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Source: This document is based on values published by:

Kreith, M. : 1991
Water inputs in California food production.
Water Education Foundation 717 K Street, Suite 517
Sacramento, CA 95814

Please note: These pages were produced to assist in the conversion of values originally published by Kreith (1991) in US units. Please refer to the original paper for further details on how the original values on the '*Water inputs in Californian food production*' have been derived. An excerpt of the three charts E2, E3 and E4 and the 'General assumptions' section are also found under:
http://www.sakia.org/ir-l_1991_kreith

Credits: ***Chart E.2 (graphical)***
Thanks to Tony Thomson (DWLBC), South Australia, for providing the graphical version of Chart E.2.

Section E. Summary Tables & Charts

Chart E.4
Gallons Water Use Per Pound Retail Purchased Foo

Conversion *(Avoirdupois weight)*			
1 pound (lb)	=	0.453592	**kg**
1 gal (US)	=	3.785412	**l**

Product	**Gallons US per pound** [gal/lb]	**Litres per kg** [l/kg]	**m³ per kg** [m³/kg]	**Megalitre per tone** [ML/t]
- Corn Silage	18.50	154	0.154	0.154
- Lettuce	21.24	177	0.177	0.177
- Tomatoes, Fresh	28.55	238	0.238	0.238
- Melon, Cantaloupe	39.96	333	0.333	0.333
- Broccoli, Fresh Market	42.40	354	0.354	0.354
- Oranges	48.45	404	0.404	0.404
- Tomato Catsup	51.80	432	0.432	0.432
- Tomato Sauce	51.80	432	0.432	0.432
- Broccoli, Frozen	54.31	453	0.453	0.453
- Dairy, Milk (whole)	89.67	748	0.748	0.748
- Orange Juice (fresh)	90.07	752	0.752	0.752
- Tomato Paste	93.15	777	0.777	0.777
- Corn Grain	118.98	993	0.993	0.993
- Alfalfa Hay	129.30	1079	1.079	1.079
- Whole Wheat Bread	138.78	1158	1.158	1.158
- Dairy, Plain Yogurt	156.03	1302	1.302	1.302
- Whole Wheat Flour	181.87	1518	1.518	1.518
- Oats	196.62	1641	1.641	1.641
- White Bread	201.42	1681	1.681	1.681
- Barley	216.10	1803	1.803	1.803
- Soybean Tofu	219.40	1831	1.831	1.831
- Rice, Brown	250.87	2094	2.094	2.094
- Sugar, White Granular	259.66	2167	2.167	2.167
- White Flour	275.84	2302	2.302	2.302
- Pasta (white wheat flour)	287.39	2398	2.398	2.398
- Rice, White	401.39	3350	3.350	3.350
- Chicken Egg	477.93	3989	3.989	3.989
- Soybeans	480.05	4006	4.006	4.006
- Chicken meat w/skn &bns	660.11	5509	5.509	5.509
- Dairy, Cheese	896.34	7480	7.480	7.480
- Almonds	1282.79	10705	10.705	10.705
- Dairy, Butter	2057.22	17168	17.168	17.168
- Beef, Boneless Steak	2463.54	20559	20.559	20.559
- Beef, Hamburger	2463.54	20559	20.559	20.559

