Reviewer’s report

**Title:** A bilberry drink with fermented oatmeal decreases postprandial insulin demand in young healthy adults

**Version:** 2  **Date:** 12 April 2011

**Reviewer:** Riitta Torronen

**Reviewer’s report:**

Major Compulsory Revisions

1. There are statistically significant differences between the bilberry drink (BBFOMD) and the reference drink (FOMD) indicating that bilberries added to the fermented oatmeal influence the early postprandial glucose and insulin responses. The peak glucose value at 30 min and the glucose iAUC 0-45 min were lower after BBFOMD compared to FOMD (Fig. 3, Table 3). Also the insulin responses were lower after BBFOMD compared to FOMD as early as at 15 and 30 min (Fig. 4). On the other hand, the differences between BBFOMD and FOMD in iAUC 0-120 min, GI or II were not statistically significant (Table 3), and no differences were detected in the individual timepoints later than 45 min (Fig. 3 and 4). The authors should discuss this finding. In vitro studies have suggested that berry extracts and polyphenols may inhibit carbohydrate digestion (McDougall et al., J Agric Food Chem 53: 2760, 2005) and absorption (Manzano and Williamson, Mol Nutr Food Res 54: 1773, 2010). The delayed and attenuated glycaemic response to sugar consumed with berries has also been demonstrated in a clinical study (ref. 18). The authors could discuss the possibility that one of the plausible explanations for their results might be the reduced digestion or absorption of carbohydrates due to the high amount of bilberries in BBFOMD.

Minor Essential Revisions

2. Statistical analysis, calculation of GI and II: Is 50 g of carbohydrates correct? Table 1 indicates that the amount of available carbohydrates was 30 g.

3. Figure legends 1 and 2: Is n=11 correct? In the Methods sections it is mentioned that 9 volunteers participated in the study of Series 1.

4. Discussion, eight paragraph: Some optional references for ref. 40 presenting data on the rich phenolic content of Scandinavian bilberries


Koponen et al. Contents of anthocyanins and ellagitannins in selected foods
Hellström et al. Proanthocyanidins in common food products of plant origin. J
Agric Food Chem 57: 7899, 2009

Minor issues not for publication:
The text and table 2: Do not use comma as a decimal point
Reference 9: ‘typ’ should be ‘type’
Reference 17: check the names of the authors (Tri?, S HP?) and update the
bibliographic data
Reference 25: use initials instead of first names of the authors
Use the abbreviated journal names in references 2, 20, 23 and 38.

Level of interest: An article whose findings are important to those with closely
related research interests

Quality of written English: Needs some language corrections before being
published

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:
I declare that I have no competing interests.