

## Full Report (All Nutrients) 11011, Asparagus, raw

Report Date: July 20, 2019 22:49 EDT

Nutrient values and weights are for edible portion.

Food Group : Vegetables and Vegetable Products

Carbohydrate Factor: 3.57 Fat Factor: 8.37 Protein Factor:2.44 Nitrogen to Protein Conversion Factor:6.25

Refuse:47% Refuse Description: Butt ends

Nutrient	Unit	1 Value Per100 g	Data points	Std. Error	1 cup 134g	1 spear, small (5" long or less) 12g	1 spear, medium (5-1/4" to 7" long) 16g	1 spear, large (7-1/4" to 8-1/2") 20g	1 spear, extra large (8-3/4" to 10" long) 24g	1 spear tip (2" or less) 3.5g
<b>Proximates</b>										
Water <a href="#">1</a>	g	93.22	1	--	124.91	11.19	14.92	18.64	22.37	3.26
Energy	kcal	20	--	--	27	2	3	4	5	1
Energy	kJ	85	--	--	114	10	14	17	20	3
Protein <a href="#">1</a>	g	2.20	4	0.020	2.95	0.26	0.35	0.44	0.53	0.08
Total lipid (fat) <a href="#">1</a>	g	0.12	6	0.010	0.16	0.01	0.02	0.02	0.03	0.00
Ash <a href="#">1</a>	g	0.58	4	0.009	0.78	0.07	0.09	0.12	0.14	0.02
Carbohydrate, by difference	g	3.88	--	--	5.20	0.47	0.62	0.78	0.93	0.14
Fiber, total dietary	g	2.1	4	--	2.8	0.3	0.3	0.4	0.5	0.1
Sugars, total	g	1.88	--	--	2.52	0.23	0.30	0.38	0.45	0.07
Sucrose <a href="#">1</a>	g	0.23	5	0.190	0.31	0.03	0.04	0.05	0.06	0.01
Glucose (dextrose) <a href="#">1</a>	g	0.65	6	0.100	0.87	0.08	0.10	0.13	0.16	0.02
Fructose <a href="#">1</a>	g	1.00	6	0.100	1.34	0.12	0.16	0.20	0.24	0.04
Lactose <a href="#">1</a>	g	0.00	4	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Maltose <a href="#">1</a>	g	0.00	4	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Galactose	g	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00
<b>Minerals</b>										
Calcium, Ca <a href="#">1</a>	mg	24	4	1.000	32	3	4	5	6	1
Iron, Fe <a href="#">1</a>	mg	2.14	4	1.350	2.87	0.26	0.34	0.43	0.51	0.07
Magnesium, Mg <a href="#">1</a>	mg	14	4	0.000	19	2	2	3	3	0
Phosphorus, P <a href="#">1</a>	mg	52	4	0.000	70	6	8	10	12	2

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Potassium, K <a href="#">1</a>	mg	202	4	8.000	271	24	32	40	48	7
Sodium, Na	mg	2	17	0.000	3	0	0	0	0	0
Zinc, Zn <a href="#">1</a>	mg	0.54	4	0.020	0.72	0.06	0.09	0.11	0.13	0.02
Copper, Cu <a href="#">1</a>	mg	0.189	4	0.028	0.253	0.023	0.030	0.038	0.045	0.007
Manganese, Mn <a href="#">1</a>	mg	0.158	4	0.015	0.212	0.019	0.025	0.032	0.038	0.006
Selenium, Se	µg	2.3	2	--	3.1	0.3	0.4	0.5	0.6	0.1
<b>Vitamins</b>										
Vitamin C, total ascorbic acid <a href="#">1</a>	mg	5.6	4	0.200	7.5	0.7	0.9	1.1	1.3	0.2
Thiamin <a href="#">1</a>	mg	0.143	4	0.016	0.192	0.017	0.023	0.029	0.034	0.005
Riboflavin <a href="#">1</a>	mg	0.141	4	0.007	0.189	0.017	0.023	0.028	0.034	0.005
Niacin <a href="#">1</a>	mg	0.978	4	0.034	1.311	0.117	0.156	0.196	0.235	0.034
Pantothenic acid <a href="#">1</a>	mg	0.274	4	0.020	0.367	0.033	0.044	0.055	0.066	0.010
Vitamin B-6 <a href="#">1</a>	mg	0.091	4	0.009	0.122	0.011	0.015	0.018	0.022	0.003
Folate, total <a href="#">1</a>	µg	52	4	6.000	70	6	8	10	12	2
Folic acid	µg	0	--	--	0	0	0	0	0	0
Folate, food	µg	52	4	6.000	70	6	8	10	12	2
Folate, DFE	µg	52	--	--	70	6	8	10	12	2
Choline, total <a href="#">1</a>	mg	16.0	--	--	21.4	1.9	2.6	3.2	3.8	0.6
Betaine <a href="#">1</a>	mg	0.6	1	--	0.8	0.1	0.1	0.1	0.1	0.0
Vitamin B-12	µg	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00
Vitamin B-12, added	µg	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00
Vitamin A, RAE	µg	38	--	--	51	5	6	8	9	1
Retinol	µg	0	--	--	0	0	0	0	0	0
Carotene, beta <a href="#">2</a> <a href="#">3</a>	µg	449	6	76.000	602	54	72	90	108	16
Carotene, alpha <a href="#">2</a> <a href="#">3</a>	µg	9	6	5.000	12	1	1	2	2	0
Cryptoxanthin, beta <a href="#">2</a>	µg	0	27	--	0	0	0	0	0	0
Vitamin A, IU	IU	756	--	--	1013	91	121	151	181	26
Lycopene	µg	0	--	--	0	0	0	0	0	0
Lutein + zeaxanthin	µg	710	--	--	951	85	114	142	170	25
Vitamin E (alpha-tocopherol)	mg	1.13	2	--	1.51	0.14	0.18	0.23	0.27	0.04
Vitamin E, added	mg	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00
Tocopherol, beta	mg	0.00	2	--	0.00	0.00	0.00	0.00	0.00	0.00
Tocopherol, gamma	mg	0.09	2	--	0.12	0.01	0.01	0.02	0.02	0.00



