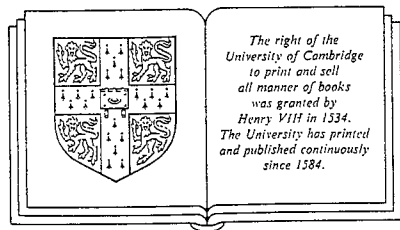# Energy metabolism in animals and man

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Table 3.4. *Comparison of the metabolisable energy (in kJ/100 g) of human foods on a fresh weight basis as estimated by methods used in the UK (Paul & Southgate 1978) and the USA (Merrill & Watt 1955).*

Food	Metabolisable energy		Ratio of USA/UK values
	UK	USA	
Cereals			
Bread, brown	948	1050	1.11
Bread, white	991	1012	1.02
Flour, wholemeal	1351	1368	1.01
Flour, white	1433	1477	1.03
Oatmeal	1698	1669	0.98
Rice, polished	1536	1540	1.00
Dairy products			
Butter	3041	3130	1.03
Cheese, cheddar	1682	1732	1.03
Eggs	612	707	1.16
Milk, fresh whole	272	285	1.05
Meat			
Beef, corned	905	966	1.07
Beef, steak, raw	736	740	1.01
Liver, raw	642	602	0.94
Fruit			
Apples, eating	196	230	1.17
Apricots, dried	776	1243	1.60
Bananas	337	431	1.28
Currants, black, raw	121	330	2.73
Gooseberries, green, raw	73	146	2.01
Grapefruit	95	134	1.41
Oranges	150	205	1.37
Vegetables			
Beans, butter, raw	1162	1464	1.26
Beans, runner, raw	83	129	1.56
Cabbage, Savoy, raw	109	126	1.15
Carrots, old, raw	98	134	1.36
Peas, fresh, raw	283	339	1.20
Nuts			
Peanuts	2364	2410	1.02
Walnuts	2166	2177	1.02

the primary estimate of amounts consumed might influence any conclusions drawn.

3.5.2   *The uniqueness of the metabolisable energy factors*

The methods employed by Paul & Southgate (1978) to estimate the metabolisable energy of diets for man predicate that unavailable carbohydrate has no nutritive value and that the factors for protein, fat and