Hesperetin	0.00	0.00	2	0.00	0.00	C	43
11298	Parsnips, raw	Flavones	Apigenin	0.00		1	0.00	0.00	D	52
			Luteolin	0.00		1	0.00	0.00	D	52
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	52
			Myricetin	0.00		1	0.00	0.00	D	52
			Quercetin	0.99		1	0.99	0.99	D	52
99027	Peach jam	Flavonols	Kaempferol	0.26	0.09	6	0.05	0.77	C	87
			Quercetin	0.32	0.05	6	0.12	0.59	C	87
09370	Peaches, canned, drained solids	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	1.87		1	1.87	1.87	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
09236	Peaches, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	2.33	0.00	4	2.33	2.33	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	C	38
			Luteolin	0.00		1	0.00	0.00	C	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	38
			Myricetin	0.00		1	0.00	0.00	C	38
			Quercetin	0.00		1	0.00	0.00	C	38
99029	Pears without skin, raw	Flavan-3-ols	(-)-Epicatechin	1.74	0.11	12	0.82	2.96	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	12	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	12	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	12	0.00	0.00	B	5
			(+)-Catechin	0.14	0.02	12	0.01	0.36	B	5
			(+)-Gallocatechin	0.00	0.00	12	0.00	0.00	B	5
09252	Pears, with skin, raw	Flavan-3-ols	(-)-Epicatechin	3.17	0.09	33	0.10	8.70	B	1, 5, 80
			(-)-Epicatechin 3-gallate	0.00	0.00	16	0.00	0.00	A	5
			(-)-Epigallocatechin	0.00	0.00	16	0.00	0.00	A	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	16	0.00	0.00	A	5
			(+)-Catechin	0.26	0.01	30	0.00	0.96	B	1, 5
			(+)-Gallocatechin	0.00	0.00	16	0.00	0.00	A	5
		Flavones	Apigenin	0.00	0.00	3	0.00	0.00	B	38
			Luteolin	0.00	0.00	3	0.00	0.00	B	38
		Flavonols	Isorhamnetin	0.30	0.02	3	0.06	0.60	C	80
			Kaempferol	0.00	0.00	3	0.00	0.00	B	38
			Myricetin	0.00	0.00	3	0.00	0.00	B	38
			Quercetin	0.42	0.11	6	0.07	1.00	C	38, 80
99080	Pears, without skin, cooked	Flavan-3-ols	(-)-Epicatechin	2.12	0.00	4	2.12	2.12	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Catechin	0.33	0.00	4	0.33	0.33	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
11300	Peas, edible-podded, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
11308	Peas, green, canned, regular pack, drained solids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.11	0.00	4	0.11	0.11	B	38
11814	Peas, green, frozen, cooked, boiled, drained, with salt	Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	C	25
			Quercetin	0.13	0.01	4	0.09	0.16	C	25
11312	Peas, green, frozen, unprepared	Flavonols	Kaempferol	0.00		1	0.00	0.00	C	25
			Quercetin	0.15		1	0.15	0.15	C	25
11304	Peas, green, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	C	38
			Luteolin	0.00		1	0.00	0.00	C	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	38
			Myricetin	0.00		1	0.00	0.00	C	38
			Quercetin	0.00		1	0.00	0.00	C	38
02064	Peppermint, fresh	Flavones	Apigenin	8.71	5.83	16	0.24	99.00	B	4, 43
			Luteolin	11.33	1.98	16	4.31	42.00	B	4, 43

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
		Flavonols	Isorhamnetin	0.00	0.00	2	0.00	0.00	C	43
			Kaempferol	0.00	0.00	2	0.00	0.00	C	43
			Quercetin	0.00	0.00	2	0.00	0.00	C	43
		Flavanones	Eriodictyol	30.92	1.38	14	12.27	54.53	B	4
			Hesperetin	9.52	0.61	32	0.00	21.94	B	4
99041	Peppers, Ancho	Flavones	Luteolin	3.36		1	3.36	3.36	D	49
		Flavonols	Quercetin	27.60		1	27.60	27.60	D	49
99088	Peppers, Californian (Hungary)	Flavones	Apigenin	0.00		1	0.00	0.00	D	52
			Luteolin	1.13		1	1.13	1.13	D	52
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	52
			Myricetin	0.00		1	0.00	0.00	D	52
			Quercetin	0.51		1	0.51	0.51	D	52
11670	Peppers, hot chili, green, raw	Flavones	Luteolin	5.11	0.03	2	5.06	5.15	D	49
		Flavonols	Quercetin	16.80	2.99	2	12.57	21.02	D	49
99042	Peppers, hot, yellow wax	Flavones	Luteolin	6.93	1.33	3	3.68	10.35	D	49
		Flavonols	Quercetin	50.63	8.90	3	28.83	78.38	D	49
11979	Peppers, jalapeno, raw	Flavones	Luteolin	1.34	0.54	5	0.00	3.75	C	49
		Flavonols	Quercetin	5.07	2.25	5	0.00	15.12	C	49
11977	Peppers, Serrano, raw	Flavones	Luteolin	4.14		1	4.14	4.14	D	49
		Flavonols	Quercetin	15.98		1	15.98	15.98	D	49
11333	Peppers, sweet, green, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	52
			Luteolin	0.69	0.08	3	0.50	1.07	C	44, 52
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	52
			Myricetin	0.00		1	0.00	0.00	C	52
			Quercetin	0.65	0.06	3	0.50	0.94	C	44, 52
11821	Peppers, sweet, red, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.63	0.07	8	0.10	1.10	B	38, 44
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
99105	Perilla leaves, raw	Flavones	Apigenin	0.07		1	0.07	0.07	D	19
			Luteolin	0.32		1	0.32	0.32	D	19
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	19
			Myricetin	0.43		1	0.43	0.43	D	19
			Quercetin	0.53		1	0.53	0.53	D	19
09266	Pineapple, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
99031	Plum jam	Flavonols	Quercetin	0.63	0.09	3	0.18	0.85	C	87
09279	Plums, raw	Flavan-3-ols	(-)-Epicatechin	2.84	0.00	4	2.84	2.84	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	3.35	0.00	4	3.35	3.35	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00		1	0.00	0.00	B	38
			Luteolin	0.00		1	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00		1	0.00	0.00	B	38
			Myricetin	0.00		1	0.00	0.00	B	38
			Quercetin	1.20	0.21	2	0.90	1.50	C	38, 44
11352	Potatoes, raw, flesh and	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	8	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
	skin		(-)-Epicatechin 3-gallate	0.00	0.00	8	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	8	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	8	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	8	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	8	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	D	19
			Luteolin	0.00	0.00	2	0.00	0.00	D	19
		Flavonols	Kaempferol	0.05	0.00	2	0.05	0.05	D	19
			Myricetin	0.00	0.00	2	0.00	0.00	D	19
			Quercetin	0.01	0.00	2	0.01	0.01	D	19
99311	Pummelo juice, raw	Flavones	apigenin	0.65	0.17	12	0.00	2.80	B	8, 58
			luteolin	0.00		1	0.00	0.00	C	58
		Flavonols	quercetin	0.00	0.00	12	0.00	0.00	B	8, 58
		Flavanones	eriodictyol	2.86	0.16	12	0.00	23.33	B	8, 58
			hesperetin	1.79	0.02	12	0.00	9.36	B	8, 58
			naringenin	25.31	0.92	13	1.94	132.86	B	8, 58, 97
11427	Purslane, raw	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	38
			Luteolin	0.00	0.00	2	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	B	38
			Myricetin	0.00	0.00	2	0.00	0.00	B	38
			Quercetin	0.00	0.00	2	0.00	0.00	B	38
99032	Queen Anne's Lace, leaves, raw	Flavones	Apigenin	12.60		1	12.60	12.60	B	89
			Luteolin	34.10		1	34.10	34.10	B	89
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	B	89
			Kaempferol	0.20		1	0.20	0.20	B	89
			Myricetin	0.40		1	0.40	0.40	B	89
			Quercetin	1.10		1	1.10	1.10	B	89
11429	Radishes, raw	Flavones	Apigenin	0.00	0.00	6	0.00	0.00	C	38, 52
			Luteolin	0.00	0.00	6	0.00	0.00	C	38, 52
		Flavonols	Kaempferol	0.86	0.07	7	0.40	2.11	B	11, 38, 52