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20:3 undifferentiated <a href="#">1</a>	g	0.000	1	--	0.000	0.000	0.000	0.000	0.000	0.000
20:4 undifferentiated <a href="#">1</a>	g	0.000	1	--	0.000	0.000	0.000	0.000	0.000	0.000
20:5 n-3 (EPA) <a href="#">1</a>	g	0.000	1	--	0.000	0.000	0.000	0.000	0.000	0.000
22:5 n-3 (DPA) <a href="#">1</a>	g	0.000	1	--	0.000	0.000	0.000	0.000	0.000	0.000
22:6 n-3 (DHA) <a href="#">1</a>	g	0.000	1	--	0.000	0.000	0.000	0.000	0.000	0.000
Fatty acids, total trans	g	0.000	--	--	0.000	0.000	0.000	0.000	0.000	0.000
Cholesterol	mg	0	--	--	0	0	0	0	0	0
Phytosterols	mg	24	1	--	32	3	4	5	6	1
<b>Amino Acids</b>										
Tryptophan <a href="#">1</a>	g	0.027	--	--	0.036	0.003	0.004	0.005	0.006	0.001
Threonine <a href="#">1</a>	g	0.084	--	--	0.113	0.010	0.013	0.017	0.020	0.003
Isoleucine <a href="#">1</a>	g	0.075	--	--	0.100	0.009	0.012	0.015	0.018	0.003
Leucine <a href="#">1</a>	g	0.128	--	--	0.172	0.015	0.020	0.026	0.031	0.004
Lysine <a href="#">1</a>	g	0.104	--	--	0.139	0.012	0.017	0.021	0.025	0.004
Methionine <a href="#">1</a>	g	0.031	--	--	0.042	0.004	0.005	0.006	0.007	0.001
Cystine <a href="#">1</a>	g	0.031	--	--	0.042	0.004	0.005	0.006	0.007	0.001
Phenylalanine <a href="#">1</a>	g	0.075	--	--	0.100	0.009	0.012	0.015	0.018	0.003
Tyrosine <a href="#">1</a>	g	0.052	--	--	0.070	0.006	0.008	0.010	0.012	0.002
Valine <a href="#">1</a>	g	0.115	--	--	0.154	0.014	0.018	0.023	0.028	0.004
Arginine <a href="#">1</a>	g	0.091	--	--	0.122	0.011	0.015	0.018	0.022	0.003
Histidine <a href="#">1</a>	g	0.049	--	--	0.066	0.006	0.008	0.010	0.012	0.002
Alanine <a href="#">1</a>	g	0.115	--	--	0.154	0.014	0.018	0.023	0.028	0.004
Aspartic acid <a href="#">1</a>	g	0.508	--	--	0.681	0.061	0.081	0.102	0.122	0.018
Glutamic acid <a href="#">1</a>	g	0.233	--	--	0.312	0.028	0.037	0.047	0.056	0.008
Glycine <a href="#">1</a>	g	0.093	--	--	0.125	0.011	0.015	0.019	0.022	0.003
Proline <a href="#">1</a>	g	0.071	--	--	0.095	0.009	0.011	0.014	0.017	0.002
Serine <a href="#">1</a>	g	0.106	--	--	0.142	0.013	0.017	0.021	0.025	0.004
<b>Other</b>										
Alcohol, ethyl	g	0.0	--	--	0.0	0.0	0.0	0.0	0.0	0.0
Caffeine	mg	0	--	--	0	0	0	0	0	0
Theobromine	mg	0	--	--	0	0	0	0	0	0
<b>Flavonoids</b>										

