

Nutrition Discussion Forum

Functional food properties of non-digestible oligosaccharides – reply by Van Loo et al.

Thank you for your comments on the ENDO consensus report that appeared in the *British Journal of Nutrition* recently (Goodlad & Wasan, 1999). We certainly agree with your general comment that such a report raises more questions than it gives answers. The question of the physiological function of short-chain fatty acids provides an example, and we certainly need more human trials based on sound and relevant hypotheses before we will be able to make scientifically sound recommendations.

The ENDO consensus report (Van Loo *et al.* 1999) had a clear but limited objective and we disagree with the suggestion that it was 'biased towards positive evidence'. Indeed, it reports on a consensus that was reached after 3 years of extensive scientific collaborative research and by reference to data, including human intervention studies, that were available at the time (and which have largely been confirmed more recently). Even if some of the consensual conclusions claim that a few effects of non-digestible oligosaccharides (NDO) are already supported by scientific data so as to justify 'strong evidence', most of our conclusions are prudent and remain on the 'promising side' or even the 'preliminary side' of the evidence.

Your reference to the 'unanticipated results of carotene, vitamins (C, E) or fibre studies' is a little surprising. Indeed, the whole research strategy of the ENDO project has been to establish a sound scientific basis to enable the formulation of hypotheses that will justify human intervention studies likely to avoid such 'surprising results'. Especially in the field of reduction of cancer risk, we report experimental data that, in our opinion, are preliminary but still can serve as the basis for planning further human trials to test likely hypotheses. We have made no claim for any anticancer effect in humans.

In line with the concept of functional foods reported recently (Diplock *et al.* 1999), we support a prudent and stepwise approach to claims of enhanced function or disease risk. However, in our consensus meeting, we came to the conclusion that, especially in some areas (e.g. Ca bioavailability), scientific data are already indicative and promising enough to instigate (further) human trials without anticipating the conclusions of those studies.

Further, it needs to be emphasized that NDO, particularly inulin and oligofructose, are present naturally in many of the

food plants in current Western diets (Van Loo *et al.* 1995). NDO are non-toxic and are approved and widely-used safe food ingredients with a long history of human consumption. This, together with the potentially beneficial effects as observed in the experimental models, makes us feel comfortable in taking the position that we adopted in our paper, i.e. to promote further human nutrition studies with these compounds.

Our consensus paper was intended to stimulate discussion and more research in a new and exciting field of nutrition, and your letter indicates that we have already succeeded. We look forward to more comments and new results.

Jan Van Loo and Anne Franck
ORAFTI
 Aandorenstraat 1
 B3300 Tienen
 Belgium

Marcel Roberfroid
 Catholic University Louvain,
 Brussels
 Belgium
 (on behalf of all the authors)

References

- Diplock AT, Aggett PJ, Ashwell M, Bornet F, Fern EB & Roberfroid MB (1999) Scientific concepts of functional foods in Europe: consensus document. *British Journal of Nutrition* **81**, S1–S27.
- Goodlad RA & Wasan H (1999) Functional food properties of non-digestible oligosaccharides. *British Journal of Nutrition* **82**, 75.
- Van Loo J, Coussement P, de Leenheer L, Hoebregs H & Smits G (1995) On the presence of inulin and oligofructose as natural ingredients in the western diet. *Critical Reviews of Food Science and Nutrition* **35**, 525–552.
- Van Loo J, Cummings J, Delzenne N, Englyst H, Franck A, Hopkins M, Kok N, Macfarlane G, Newton D, Quigley M, Roberfroid M, van Vliet T & van den Heuvel E (1999) Functional food properties of non-digestible oligosaccharides: a consensus report from the ENDO project (DGXII AIRII-CT94-1095). *British Journal of Nutrition* **81**, 121–132.