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Myricetin	0.00	0.00	6	0.00	0.00	C	38, 52
			Quercetin	0.00	0.00	7	0.00	0.00	B	11, 38, 52
09298	Raisins, seedless	Flavan-3-ols	(-)-Epicatechin	0.71		1	0.71	0.71	C	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	C	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	C	5
			(+)-Catechin	2.97		1	2.97	2.97	C	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	C	5
09302	Raspberries, raw	Anthocyanidins	Cyanidin	42.17	2.86	8	20.73	71.11	C	2
			Delphinidin	0.50	0.07	8	0.00	2.01	C	2
			Malvidin	1.23	0.16	8	0.00	2.75	C	2
			Pelargonidin	3.70	0.49	8	0.00	8.23	C	2
		Flavan-3-ols	(-)-Epicatechin	8.26	0.00	4	8.26	8.26	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.97	0.00	4	0.97	0.97	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavonols	Kaempferol	0.00	0.00	3	0.00	0.00	C	33
			Myricetin	0.00	0.00	3	0.00	0.00	C	33
			Quercetin	0.83	0.01	9	0.50	0.96	B	33, 34, 44
99052	Rhubarb stalks, cooked	Flavan-3-ols	(-)-Epicatechin	0.38	0.00	4	0.38	0.38	B	5
			(-)-Epicatechin 3-gallate	0.49	0.00	4	0.49	0.49	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	1.48	0.00	4	1.48	1.48	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
09307	Rhubarb stalks, raw	Flavan-3-ols	(-)-Epicatechin	0.51	0.00	4	0.51	0.51	B	5
			(-)-Epicatechin 3-gallate	0.60	0.00	4	0.60	0.60	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	2.17	0.00	4	2.17	2.17	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
20045	Rice, white, long-grain, regular, cooked	Flavan-3-ols	(-)-Epicatechin	0.00		1	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00		1	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00		1	0.00	0.00	B	5
			(+)-Catechin	0.00		1	0.00	0.00	B	5
			(+)-Gallocatechin	0.00		1	0.00	0.00	B	5
02063	Rosemary, fresh	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	4.00		1	4.00	4.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
99335	Rowanberries, frozen	Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	C	33
			Myricetin	0.00	0.00	2	0.00	0.00	C	33
			Quercetin	7.40	0.78	2	6.30	8.50	C	33
11435	Rutabagas, raw	Flavones	Apigenin	3.85	3.33	4	0.00	15.40	C	38, 52
			Luteolin	0.00	0.00	4	0.00	0.00	C	38, 52
		Flavonols	Kaempferol	0.57	0.49	4	0.00	2.27	C	38, 52
			Myricetin	2.13	1.85	4	0.00	8.54	C	38, 52
			Quercetin	0.08	0.07	4	0.00	0.32	C	38, 52
99116	Sage, fresh	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
06931	Sauce, pasta,	Flavonols	Kaempferol	0.01	0.00	3	0.01	0.01	C	84

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
	spaghetti/marinara, ready-to-serve		Quercetin	0.91	0.00	3	0.91	0.91	C	84
11439	Sauerkraut, canned, solids and liquids	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
06159	Soup, tomato, canned, condensed, commercial	Flavonols	Kaempferol	0.00	0.00	3	0.00	0.00	C	84
			Quercetin	0.14	0.00	3	0.14	0.14	C	84
99304	Sour orange, juice	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	C	8
		Flavonols	Quercetin	0.00	0.00	2	0.00	0.00	C	8
		Flavanones	Eriodictyol	14.54	0.35	3	9.77	18.44	C	8, 56
			Hesperetin	10.74	0.76	3	1.50	18.11	C	8, 56
			Naringenin	23.77	1.70	3	18.64	33.08	C	8, 56
02045	Spices, dill weed, fresh	Flavones	Apigenin	0.00	0.00	3	0.00	0.00	C	43, 52
			Luteolin	0.00	0.00	3	0.00	0.00	C	43, 52
		Flavonols	Isorhamnetin	43.50	20.15	2	15.00	72.00	C	43
			Kaempferol	13.33	1.09	3	0.00	24.00	C	43, 52
			Myricetin	0.70		1	0.70	0.70	C	52
			Quercetin	55.15	2.92	3	7.45	110.00	C	43, 52
		Flavanones	Hesperetin	0.00	0.00	2	0.00	0.00	C	43
02029	Spices, parsley, dried	Flavones	Apigenin	13506.2		1	13506.2	13506.2	B	54
			Luteolin	19.75		1	19.75	19.75	B	54
		Flavonols	Isorhamnetin	331.24		1	331.24	331.24	B	54
			Kaempferol	0.00		1	0.00	0.00	B	54
02049	Spices, thyme, fresh	Flavones	Apigenin	5.00		1	5.00	5.00	C	43
			Luteolin	51.00		1	51.00	51.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	0.00		1	0.00	0.00	C	43
			Quercetin	0.00		1	0.00	0.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
11463	Spinach, frozen, chopped or leaf, unprepared	Flavones	Apigenin	0.00	0.00	4	0.00	0.00	B	38
			Luteolin	0.00	0.00	4	0.00	0.00	B	38
		Flavonols	Kaempferol	0.00	0.00	4	0.00	0.00	B	38
			Myricetin	0.00	0.00	4	0.00	0.00	B	38
			Quercetin	0.00	0.00	4	0.00	0.00	B	38
11457	Spinach, raw	Flavones	Apigenin	0.00	0.00	6	0.00	0.00	C	19, 38, 52
			Luteolin	1.11	0.20	6	0.00	6.64	C	19, 38, 52
		Flavonols	Kaempferol	0.01	0.01	6	0.00	0.06	C	19, 38, 52
			Myricetin	0.01	0.01	6	0.00	0.04	C	19, 38, 52
			Quercetin	4.86	0.53	6	0.00	27.22	C	19, 38, 52
09318	Strawberries, frozen, unsweetened	Flavonols	Kaempferol	0.53	0.02	16	0.18	0.90	B	34, 35
			Quercetin	0.44	0.02	16	0.30	0.76	B	34, 35
09316	Strawberries, raw	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	4.47	0.00	4	4.47	4.47	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	38
			Luteolin	0.00	0.00	2	0.00	0.00	B	38
		Flavonols	Kaempferol	0.79	0.03	10	0.50	1.20	B	33, 34, 38, 44
			Myricetin	0.00	0.00	4	0.00	0.00	B	33, 38
			Quercetin	0.65	0.00	10	0.47	0.86	B	33, 34, 38, 44
11505	Sweetpotato leaves, raw	Flavones	Apigenin	0.12	0.08	2	0.00	0.24	D	19
			Luteolin	0.20	0.14	2	0.00	0.41	D	19
		Flavonols	Kaempferol	0.00	0.00	2	0.00	0.00	D	19
			Myricetin	9.74	4.14	2	3.89	15.59	D	19
			Quercetin	20.54	4.35	2	14.38	26.69	D	19
99305	Tangelo juice, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	8
		Flavonols	Quercetin	0.00		1	0.00	0.00	C	8