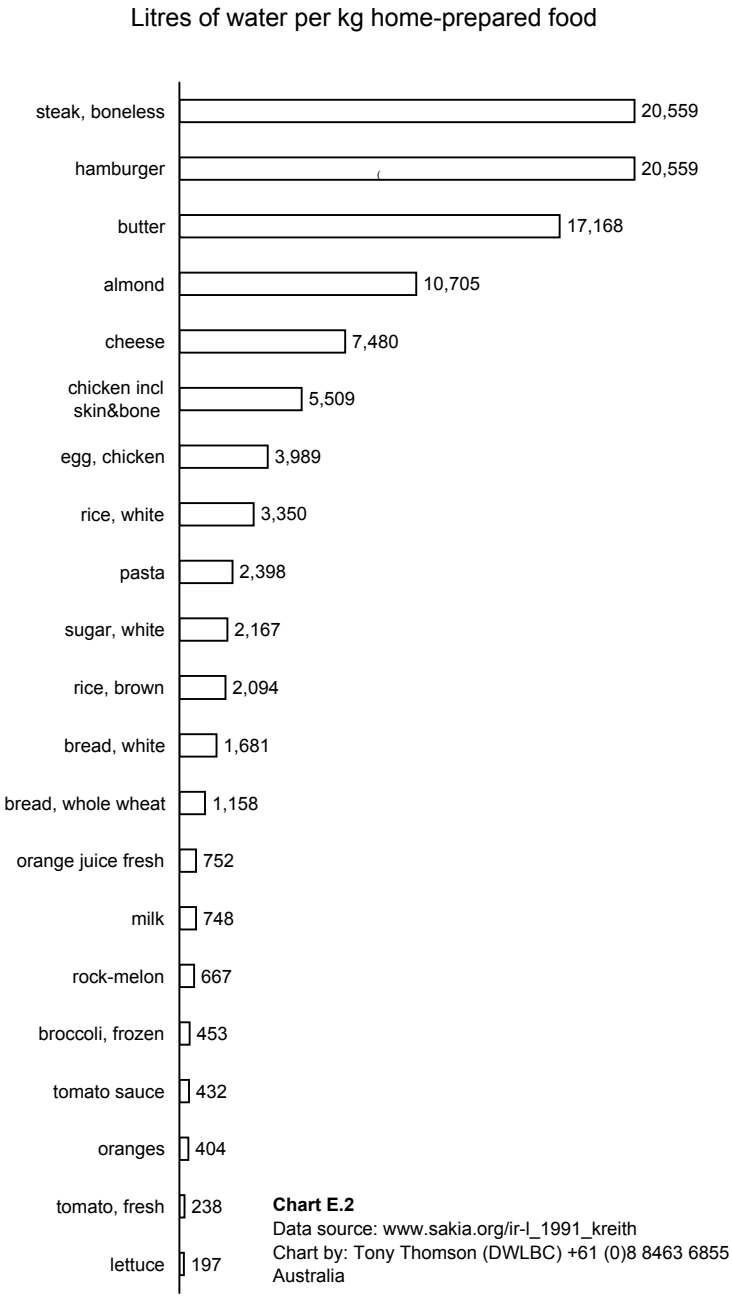
Section E. Summary Tables & Charts

Chart E.2
Gallons Water Use Per Pound Home Prepared Fooc

Conversion (*Avoirdupois weight*)			
1 pound (lb)	=	0.453592	**kg**
1 gal (US)	=	3.785412	**l**

Product	Gallons US per pound [gal/lb]	Litres per kg [l/kg]	m³ per kg [m³/kg]	Megalitre per tone [ML/t]
- Lettuce	23.60	197	0.197	0.197
- Tomatoes, Fresh	28.55	238	0.238	0.238
- Oranges	48.45	404	0.404	0.404
- Tomato Catsup	51.80	432	0.432	0.432
- Tomato Sauce	51.80	432	0.432	0.432
- Broccoli, Frozen	54.31	453	0.453	0.453
- Broccoli, Fresh Market	63.60	531	0.531	0.531
- Melon, Cantaloupe	79.93	667	0.667	0.667
- Dairy, Milk (whole)	89.67	748	0.748	0.748
- Orange Juice (fresh)	90.07	752	0.752	0.752
- Tomato Paste	93.15	777	0.777	0.777
- Whole Wheat Bread	138.78	1158	1.158	1.158
- Dairy, Plain Yogurt	156.03	1302	1.302	1.302
- Whole Wheat Flour	181.87	1518	1.518	1.518
- White Bread	201.42	1681	1.681	1.681
- Soybean Tofu	219.40	1831	1.831	1.831
- Rice, Brown	250.87	2094	2.094	2.094
- Sugar, White Granular	259.66	2167	2.167	2.167
- White Flour	275.84	2302	2.302	2.302
- Pasta (white wheat flour)	287.39	2398	2.398	2.398
- Rice, White	401.39	3350	3.350	3.350
- Chicken Egg	477.93	3989	3.989	3.989
- Soybeans	480.05	4006	4.006	4.006
- Chicken meat w/skn & bns	660.11	5509	5.509	5.509
- Dairy, Cheese	896.34	7480	7.480	7.480
- Almonds	1282.79	10705	10.705	10.705
- Dairy, Butter	2057.22	17168	17.168	17.168
- Beef, Hamburger	2463.54	20559	20.559	20.559
- Beef, Boneless Steak	2463.54	20559	20.559	20.559

