

NUTRIENT-BASED STANDARDS – CAN WE TRUST THE FIGURES?

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Do you trust the nutrition information on the label of your cornflakes packet? Did you know that when it says 8mg/100g serving you could really be eating anything between 4mg/100g and 16mg/100g?

This is because there is a wide variation in the composition of foods so the law allows manufacturers some leeway or tolerance in nutrition labelling.

Many manufacturers and caterers rely on the data contained in 'McCance & Widdowson's The Composition of Foods'⁽¹⁾ which is widely acknowledged as the 'bible' on the nutritional value of foods.

In the introduction, it is explained that the information does have limitations and must be used with care. In particular it points out that:

"All natural products vary in composition. Two samples from the same animal or plant may well be different, but the composition of meat, milk and eggs are also affected by season, feeding regime and age of the animal. Different varieties of the same plant may differ in composition."

Furthermore:

"A major influence on the nutrient concentration in foods is the water content, and this is particularly important in plant foods where water is the main constituent. As the length and conditions of food storage affect the water content of foods, these will have an effect on the nutrient content per 100g. Many individual nutrients will also be affected by storage conditions with the greatest effect being on the more labile vitamins such as vitamin C, vitamin E and folate."

Tolerances

So how much leeway is allowed for nutrition labelling? The officially recognised tolerances are as follows⁽²⁾:

	Recommended tolerance
Fat, Protein, Carbohydrates (including sugars and dietary fibre)	
More than 5%	± 20%
More than 2% and less than 5%	± 30%
Water soluble vitamins i.e. B vitamins and minerals*	+ 100% - 50%
Oil soluble vitamins* i.e. A,D,E	± 30%

* these apply to non-liquid foods

In order to comply with legislation on the Nutrient-based Standards caterers may use the McCance & Widdowson data, with little guidance on the tolerances that are allowed. However the potential variation is even greater for caterers because of the large numbers of foods and ingredients used the approximations are likely to be compounded..

For example, using the tolerances shown above for the fat content of mince the table below shows what happens to the amount of fat in each serving of shepherd’s pie.

Table 1– Shepherd’s Pie made with lamb mince containing 12, 15 and 18% fat.

	FAT (g)			SATURATED FAT (g)		
% in mince	12	15	18	5.5	6.9	8.3
Amount per serving (g)	9.5	11.4	13.2	3.8	4.6	5.5
Nutrient standard (g)	20.6	20.6	20.6	6.5	6.5	6.5
% of nutrient standard	46.0	55.1	64.2	58.0	71.4	84.9

NB: These calculations only show how variation in the fat content of the lamb mince has an effect on the composition of the final product. No attempt has been made to show the impact of variation in the nutrient content of the other ingredients.

In actual fact these variations are likely to be even greater because the McCance & Widdowson value for raw lamb mince is 13.3% but it is emphasised that this is an average band with ranges from 8.1 – 22.8%.

On paper, school caterers might be meeting the Nutrient-based Standards but because of the variation in food composition the values obtained do not accurately reflect what is in the food being served. As a consequence the calculations are meaningless. The only way to obtain reliable information is to do a chemical analysis of all the foods which are actually being used to prepare the school meals.

Hence, legislation is fundamentally flawed and should be repealed.

Failing that, it is incumbent on the Government/School Food Trust to provide guidance on the tolerances which are acceptable in order to comply with the legislation.

References

⁽¹⁾Food Standards Agency (2002) McCance & Widdowson’s The Composition of Foods, Sixth summary edition. Cambridge: Royal Society of Chemistry.

⁽²⁾Directive 90/496/EEC on Nutrition Labelling for Foodstuffs: Discussion Paper on Revision of Technical Issues, May 2006.