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
		Flavanones	Eriodictyol	1.20		1	1.20	1.20	C	8
			Hesperetin	74.89		1	74.89	74.89	C	8
			Naringenin	42.51		1	42.51	42.51	C	8
09225	Tangerine juice, frozen concentrate, sweetened, diluted with 3 volume water	Flavanones	Hesperetin	22.00	0.72	14	5.94	47.08	C	60
			Naringenin	3.51	0.20	14	1.04	7.96	C	60
09221	Tangerine juice, raw	Flavones	Apigenin	0.00	0.00	5	0.00	0.00	C	8, 58
			Luteolin	0.00		1	0.00	0.00	C	58
		Flavonols	Kaempferol	0.00		1	0.00	0.00	C	58
			Quercetin	0.29	0.26	5	0.00	1.44	C	8, 58
		Flavanones	Eriodictyol	0.02	0.02	5	0.00	0.10	C	8, 58
			Hesperetin	9.56	1.17	5	4.31	13.37	C	8, 58
			Naringenin	1.20	1.10	6	0.00	7.22	C	8, 58, 97
99306	Tangor juice, raw (e.g., murcot or temple)	Flavones	Apigenin	0.00		1	0.00	0.00	C	8
		Flavonols	Quercetin	0.00		1	0.00	0.00	C	8
		Flavanones	Eriodictyol	1.02		1	1.02	1.02	C	8
			Hesperetin	19.25	0.57	7	7.98	32.45	C	8, 60
			Naringenin	6.50	0.42	7	3.77	11.03	C	8, 60
99117	Tarragon, fresh	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	1.00		1	1.00	1.00	C	43
		Flavonols	Isorhamnetin	5.00		1	5.00	5.00	C	43
			Kaempferol	11.00		1	11.00	11.00	C	43
			Quercetin	10.00		1	10.00	10.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43
14355	Tea, black, brewed, prepared with tap water	Flavan-3-ols	(-)-Epicatechin	2.33	0.02	69	0.48	8.74	B	6, 15, 23, 47, 50, 54, 91
			(-)-Epicatechin 3-gallate	7.24	0.01	69	2.00	18.98	B	6, 15, 23, 47, 50, 54, 91
			(-)-Epigallocatechin	10.43	0.17	69	0.29	31.04	B	6, 15, 23, 47, 50, 54, 91

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin 3-gallate	11.48	0.03	69	1.14	40.66	B	6, 15, 23, 47, 50, 54, 91
			(+)-Catechin	1.52	0.00	54	0.35	4.79	B	6, 23, 47, 54
			(+)-Gallocatechin	1.26	0.18	8	0.56	2.78	A	6
			Theaflavin	1.58	0.01	39	0.36	5.27	B	23, 83, 91
			Theaflavin-3,3'-digallate	1.75	0.01	39	0.06	4.96	B	23, 83, 91
			Theaflavin-3'-gallate	1.51	0.01	39	0.12	4.13	B	23, 83, 91
			Theaflavin-3-gallate	1.25	0.00	39	0.06	3.19	B	23, 83, 91
			Thearubigins	73.44	0.31	11	48.28	139.50	A	91
		Flavones	Apigenin	0.00	0.00	11	0.00	0.00	B	39
			Luteolin	0.00	0.00	11	0.00	0.00	B	39
		Flavonols	Kaempferol	1.34	0.03	44	0.25	2.41	B	39, 44, 54, 71, 91, 95
			Myricetin	0.45	0.00	33	0.17	0.90	A	39, 44, 54, 71, 91, 95
			Quercetin	2.07	0.03	44	0.41	4.75	B	39, 44, 54, 71, 91, 95
99342	Tea, black, ready-to-drink, diet, plain and flavored	Flavan-3-ols	(-)-Epicatechin	0.37	0.07	6	0.00	1.05	B	91
			(-)-Epicatechin 3-gallate	0.08	0.01	6	0.00	0.49	B	91
			(-)-Epigallocatechin	0.09	0.02	6	0.00	0.29	B	91
			(-)-Epigallocatechin 3-gallate	0.12	0.02	6	0.00	0.68	B	91
			Theaflavin	0.01	0.00	6	0.00	0.03	B	91
			Theaflavin-3,3'-digallate	0.00	0.00	6	0.00	0.00	B	91
			Theaflavin-3'-gallate	0.00	0.00	6	0.00	0.00	B	91
			Theaflavin-3-gallate	0.01	0.00	6	0.00	0.05	B	91
			Thearubigins	15.82	1.30	6	4.72	21.27	B	91
		Flavonols	Kaempferol	0.33	0.05	6	0.00	0.64	B	91
			Myricetin	0.12	0.02	6	0.00	0.20	B	91
			Quercetin	0.72	0.11	6	0.02	1.59	B	91
99341	Tea, black, ready-to-drink, plain and flavored	Flavan-3-ols	(-)-Epicatechin	0.49	0.02	17	0.00	2.66	A	91
			(-)-Epicatechin 3-gallate	0.21	0.01	17	0.00	0.67	A	91