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Flavonols										
Isorhamnetin <a href="#">4</a>	mg	5.7	10	0.91	7.6	0.7	0.9	1.1	1.4	0.2
Kaempferol <a href="#">4</a> <a href="#">5</a>	mg	1.4	11	0.44	1.9	0.2	0.2	0.3	0.3	0.0
Myricetin <a href="#">5</a>	mg	0.0	1	--	0.0	0.0	0.0	0.0	0.0	0.0
Quercetin <a href="#">4</a> <a href="#">5</a> <a href="#">6</a> <a href="#">7</a> <a href="#">8</a>	mg	14.0	36	0.91	18.7	1.7	2.2	2.8	3.4	0.5
Isoflavones										
Daidzein <a href="#">9</a> <a href="#">10</a>	mg	0.03	2	--	0.04	0.00	0.00	0.01	0.01	0.00
Genistein <a href="#">9</a> <a href="#">10</a>	mg	0.00	2	--	0.00	0.00	0.00	0.00	0.00	0.00
Total isoflavones <a href="#">9</a> <a href="#">10</a>	mg	0.03	2	--	0.04	0.00	0.00	0.01	0.01	0.00
Biochanin A	mg	0.00	1	--	0.00	0.00	0.00	0.00	0.00	0.00
Formononetin	mg	0.00	1	--	0.00	0.00	0.00	0.00	0.00	0.00
Coumestrol	mg	0.05	1	--	0.07	0.01	0.01	0.01	0.01	0.00

**Sources of Data**

<sup>1</sup>Nutrient Data Laboratory, ARS, USDA National Food and Nutrient Analysis Program Wave 6h, 2002 Beltsville MD

<sup>2</sup>JL Bureau, R J Bushway HPLC determination of carotenoids in fruits and vegetables in the United States, 1986 J Food Sci 52 pp.128-130

<sup>3</sup>R J Bushway Determination of alpha- and beta-carotene in some raw fruits and vegetables by high-performance liquid chromatography, 1986 J Agr Food Chem 34 pp.409-412

<sup>4</sup>Fuentes-Alventosa, J. M., Rodrguez, G., Cermeo, P., Jimnez, A., Guiln, R., Fernndez-Bolaos, J., and Rodrguez-Arcos, R. Identification of flavonoid diglycosides in several genotypes of asparagus from Hutor-Tjar population variety, 2007 J. Agric. Food Chem. 55 pp.10028-10035

<sup>5</sup>Kevers, C., Falkowski, M., Tabart, J., Defraigne, J-O., Dommes, J., and Pincemail, J. Evolution of antioxidant capacity during storage of selected fruits and vegetables, 2007 J. Agric. Food Chem. 55 pp.8596-8603

<sup>6</sup>Fanasca, S., Rouphael, Y., Venneria, E., Azzini, E., Duazzo, A., and Maiani, G. Antioxidant properties of raw and cooked spears of green asparagus cultivars., 2009 Int. J. Food Sci. Technol. 44 pp.1017-1023

<sup>7</sup>Makris, D.P. and Rossiter, J.T. Domestic processing of onion bulbs (Allium cepa) and asparagus spears (Asparagus officinalis): Effect on flavonol content and antioxidant status, 2001 J. Agric. Food Chem. 49 7 pp.3216-3222

<sup>8</sup>Sakakibara, H., Honda, Y., Nakagawa, S., Ashida, H., and Kanazawa, K. Simultaneous determination of all polyphenols in vegetables, fruits, and teas, 2003 J. Agric. Food Chem. 51 3 pp.571-581

<sup>9</sup>Horn-Ross, P. L., Barnes, S., Lee, M., Coward, L., Mandel, E., Koo, J., John, E. M., and Smith, M. Assessing phytoestrogen exposure in epidemiologic studies: development of a database (United States), 2000 Cancer Causes and Control 11 pp.289-298

<sup>10</sup>Liggins, J., Bluck, L. J. C., Runswick, C., Atkinson, C., Coward, W. A., and Bingham, S. A. Daidzein and genistein content of vegetables., 2000 Brit. J. Nutr. 84 pp.717-725

**Langual Code(s)**

- A0152 VEGETABLE OR VEGETABLE PRODUCT (US CFR)
- A1281 1100 VEGETABLES AND VEGETABLE PRODUCTS (USDA SR)
- B1415 ASPARAGUS
- C0186 SPEAR OR SHOOT
- E0150 WHOLE, NATURAL SHAPE
- F0003 NOT HEAT-TREATED
- G0003 COOKING METHOD NOT APPLICABLE
- H0003 NO TREATMENT APPLIED
- J0001 PRESERVATION METHOD NOT KNOWN
- K0003 NO PACKING MEDIUM USED
- M0001 CONTAINER OR WRAPPING NOT KNOWN
- N0001 FOOD CONTACT SURFACE NOT KNOWN
- P0024 HUMAN FOOD, NO AGE SPECIFICATION