Calculation of energy values (kJ) from energy-contributing nutrient values as 'g per100 g EP'

Table 4.1-2: Energy calculation (kJ)

Data needed	• NV as g/100 g EP for protein, fat, carbohydrates, dietary fibre and alcohol • Energy conversion factor for kJ
Formula for available carbohydrates	Energy (kJ/100 g EP) = protein (g/100 g EP) x 17 + fat (g/100 g EP) x 37 + available carbohydrates (g/100 g EP) x 17 + dietary fibre (g/100 g EP) x 8 + alcohol (g/100 g EP) x 29
Formula for total carbohydrates	Energy (kJ/100 g EP) = protein (g/100 g EP) x 17 + fat (g/100 g EP) x 37 + total carbohydrates (g/100 g EP) x 17 + alcohol (g/100 g EP) x 29
Formula for available carbohydrates in monosaccharide equivalents	Energy (kJ/100 g EP) = protein (g/100 g EP) x 17 + fat (g/100 g EP) x 37 + available carbohydrates as monosaccharide equivalents (g/100 g EP) x 16 + dietary fibre (g/100 g EP) x 8 + alcohol (g/100 g EP) x 29
Example	White wheat bread contains per 100 g EP: 6.7 g protein (PROT); 1.0 g fat (FAT), 48.7 g available carbohydrates by weight (CHOAVL); 2 g total dietary fibre (FIBTG) and 0 g alcohol (ALC) Calculation: (6.7 g PROT x 17) + (1.0 g FAT x 37) + (48.7 g CHOAVL x 17) + (2 g FIBTG x 8) + (0 g ALC x 29) = 995 kJ/100 g EP
Note for data in DM	If data are presented on a DM basis, a preliminary step is to convert the values from DM basis to per 100 g EP (see *Section 3.5*).

Calculation of energy values (kcal) from energy-contributing nutrient values as 'g per 100 g EP'

Table 4.1-3: Energy calculation (kcal)

Data needed	• NV as g/100 g EP for protein, fat, carbohydrates, dietary fibre and alcohol • Energy conversion factor for kcal
Formula for available carbohydrates	Energy (kcal/100 g EP) = protein (g/100 g EP) x 4 + fat (g/100 g EP) x 9 + available carbohydrates (g/100 g EP) x 4 + dietary fibre (g/100 g EP) x 2 + alcohol (g/100 g EP) x 7
Formula for total carbohydrates	Energy (kcal/100 g EP) = protein (g/100 g EP) x 4 + fat (g/100 g EP) x 9 + total carbohydrates (g/100 g EP) x 4 + alcohol (g/100 g EP) x 7
Formula for available carbohydrates in monosaccharide equivalents	Energy kcal/100 g EP) = protein (g/100 g EP) x 4 + fat (g/100 g EP) x 9 + available carbohydrates in monosaccharide equivalents (g/100 g EP) x 3.75 + dietary fibre (g/100 g EP) x 2 + alcohol (g/100 g EP) x 7
Example	White wheat bread contains per 100 g EP: 6.7 g PROT; 1.0 g FAT, 48.7 g CHOAVL, 2 g FIBTG and 0 g ALC Calculation: (6.7 g PROT x 4) + (1.0 g FAT x 9) + (48.7 g CHOAVL x 4) + (2 g FIBTG x 2) + (0 g ALC x 29) = 235 kcal/100 g EP
Note for data in DM	If data are presented on a DM basis, a preliminary step is to convert the values from DM basis to per 100 g EP (see *Section 3.5*).