Chart E.2 (graphical)
Graphical version of Chart E.2 prepared by Tony Thomson (DWLBC) +61 (0)8 8463 6855
Australia



Section E. Summary Tables & Charts

Conversion from US			
1 ounce (oz)	=	28.350	g
1 gal (US)	=	3.7854	l
1 cup	=	236.588	ml
1 table spoon (TB)	=	14.787	ml
1 ounce fluid (fl.oz)	=	29.574	ml *

Chart E.3
Gallons Water Use Per Typical Home Serving

Product	[amount] [unit]	[amount] [unit]		Gallons US [gal]	Litres [l]
- Lettuce (1 cup)	1 cup	237 ml		2.9	11.0
- Tomato Catsup (1 oz)	1 oz	28 g		3.2	12.1
- Sugar, White (1TB)	1 TB	15 ml		6.8	25.7
- Wh. Wheat Bread (1 slice)	1 slice			7.3	27.6
- Tomatoes, Fr. (l@4.3oz)	4.3 oz	122 g		7.7	29.1
- White Bread (1 slice)	1 slice			10.6	40.1
- Broccoli, Fresh (2.7 oz)	2.7 oz	77 g		10.9	41.3
- Broccoli, Frozen (3.3 oz)	3.3 oz	94 g		11.3	42.8
- Tomato Paste (2 oz.)	2 oz	57 g		11.6	43.9
- Tomato Sauce (4 oz)	4 oz	113 g		12.9	48.8
- Oranges (1 med. @ 4.57 oz)	4.57 oz	130 g		13.8	52.2
- Rice, Brown (1 oz)	1 oz	28 g		15.7	59.4
- Rice, White (1 oz)	1 oz	28 g		25.1	95.0
- Pasta (2 oz)	2 oz	57 g		35.9	135.9
- Cantaloupe (1/4 @ 8 oz)	8 oz	227 g		40.0	151.4
- Butter (1 pat @ 0.36 oz)	0.36 oz	10 g		45.7	173.0
- Wh. Wheat Flour (1 cup)	1 cup	237 ml		47.7	180.6
- Milk (whole) (8 fl. oz)	8 fl oz	237 ml	*	48.3	182.8
- Orange Juice (1 cup)	1 cup	237 ml		49.1	185.9
- Dairy, Cheese (1 oz)	1 oz	28 g		56.0	212.0
- Soybean Tofu (1/2 cup)	0.5 cup	118 ml		60.5	229.0
- Chicken Egg (1 @2.1 oz)	2.1 oz	60 g		62.7	237.3
- White Flour (1 cup)	1 cup	237 ml		70.6	267.3
- Almonds (1 oz)	1 oz	28 g		80.2	303.6
- Plain Yogurt (1 cup)	1 cup	237 ml		87.8	332.4
- Chicken Meat (4 oz)	4 oz	113 g		165.0	624.6
- Chicken Meat (8 oz)	8 oz	227 g		330.1	1249.6
- Beef, Hamburger (4 oz)	4 oz	113 g		615.9	2331.4
- Beef, Boneless Steak (8 oz)	8 oz	227 g		1231.8	4662.9