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			(-)-Epigallocatechin	0.85	0.01	17	0.00	7.45	A	91
			(-)-Epigallocatechin 3-gallate	0.51	0.01	17	0.00	3.11	A	91
			Theaflavin	0.05	0.00	17	0.00	0.19	A	91
			Theaflavin-3,3'-digallate	0.04	0.00	17	0.00	0.31	A	91
			Theaflavin-3'-gallate	0.02	0.00	17	0.00	0.09	A	91
			Theaflavin-3-gallate	0.06	0.00	17	0.00	0.27	A	91
			Thearubigins	25.49	0.01	17	7.80	56.78	A	91
		Flavonols	Kaempferol	0.66	0.01	17	0.14	1.23	A	91
			Myricetin	0.87	0.02	17	0.11	1.46	A	91
			Quercetin	0.74	0.02	17	0.20	2.10	A	91
14352	Tea, brewed, prepared with tap water, decaffeinated	Flavan-3-ols	(-)-Epicatechin	0.49	0.11	4	0.34	0.87	B	91
			(-)-Epicatechin 3-gallate	0.64	0.31	4	0.25	1.71	B	91
			(-)-Epigallocatechin	0.55	0.13	4	0.36	1.01	B	91
			(-)-Epigallocatechin 3-gallate	1.01	0.42	4	0.49	2.45	B	91
			Theaflavin	0.35	0.15	4	0.08	0.86	B	91
			Theaflavin-3,3'-digallate	0.43	0.31	4	0.00	1.52	B	91
			Theaflavin-3'-gallate	0.18	0.13	4	0.00	0.61	B	91
			Theaflavin-3-gallate	0.41	0.21	4	0.11	1.14	B	91
			Thearubigins	49.03	0.10	4	46.05	51.52	B	91
		Flavonols	Kaempferol	1.25	0.17	4	1.00	1.84	B	91
			Myricetin	0.33	0.04	4	0.26	0.49	B	91
			Quercetin	2.84	0.15	4	2.46	3.38	B	91
99070	Tea, green, brewed	Flavan-3-ols	(-)-Epicatechin	8.47	0.06	62	1.90	26.00	B	15, 47, 50, 51, 54, 72, 81, 91
			(-)-Epicatechin 3-gallate	20.95	0.24	62	5.00	139.60	B	15, 47, 50, 51, 54, 72, 81, 91
			(-)-Epigallocatechin	17.08	0.06	62	1.00	54.40	B	15, 47, 50, 51, 54, 72, 81, 91
			(-)-Epigallocatechin 3-gallate	82.89	0.97	62	16.13	203.20	B	15, 47, 50, 51, 54, 72, 81, 91
			(+)-Catechin	2.73	0.05	36	0.00	44.40	B	47, 51, 54, 81

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Theaflavin	0.05	0.01	4	0.02	0.08	B	91
			Theaflavin-3,3'-digallate	0.01	0.00	4	0.00	0.03	B	91
			Theaflavin-3'-gallate	0.01	0.00	4	0.00	0.01	B	91
			Theaflavin-3-gallate	0.01	0.00	4	0.00	0.03	B	91
			Thearubigins	1.08	0.93	4	0.00	4.30	B	91
		Flavones	Apigenin	0.17	0.07	3	0.00	0.50	B	39, 88
			Luteolin	0.17	0.07	3	0.00	0.50	B	39, 88
		Flavonols	Kaempferol	1.42	0.07	12	0.67	3.31	B	39, 54, 88, 91, 95
			Myricetin	1.10	0.03	12	0.52	1.60	B	39, 54, 88, 91, 95
			Quercetin	2.69	0.06	12	1.40	4.10	B	39, 54, 88, 91, 95
99069	Tea, green, brewed, decaffeinated	Flavan-3-ols	(-)-Epicatechin	6.16	0.60	2	5.31	7.01	B	91
			(-)-Epicatechin 3-gallate	7.57	0.81	2	6.42	8.72	B	91
			(-)-Epigallocatechin	16.02	0.33	2	15.56	16.48	B	91
			(-)-Epigallocatechin 3-gallate	26.05	0.49	2	25.36	26.73	B	91
			Theaflavin	0.12	0.06	2	0.04	0.20	B	91
			Theaflavin-3,3'-digallate	0.11	0.07	2	0.01	0.21	B	91
			Theaflavin-3'-gallate	0.04	0.03	2	0.00	0.08	B	91
			Theaflavin-3-gallate	0.11	0.06	2	0.02	0.20	B	91
			Thearubigins	8.78	2.22	2	5.65	11.92	B	91
		Flavonols	Kaempferol	1.00	0.13	2	0.81	1.18	B	91
			Myricetin	1.00	0.08	2	0.89	1.11	B	91
			Quercetin	2.77	0.26	2	2.40	3.13	B	91
99068	Tea, green, brewed, flavored	Flavan-3-ols	(-)-Epicatechin	4.45	0.14	5	3.77	6.38	B	91
			(-)-Epicatechin 3-gallate	5.11	0.09	5	3.09	7.69	B	91
			(-)-Epigallocatechin	13.34	0.33	5	8.80	19.44	B	91
			(-)-Epigallocatechin 3-gallate	19.97	0.02	5	12.77	29.78	B	91
			Theaflavin	0.02	0.00	5	0.00	0.04	B	91
			Theaflavin-3,3'-digallate	0.00	0.00	5	0.00	0.01	B	91

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Theaflavin-3'-gallate	0.00	0.00	5	0.00	0.00	B	91
			Theaflavin-3-gallate	0.00	0.00	5	0.00	0.02	B	91
			Thearubigins	8.14	2.31	5	0.00	22.07	B	91
		Flavonols	Kaempferol	0.54	0.02	5	0.36	0.64	B	91
			Myricetin	0.58	0.03	5	0.48	0.73	B	91
			Quercetin	1.69	0.08	5	1.34	2.07	B	91
99343	Tea, green, ready-to-drink	Flavan-3-ols	(-)-Epicatechin	1.98	0.07	2	1.88	2.09	B	91
			(-)-Epicatechin 3-gallate	0.93	0.04	2	0.87	0.98	B	91
			(-)-Epigallocatechin	4.99	0.37	2	4.47	5.52	B	91
			(-)-Epigallocatechin 3-gallate	3.96	0.28	2	3.56	4.35	B	91
			Theaflavin	0.02	0.01	2	0.00	0.04	B	91
			Theaflavin-3,3'-digallate	0.00	0.00	2	0.00	0.00	B	91
			Theaflavin-3'-gallate	0.00	0.00	2	0.00	0.00	B	91
			Theaflavin-3-gallate	0.02	0.01	2	0.00	0.04	B	91
			Thearubigins	0.00	0.00	2	0.00	0.00	B	91
		Flavonols	Kaempferol	0.32	0.06	2	0.24	0.40	B	91
			Myricetin	1.03	0.05	2	0.95	1.10	B	91
			Quercetin	0.21	0.01	2	0.19	0.22	B	91
99349	Tea, instant, diet, prepared	Flavan-3-ols	(-)-Epicatechin	0.25	0.20	4	0.00	0.93	B	91
			(-)-Epicatechin 3-gallate	0.11	0.10	4	0.00	0.45	B	91
			(-)-Epigallocatechin	0.66	0.56	4	0.00	2.59	B	91
			(-)-Epigallocatechin 3-gallate	0.49	0.43	4	0.00	1.98	B	91
			Theaflavin	0.00	0.00	4	0.00	0.01	B	91
			Theaflavin-3,3'-digallate	0.00	0.00	4	0.00	0.00	B	91
			Theaflavin-3'-gallate	0.00	0.00	4	0.00	0.00	B	91
			Theaflavin-3-gallate	0.00	0.00	4	0.00	0.01	B	91
			Thearubigins	10.19	1.10	4	5.20	14.00	B	91
		Flavonols	Kaempferol	0.12	0.07	4	0.02	0.35	B	91
			Myricetin	0.07	0.04	4	0.01	0.19	B	91
			Quercetin	0.25	0.13	4	0.04	0.70	B	91

