# INTRODUCTION

CAL100 is a calculator for working out the amounts of individual ingredients needed to make a meal which matches a set of target macro-nutrient ratios for carbohydrates, fat, protein as well as the energy sources of fibre and saturated fat.

Many consider getting a balance of macro-nutrients within a target range is one of the keys to optimum health.

Meals become a collection of pre-calculated meals for macro-nutrients which can then be put together to make a food list for that day.
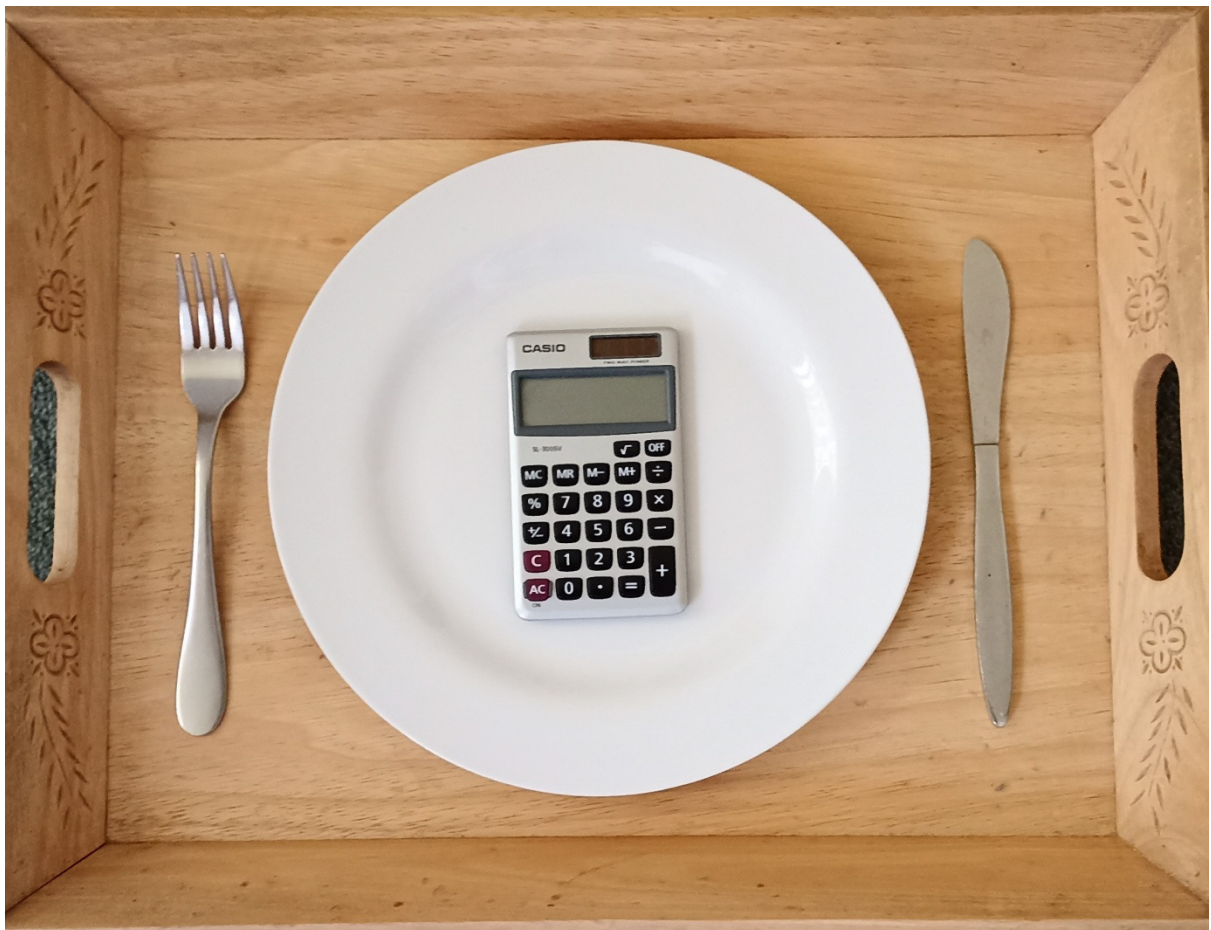
The calculator came about because (even with practice) matching a particular set of ratios to a meal can take up to an hour and still not be very accurate.

In addition, some people aim to minimise or maximise a particular nutrient and adjust the ratios accordingly; e.g. a weight lifter wanting to build muscle will normally aim at a target for protein (usually in grams) per meal with other nutrients making up the rest.

Likewise, an Atkins dieter will try not to exceed a carb amount typically around 20 grams per day.

The complexities of trying to work out a new meal (usually by trial and error) to match the macro requirements can be somewhat daunting.

In practice; repeating the same meal over many months rather than opting to plan for a new one is a more likely option.



CAL100 aims to give you a "what if" toolkit for matching ingredients to meal targets mainly by ratios but with options to favour a particular food group by minimum / maximum ratio or weight.

Using CAL100; with practice; new meals can be worked out in less than 5 minutes. In addition, a library of pre-calculated meals can be built up. Using the program is quite recreational. Perhaps similar to doing jigsaw puzzles with all the edges and sky done for you.
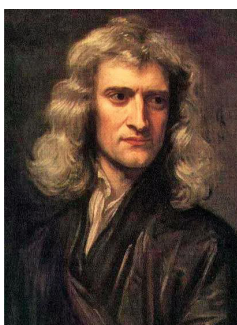


The programme uses Microsoft Excel 2007 and above (32bit version) with the Solver extension enabled (This extension is part of typical install of Excel). For those interested; this extension uses problem-solving techniques pioneered by the mathematicians: Isaac Newton and Joseph Raphson in the 17th century.

The programme also uses a technique familiar to accountants called "double entry" accounting. This will spot most mistakes during entry of any new foods added. Errors by either the food manufacturers or by user typos can be found in this way.

In addition, supermarket food labels can be **read directly** from their respective websites which again reduces possible typo errors.

CAL100 was originally intended to complement a common web-based meal planner *MyFitnessPal* it has however moved on to something more than just an "add on".

It's now become a new approach to diets starting from scratch and a blank sheet of paper.

PS: The largest part of the diet theory of this programme is from:

***"Dietary Guidelines for Americans"***

Published by the ***"US Department of Agriculture"***

ITS quite readable despite the name!



Enjoy!

Richard Marsden