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
99350	Tea, instant, sweetened with sugar, plain and flavored, prepared	Flavan-3-ols	(-)-Epicatechin	0.24	0.03	8	0.00	0.62	B	91
			(-)-Epicatechin 3-gallate	0.14	0.02	8	0.00	0.33	B	91
			(-)-Epigallocatechin	0.54	0.06	8	0.00	1.75	B	91
			(-)-Epigallocatechin 3-gallate	0.55	0.03	8	0.00	1.10	B	91
			Theaflavin	0.00	0.00	8	0.00	0.03	B	91
			Theaflavin-3,3'-digallate	0.00	0.00	8	0.00	0.00	B	91
			Theaflavin-3'-gallate	0.00	0.00	8	0.00	0.00	B	91
			Theaflavin-3-gallate	0.00	0.00	8	0.00	0.01	B	91
			Thearubigins	27.95	1.47	8	8.64	55.67	B	91
		Flavonols	Kaempferol	0.42	0.13	3	0.11	0.94	B	91
			Myricetin	0.87	0.21	3	0.13	1.38	B	91
			Quercetin	0.34	0.10	3	0.08	0.84	B	91
14367	Tea, instant, unsweetened, powder, prepared	Flavan-3-ols	(-)-Epicatechin	0.31	0.03	3	0.00	0.70	B	91
			(-)-Epicatechin 3-gallate	0.24	0.09	3	0.00	0.70	B	91
			(-)-Epigallocatechin	0.61	0.09	3	0.00	1.44	B	91
			(-)-Epigallocatechin 3-gallate	0.86	0.30	3	0.00	2.46	B	91
			Theaflavin	0.01	0.00	3	0.00	0.01	B	91
			Theaflavin-3,3'-digallate	0.01	0.00	3	0.00	0.01	B	91
			Theaflavin-3'-gallate	0.00	0.00	3	0.00	0.00	B	91
			Theaflavin-3-gallate	0.01	0.00	3	0.00	0.01	B	91
			Thearubigins	23.65	0.03	3	8.35	39.02	B	91
		Flavonols	Kaempferol	0.32	0.00	3	0.07	0.57	B	91
			Myricetin	0.21	0.02	3	0.00	0.47	B	91
			Quercetin	0.87	0.00	3	0.08	1.66	B	91
99071	Tea, oolong, brewed	Flavan-3-ols	(-)-Epicatechin	2.59	0.05	15	1.20	4.50	B	47, 50, 51
			(-)-Epicatechin 3-gallate	6.73	0.25	15	1.70	12.10	B	47, 50, 51
			(-)-Epigallocatechin	6.00	0.17	15	1.80	16.37	B	47, 50, 51
			(-)-Epigallocatechin 3-gallate	36.01	1.98	15	7.36	71.10	B	47, 50, 51
			(+)-Catechin	0.23	0.01	13	0.00	0.70	C	47, 51
		Flavones	Apigenin	0.00		1	0.00	0.00	C	39

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Luteolin	0.00		1	0.00	0.00	C	39
		Flavonols	Kaempferol	0.90		1	0.90	0.90	C	39
			Myricetin	0.49		1	0.49	0.49	C	39
			Quercetin	1.30		1	1.30	1.30	C	39
11886	Tomato juice, canned, without salt added	Flavones	Apigenin	0.00		1	0.00	0.00	B	39
			Luteolin	0.00		1	0.00	0.00	B	39
		Flavonols	Kaempferol	0.06	0.01	7	0.00	0.08	C	39, 84
			Myricetin	0.05		1	0.05	0.05	B	39
			Quercetin	1.46	0.03	7	1.27	1.58	C	39, 84
11547	Tomato products, canned, puree, without salt added	Flavonols	Kaempferol	0.08	0.00	9	0.03	0.13	C	84
			Quercetin	4.12	0.06	9	1.63	7.09	C	84
99011	Tomatoes, cherry, raw	Flavonols	Kaempferol	0.10	0.00	66	0.01	0.27	C	84
			Quercetin	2.77	0.03	89	0.17	20.30	C	21, 84
99051	Tomatoes, plum, raw	Flavonols	Kaempferol	0.00	0.00	3	0.00	0.00	C	84
			Quercetin	0.03	0.00	3	0.03	0.03	C	84
11529	Tomatoes, red, ripe, raw, year round average	Flavan-3-ols	(-)-Epicatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epicatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin	0.00	0.00	4	0.00	0.00	B	5
			(-)-Epigallocatechin 3-gallate	0.00	0.00	4	0.00	0.00	B	5
			(+)-Catechin	0.00	0.00	4	0.00	0.00	B	5
			(+)-Gallocatechin	0.00	0.00	4	0.00	0.00	B	5
		Flavones	Apigenin	0.00	0.00	5	0.00	0.00	B	38, 52
			Luteolin	0.00	0.00	5	0.00	0.00	B	38, 52
		Flavonols	Kaempferol	0.07	0.02	41	0.00	0.84	B	38, 52, 84
			Myricetin	0.00	0.00	5	0.00	0.00	B	38, 52
			Quercetin	0.57	0.00	77	0.12	1.40	B	21, 38, 44, 52, 84
11696	Tomatoes, yellow, raw	Flavonols	Kaempferol	0.04	0.00	3	0.04	0.04	C	84
			Quercetin	0.21	0.00	3	0.21	0.21	C	84
11568	Turnip greens, raw	Flavones	Apigenin	0.00	0.00	2	0.00	0.00	B	38

USDA Database for the Flavonoid Content of Selected Foods – 2003

(For mean, standard error, min and max units = mg/100 g, edible portion)

NDB No.	Description	Subclass	Flavonoid	Mean[1]	Standard Error	N	Min	Max	CC	Sources of data
			Luteolin	0.00	0.00	2	0.00	0.00	B	38
		Flavonols	Kaempferol	4.80	0.00	2	4.80	4.80	B	38
			Myricetin	0.00	0.00	2	0.00	0.00	B	38
			Quercetin	0.73	0.00	2	0.73	0.73	B	38
99351	Vinegar, cider (Germany)	Flavan-3-ols	(-)-Epicatechin	0.82	0.20	2	0.54	1.10	C	3
			(+)-Catechin	4.85	0.67	2	3.90	5.80	C	3
		Flavonols	Quercetin	0.68	0.48	2	0.00	1.35	C	3, 66, 70
99109	Vinegar, wine, red	Anthocyanidins	Cyanidin	0.00		1	0.00	0.00	C	3
			Delphinidin	0.08		1	0.08	0.08	C	3
			Malvidin	0.43		1	0.43	0.43	C	3
			Peonidin	0.07		1	0.07	0.07	C	3
			Petunidin	0.08		1	0.08	0.08	C	3
		Flavan-3-ols	(-)-Epicatechin	2.20		1	2.20	2.20	C	3
99108	Vinegar, wine, white	Flavan-3-ols	(-)-Epicatechin	0.60	0.42	2	0.00	1.20	C	3
			(+)-Catechin	3.60	0.85	2	2.40	4.80	C	3
99107	Water spinach, raw	Flavones	Apigenin	0.01		1	0.01	0.01	D	19
			Luteolin	0.04		1	0.04	0.04	D	19
		Flavonols	Kaempferol	0.00		1	0.00	0.00	D	19
			Myricetin	0.03		1	0.03	0.03	D	19
			Quercetin	0.18		1	0.18	0.18	D	19
11591	Watercress, raw	Flavones	Apigenin	0.00		1	0.00	0.00	C	43
			Luteolin	0.00		1	0.00	0.00	C	43
		Flavonols	Isorhamnetin	0.00		1	0.00	0.00	C	43
			Kaempferol	1.00		1	1.00	1.00	C	43
			Quercetin	4.00		1	4.00	4.00	C	43
		Flavanones	Hesperetin	0.00		1	0.00	0.00	C	43

USDA Database for the Flavonoid Content of Dried Teas – 2003

(Units = mg/100 g, edible portion for mean, standard error, min and max)

NDB No.	Description	Subclass	Flavonoid	Mean	Standard Error	N	Min	Max	CC	Sources of Data
99060	Tea leaves, black, dry	Flavan-3-ols	(-)-Epicatechin	240.32	1.43	69	60.00	1095.00	B	6, 15, 23, 47, 50, 54, 91
			(-)-Epicatechin 3-gallate	761.38	3.89	69	192.95	2377.50	B	6, 15, 23, 47, 50, 54, 91
			(-)-Epigallocatechin	1116.11	23.45	69	29.00	3817.50	B	6, 15, 23, 47, 50, 54, 91
			(-)-Epigallocatechin 3-gallate	1199.39	0.12	69	142.50	5092.50	B	6, 15, 23, 47, 50, 54, 91
			(+)-Catechin	162.30	0.89	54	35.00	480.00	B	6, 23, 47, 54
			(+)-Gallocatechin	126.13	18.02	8	56.00	278.00	A	6
			Theaflavin	158.00	0.60	39	45.00	527.00	B	23, 83, 91
			Theaflavin-3,3'-digallate	170.77	1.20	39	7.50	496.00	B	23, 83, 91
			Theaflavin-3'-gallate	155.77	1.20	39	15.00	413.00	B	23, 83, 91
			Theaflavin-3-gallate	118.74	0.08	39	7.50	260.00	B	23, 83, 91
			Thearubigins	5918.94	92.54	11	3914.32	10506.2	A	91
		Flavones	Apigenin	0.00	0.00	14	0.00	0.00	A	39
			Luteolin	0.00	0.00	14	0.00	0.00	A	39
		Flavonols	Kaempferol	126.96	2.46	42	24.80	231.00	B	39, 54, 71, 91, 93, 95
			Myricetin	39.65	0.22	31	21.00	74.35	A	39, 54, 91, 93, 95
			Quercetin	204.66	3.25	42	41.30	374.74	B	39, 54, 71, 91, 93, 95
99345	Tea leaves, black, dry, decaffeinated	Flavan-3-ols	(-)-Epicatechin	44.42	9.77	4	30.40	78.27	B	91
			(-)-Epicatechin 3-gallate	57.48	27.93	4	22.30	154.23	B	91
			(-)-Epigallocatechin	49.32	12.08	4	32.20	91.17	B	91
			(-)-Epigallocatechin 3-gallate	91.08	37.45	4	43.80	220.82	B	91
			Theaflavin	31.29	13.42	4	7.30	77.77	B	91
			Theaflavin-3,3'-digallate	38.84	28.31	4	0.00	136.92	B	91
			Theaflavin-3'-gallate	15.80	11.35	4	0.00	55.12	B	91

USDA Database for the Flavonoid Content of Dried Teas – 2003

(Units = mg/100 g, edible portion for mean, standard error, min and max)

NDB No.	Description	Subclass	Flavonoid	Mean	Standard Error	N	Min	Max	CC	Sources of Data
			Theaflavin-3-gallate	37.17	18.88	4	9.80	102.56	B	91
			Thearubigins	4412.61	8.81	4	4144.14	4636.86	B	91
		Flavonols	Kaempferol	112.36	15.49	4	90.10	166.03	B	91
			Myricetin	30.10	3.96	4	23.20	43.81	B	91
			Quercetin	256.02	13.79	4	221.00	303.79	B	91
99061	Tea leaves, green, dry	Flavan-3-ols	(-)-Epicatechin	791.46	3.30	60	190.00	2000.00	B	15, 47, 50, 51, 54, 72, 91
			(-)-Epicatechin 3-gallate	1701.59	16.20	60	500.00	4630.00	B	15, 47, 50, 51, 54, 72, 91
			(-)-Epigallocatechin	1695.02	0.66	60	100.00	5440.00	B	15, 47, 50, 51, 54, 72, 91
			(-)-Epigallocatechin 3-gallate	8294.91	91.80	60	1600.00	20320.0	B	15, 47, 50, 51, 54, 72, 91
			(+)-Catechin	33.00	1.59	30	0.00	100.00	B	47, 51, 54
			Theaflavin	4.10	0.39	4	2.49	6.25	B	91
			Theaflavin-3,3'-digallate	1.08	0.31	4	0.00	2.39	B	91
			Theaflavin-3'-gallate	0.44	0.13	4	0.00	0.99	B	91
			Theaflavin-3-gallate	1.17	0.34	4	0.00	2.74	B	91
			Thearubigins	131.91	114.23	4	0.00	527.63	B	91
		Flavones	apigenin	0.17	0.07	3	0.00	0.50	B	39, 88
			luteolin	0.17	0.07	3	0.00	0.50	B	39, 88
		Flavonols	Kaempferol	151.90	6.08	12	77.61	331.00	B	39, 54, 88, 91, 95
			Myricetin	108.25	1.55	12	52.00	159.00	B	39, 54, 88, 91, 95
			Quercetin	255.55	0.46	12	140.00	405.00	B	39, 54, 88, 91, 95
99346	Tea leaves, green, dry, decaffeinated	Flavan-3-ols	(-)-Epicatechin	423.02	34.82	3	14.93	745.81	B	91
			(-)-Epicatechin 3-gallate	522.01	37.91	3	23.61	927.54	B	91

USDA Database for the Flavonoid Content of Dried Teas – 2003

(Units = mg/100 g, edible portion for mean, standard error, min and max)

NDB No.	Description	Subclass	Flavonoid	Mean	Standard Error	N	Min	Max	CC	Sources of Data
			(-)-Epigallocatechin	1153.49	173.11	3	227.53	1655.42	B	91
			(-)-Epigallocatechin 3-gallate	1843.64	291.84	3	274.94	2697.49	B	91
			Theaflavin	8.23	1.94	3	0.00	21.21	B	91
			Theaflavin-3,3'-digallate	7.59	2.72	3	0.00	21.84	B	91
			Theaflavin-3'-gallate	2.94	1.02	3	0.00	8.38	B	91
			Theaflavin-3-gallate	7.94	2.39	3	0.00	21.74	B	91
			Thearubigins	972.52	176.35	3	540.56	1268.04	B	91
		Flavonols	Kaempferol	89.38	4.68	3	64.51	125.73	B	91
			Myricetin	91.52	2.41	3	70.81	118.13	B	91
			Quercetin	263.95	14.01	3	229.08	333.13	B	91
99062	Tea leaves, oolong, dry	Flavan-3-ols	(-)-Epicatechin	259.53	4.94	15	120.00	450.00	B	47, 50, 51
			(-)-Epicatechin 3-gallate	673.67	25.30	15	170.00	1210.00	B	47, 50, 51
			(-)-Epigallocatechin	600.47	16.80	15	180.00	1640.00	B	47, 50, 51
			(-)-Epigallocatechin 3-gallate	3602.33	197.80	15	736.00	7110.00	B	47, 50, 51
			(+)-Catechin	23.85	0.31	13	5.00	70.00	B	47, 51
		Flavones	Apigenin	0.00		1	0.00	0.00	B	39
			Luteolin	0.00		1	0.00	0.00	B	39
		Flavonols	Kaempferol	1.50		1	1.50	1.50	B	39
			Myricetin	0.32		1	0.32	0.32	B	39
			Quercetin	1.90		1	1.90	1.90	B	39

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Content of potentially anticarcinogenic flavonoids of tea infusions, wines, and fruit juices.
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Tea - dry leaves (Japanese green, Long-jing green, Jasmine green, Chrysanthemum - dried flower, Pu-erh black, Iron Buddha - Oolong, Oolong, Ceylon black).
Epicatechin, Epicatechin-gallate, Epigallocatechin. Epigallocatechin gallate, Theaflavin.

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Survey of catechins, gallic acid, and methylxanthines in green, oolong, pu-erh, and black teas.
J. Agric. Food Chem., 1998, 46, 3635-3642.
Black tea, Green Tea, Oolong tea, Pu-erh tea.
Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Gallocatechin-gallate, Gallic acid, Theophylline, Theobromine.

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Flavonoid aglycons in foods of plant origin I. Vegetables.
Acta Alimentaria, 2000, 29, 345-352.
Lettuce (generic, crisped, ice), Spinach, Parsley leaves, Celery leaves, Dill, Radish (purple, black), Horse radish, Red Beet, Carrot, Parsnip, Celery root, Swedish turnip, Cauliflower, Kolhrabi, Brussels sprouts, Kale, Chinese cabbage, White cabbage, Red cabbage, Onions (old, young, red), Leek, Sweet pepper, Californian pepper, tomato, Cucumber.
Quercetin, Kaempferol, Myricetin, Luteolin, Apigenin.

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Multivariate analysis of flavanone glycosides in citrus juices.
Ital. J. Food sci., 1995, 3, 255-264.
Orange juice.
Narirutin, Neoeriocitrin, naringin, hesperidin, Neohesperidin.

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Determination of flavonoids in plant material by HPLC with diode-array and electro-array detection.
J. Agric. Food Chem., 2000, 48, 5834-5841.
Lingonberry, Cranberry, Red onion, Yellow onion, Broccoli, Green tea, Black tea, red wine, Apple, Lemon, Orange, Parsley.
Quercetin, Myricetin, Kaempferol, Isorhamnetin, Eriodictyol, Catechin, Epicatechin, Epicatechin gallate, Epigalocatechin gallate, Naringenin, Hesperetin, Luteolin, Apigenin.

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Differentiation of citrus juices by factorial discriminant analysis using liquid chromatography of flavanone glycosides.
J. Agric. Food Chem., 1994, 42, 70-79.
Lemon juice, Lime juice, Grapefruit juice (white, pink, red, green), Orange juice (Valencia, Navel, Blood, Thompson, Malta).
Erocitrin, Neoeriocitrin, Narirutin, Naringin, Hesperidin, Neohesperidin).

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Column liquid chromatographic determination of flavanone glycosides in Citrus.
J. Chromatogr., 1993, 634, 129-134.
Grapefruit juice, Sour orange juice.
Eriocitrin, Neoeriocitrin, Narirutin, Hesperidin, Naringin, Neohesperidin.

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Blood orange juice authentication using cinnamic acid derivatives. Variety differentiations associated with flavanone glycoside content.
J. Agric. Food Chem., 1997, 45, 373-377.
Blood orange juice (Washington sanguine, Malta, Sanguineli, Moro).
Narirutin, Hesperidin, Didymin, Cinnamic acid.

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High-performance liquid chromatographic determination of naturally occurring flavonoids in citrus with a photodiode-array detector.
J. Chromatogr. A, 1994, 667, 59-66.
Pummelo juice, Mandarin juice.
Eriocitrin, Neoeriocitrin, Narirutin, Naringin, rutin, Hesperidin, Neojesperidin, Isorhoifolin, rhoifolin, diosmin, Neodiosmin, Poncirin, Luteolin, Kaempferol, apigenin, Diosmetin, Sinensetin, Acacetin, Tangeretin.

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Column-switching technique for selective determination of flavonoids in Finnish berry wines by high-performance liquid chromatography with diode array detection.
J. Liq. Chrom. & Rel. Technol., 2000, 23, 1339-1351.
Wines - Black currant, Blueberry, Crowberry.
Rutin, Isoquercitrin, Myricetin, Quercetin, Kaempferol.

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Detection of the addition of citrus reticulata and hybrids to citrus sinensis by flavonoids.
J. Agric. Food Chem., 1997, 45, 1633-1637.
Orange juice, Tangerine juice, Temple juice, Mandarin juice, Murcott juice, Cravo juice (hybrid), Kinno juice (hybrid).
Narirutin, Hesperidin, Didymin.

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Flavonoids and antioxidative activities in buckwheat.
J. Agric. Food Chem., 1996, 44, 1746-1750.
Buckwheat.
Rutin.

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Isolation and HPLC determination of phenolic compounds in red grapes.
Am. J. Enol. Vitic., 1990, 41, 204-206.
Grapes - red (Concord, Chaunac).
Epicatechin, Rutin, Quercetin glucosides, Procyanidin B3, Caffeoyl tartaric acid, Coumaroyl tartaric acid.

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Study of polyphenols in grape berries by reversed-phase high-performance liquid chromatography.
J. Chromatogr. A, 2000, 870, 449-451.
Grape.
Rutin, Quercitrin, Quercetin, Reservetrol.

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Changes in quercetin concentration in onion (*Allium cepa* L.) owing to location, growth stage and soil type.
New Phytol., 1995, 130, 340-355.
Onion - yellow.
Quercetin.

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Variation in the quercetin content in different colored onions (*Allium cepa* L.).
J. Amer. Soc. Hort. Sci., 1995, 120, 909-913.
Onion- red (6 cultivars), pink (3 cultivars), yellow (45 cultivars), Vidalia (10 cultivars), white (11 cultivars).
Quercetin.

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Effect of storage and domestic processing on the content and composition of flavonol glucosides in onion (*Allium cepa*).
J. Agric. Food Chem., 1997, 45, 938-942.
Onion - brown, red.
Quercetin.

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Composition and content of flavonol glycosides in broccoli florets (*Brassica oleracea*) and their fate during cooking.
J. Sci. Food Agric., 1998, 77, 468-472.
Broccoli - raw, cooked.
Quercetin, Kaempferol, Isoquercitrin.

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Composition and content of flavonol glycosides in green beans and their fate during processing.
J. Agric. Food Chem., 1998, 46, 489-4903.
Green beans - raw, canned.
Quercetin, Kaempferol.

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A comparison of the flavonol content and composition of dessert, cooking and cider-making apples; distribution within the fruit and effect of juicing.
Food Chem., 66, 1999, 489-494.
Apples with skin. Eating apples - Egremont, Cox's Orange, Granny Smith, Jonagored; Cooking apples - Bramley; Cider apples - Dabinett, Michelin, Yarlington.
Quercetin.

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Analysis of the major flavonol glycosides present in four varieties of onion (*Allium cepa*) and changes in composition resulting from autolysis.
J. Sci. Food Agric., 1997, 74, 331-339.
Onion - Red Barron - red, Rijnsburger - brown, Rose - pink, Albion - white.
Quercetin.

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Flavonol glycoside content and composition of tea infusions made from commercially available teas and tea products.
J. Agric. Food Chem., 1998, 46, 2517-2522.
Black teas, Tea products.
Quercetin glycosides, Kaempferol glycosides.

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Variations in the amount of individual flavanols in a range of green teas.
Food Chem., 1993, 47, 271-276.
Green teas.
Epicatechin, Epigallocatecin, Epigallocatechin gallate, Epicatechin gallate.

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Flavanone glycosides in Brazilian orange juice.
Food Chem., 1998, 61, 275-280.
Orange juice (Brazilian).
Narirutin, Hesperidin.

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Phenolic compounds and antioxidant activities of buckwheat (Fagoppyrum esculentum Moench) hulls and flour.
J. Ethnopharmacol., 2000, 72, 35-42.
Buckwheat - hull, flour.
Epicatechin, Rutin, Hyperoside, Procyanidin B2.

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Analysis of flavonol aglycones in wine extracts by high performance liquid chromatography.

Chromatographia, 1986, 22, 1-6.
Wine - red, white, Sherry.
Quercetin, Kaempferol, Myricetin, Isorhamnetin.

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Separation of phenolic compounds by high-performance liquid chromatography with absorbance and fluorimetric detection.
J. Chromatogr. A, 2001, 912, 249-257.
Red wine, White wine.
Catechin, Epicatechin, Myricetin, Quercetin, Kaempferol, Gallic acid, Protocatechuic acid, Vanillic acid, Caffeic acid, Syringic acid, *p*-Coumaric acid, Ferulic acid, *trans*-Resveratrol.

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Optimization of the separation of phenolic compounds by micellar electokinetic capillary chromatography.
J. Chromatogr. A, 2000, 871, 427-438.
Wines - Spanish.
Catechin, epicatechin, Quercetin, rutin, Myricetin, Kaempferol, Ferulic acid, p-Coumaric acid, Vannilic acid.

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Liquid chromatographic determination of naringin and neohesperidin as a detector of grapefruit juice in orange juice.
J. Assoc. Off. Anal. Chem., 1988, 71, 798-802.
Orange juice, Grapefruit juice.
Naringin, Neohesperidin.

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A survey of quality factors found in florida canned single-strength grapefruit juice from the 1977-78, 1978-79, and 1979-80 seasons.
Proc. Fla. State Hort. Soc., 1980, 93, 286-289.
Grapefruit juice (canned).
Naringin, Limonin.

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Determination of phenolic acids and flavonoids of apple and pear by high-performance liquid chromatography.
J. Chromatogr. A, 2001, 910, 265-273.
Apple juice, Pear, (apple pomace - not entered).
Catechin, Epicatechin, Quercetin, Procyanidin B1, Procyanidin B2, Coumaroyl glucose, Chlorogenic acid, Caffeic acid, Phloretin, Phloridzin, 5-hydroxymethyl furfural.

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The analysis by HPLC of green, black and pu'er teas produced in Yunnan.
J. Sci. Food Agric., 1995, 69, 535-540.
Black tea, Green tea, Pu'er tea.
Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Theafavic acid, Epitheaflavic acid, Epitheaflavic acid-3'-gallate, Theaflavin, Theaflavin-3-gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate, Thearubigins.

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Polyphenol content and total antioxidant potential of selected Italian wines.
J. Agric. Food Chem., 1997, 45, 1152-1155.
Wines - red, white.
Quercetin, Kaempferol, Myricetin, Isorhamnetin, Rutin.

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Theaflavins in black tea.
Z Lebensm Unters Forsch, 1989, 188, 509-511.
Black tea.
Total theaflavins, Theaflavin, Theaflavin-e gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate.

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Occurrence of flavonols in tomatoes and tomato-based procucts.
J. Agric. Food Chem., 2000, 48, 2663-2669.
Tomatoes - Spanish, Israeli, South African, English, Scottish -Beefsteak, Cherry, Yellow.
Quercetin, Kaempferol.

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Solid-phase extraction and high-performance liquid chromatographic determination of polyphenols in apple musts and ciders.
J. Chronmatogr. A, 1996, 727, 203-209.
Apple - must, cider.
Epicatechin, Quercetin, Caffeic acid, p-Coumaric acid.

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Wine phenolics: contribution to dietary intake and bioavailability.
Food Res. Int., 2000, 33, 461-467.
Wines - red, white.
Catechin, Epicatechin, Malvidin, Procyanidin B1, B2, B3, B4, Caffeic acid p-Coumaric acid, gallic acid.

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Phenolic compounds analysis in the determination of fruit jam genuineness.
J. Agric. Food Chem., 1992, 40, 1800-1804.

Jams - Apricot, Peach, Plum, Strawberry, Sour Orange.
Quercetin, Kaempferol, Rutin, Naringin, Neohesperidin.

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Profiles of potentially antiallergic flavonoids in 27 kinds of health tea and green tea infusions.
J. Agric. Food Chem., 1997, 45, 2561-2564.
Green teas, Health teas.
Quercetin, Myricetin, Kaempferol, Apigenin, Luteolin, Scutellarein.

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Nutritional composition and flavonoid content of edible wild greens and green pies: a potential rich source of antioxidant nutrients in the Mediterranean diet.
Food Chem., 2000, 70, 319-323.
Fennel, Chive, Annual saw-thistle, Hartwort, Corn poppy, Dock - broad leaf, Queen Anne's lace, Cretan green pie.
Quercetin, Kaempferol Myricetin, Isorhamnetin, Luteolin, Apigenin.

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Content of flavonol glucosides and some properties of enzymes metabolizing the glucosides in onion.
J. Jap. Soc. Food Sci. Technol., 1996, 43, 642-649.
Onion - yellow (7 cultivars), red (1 cultivatar), white (3 cultivars).
Quercetin, Isorhamnetin.

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Summary Flavonoid Content of Teas in the U.S. Market.
Unpublished Data, 2002. .

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Flavonoid changes in developing lemons grown in vivo and in vitro.
Phytochemistry, 1989, 28, 799-803.
Lemon.
Hesperidin, Rutin, Diosmin.

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Laboratory report from Wageningen University for Laura Sampson at Harvard University School of Public Health. April 22, 1994.

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Content of the flavonols Myricetin, Quercetin, and Kaempferol in Finnish berry wines.
J. Agric. Food Chem., 2000, 48, 2675-2680.

Berry wines Red - Black currant, Red currant, Strawberry, Raspberry, black currant-strawberry, raspberry, black currant-crowberry, Black currant-crowberry-rose hip, Crowberry, Bog whortleberry- strawberry-black currant-crowberry, Berry wines White - White currant, Gooseberry.
Quercetin, Kaempferol, Myricetin.

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Determination of flavonols in green and black tea leaves and green tea infusions by high-performance liquid chromatography.
Food Res. Int., 2001, 34, 223-227.
Green tea leaves, Black tea leaves, Green tea infusions.
Quercetin, Kaempferol, Myricetin

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Quantification and characterization of anthocyanins in Balaton tart cherries.
J. Agric. Food Chem., 1997, 45, 2556-2560.
Cherries - Balaton, Montmorency.
Cyanidin.

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Naringin content in local citrus fruits.
Food Chem., 1990, 37, 113-121.
Pummelo, Rough lime.
Naringin.