

1 **Table S1:** Results from the 3-day weighed food record and the two food frequency questionnaires. Data is from 31 subjects.

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	FFQ 1				3DWFR				FFQ 2			
	Mean	SD	Median	IQR	Mean	SD	Median	IQR	Mean	SD	Median	IQR
Total cereal intake (g/day)	312.2	148.7	312.0	128.7	160.2	72.12	153.5	94.5	264.9	136.2	229.0	130.6
Total WG intake (g/day)	28.5	25.1	20.5	36.6	25.9	22.06	22.1	20.3	20.6	16.0	15.3	21.0
WG wheat (g/day)	17.3	17.5	15.4	16.5	16.7	19.06	10.8	21.8	11.9	8.8	10.7	11.7
WG rye (g/day)	3.7	9.5	0.5	1.5	2.7	6.43	0.0	1.1	2.6	6.8	0.5	1.3
WG oats (g/day)	4.2	6.1	1.1	7.6	3.7	7.14	0.0	4.2	2.7	4.5	0.9	2.7
WG rice (g/day)	9.3	11.9	0.8	17.9	0.5	2.43	0.0	0.0	8.8	13.1	0.9	54.1
Other WG * (g/day)	1.4	2.4	0.2	1.2	2.3	5.42	0.0	0.9	0.8	1.5	0.1	0.7
Cereal fibre (g/day)	9.0	5.7	7.7	5.6	9.3	5.0	8.6	5.2	7.0	4.1	6.1	3.2
AR (mg/day)	19.1	18.5	16.9	18.8	13.3	12.9	10.2	13.9	12.7	9.8	10.9	11.4

3 *Including barley and millet. No subjects reported eating wholegrain maize, sorghum, or other types of wholegrains.

Table S2: Pearson's correlation coefficients comparing the log transformed results of the 3-day weighed food record and the two food frequency questionnaires for different food groups.

	FFQ 1 vs 3DWFR	FFQ 2 vs 3DWFR
Total cereals	0.42 ^a	0.56 ^b
Total wholegrain cereals	0.72 ^c	0.81 ^c
Total bread [*]	0.13	0.41 ^a
Total wholegrain bread	0.55 ^b	0.54 ^b
Total breakfast cereals ^{**}	0.60 ^b	0.57 ^b
Total wholegrain breakfast cereals	0.62 ^b	0.58 ^b
Total sweets and snacks ^{***}	0.13	0.42 ^a
Total wholegrain sweets and snacks	-0.22	0.10
Total cooked cereals ^{****}	0.08	0.29
Total wholegrain cooked cereals	0.34	0.41 ^a

^a P<0.05

^b P<0.01

^c P<0.0001

^{*} Including all types of breads, crispbreads and crackers.

^{**} Including all types of breakfast cereals, porridge.

^{***} Including muesli bars, corn chips, popcorn, biscuits, cakes, pancakes.

^{****} Including rice, pasta, noodles, polenta, bulgur, tacos.

Table S3: Pearson's correlations of alkylresorcinol intake, cereal fibre intake, total wholegrain intake and wholegrain wheat intake with plasma alkylresorcinol concentrations (n = 29).

	AR intake (mg/d)	Cereal fibre intake (g/d)	Total wholegrain intake (g/d)	Wholegrain wheat intake (g/d)
FFQ1	0.56 ^b	0.60 ^b	0.54 ^b	0.37 ^a
3DWFR	0.37 ^a	0.13	0.57 ^b	0.47 ^a
FFQ2	0.52 ^b	0.44 ^a	0.59 ^b	0.43 ^a

^a P<0.05

^b P<0.01

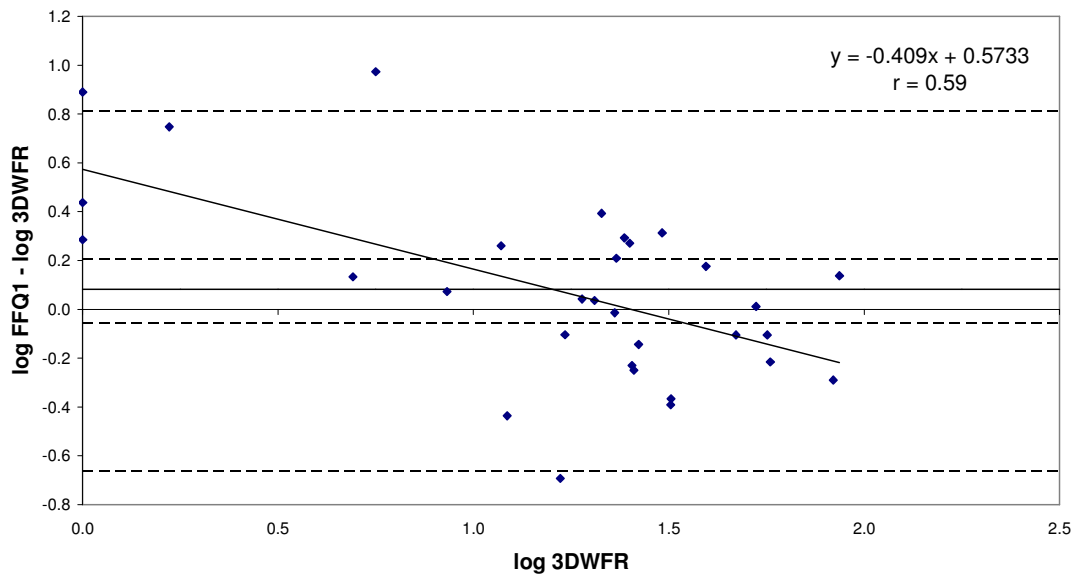
Table S4: Means (medians) of tertiles of wholegrain intake and plasma alkylresorcinol concentration, with the total number in each tertile in brackets.

	T1 (n=9)			T2 (n=10)			T3 (n=10)		
	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
3DWFR (g)	5.2 ^{a*}	5.9	3.9	21.5 ^b	2.9	22.1	50.8 ^c	20.2	48.95
FFQ1 (g)	11.3 ^a	16.3	5.7	28.3 ^{ab}	15.3	21.2	47.1 ^b	30.0	42.6
FFQ2 (g)	10.1 ^a	8.9	7.2	20.7 ^{ab}	11.1	15.1	31.8 ^b	19.6	24.7
Plasma [AR] (nmol/L)	40.1 ^a	18.2	36.9	54.0 ^{ab}	18.7	48.8	71.7 ^b	32.5	71.0

* Means in rows not sharing a common superscript letter are significantly different (P<0.01); ANOVA on log-transformed data.

Figure S1: Bland-Altman plots comparing the two food frequency questionnaires and the three-day weighed food record (3DWFR). Data was normalised using log transformation. Dashed lines represent 1 and 2 standard deviations from the mean. The negative slope indicates that subjects who ate more wholegrain tended to underreport, while those who ate less over reported, compared to the 3DWFR.

Bland-Altman plot of log FFQ 1 verses log 3DWFR



Bland-Altman plot of log FFQ 2 verses log 3DWFR

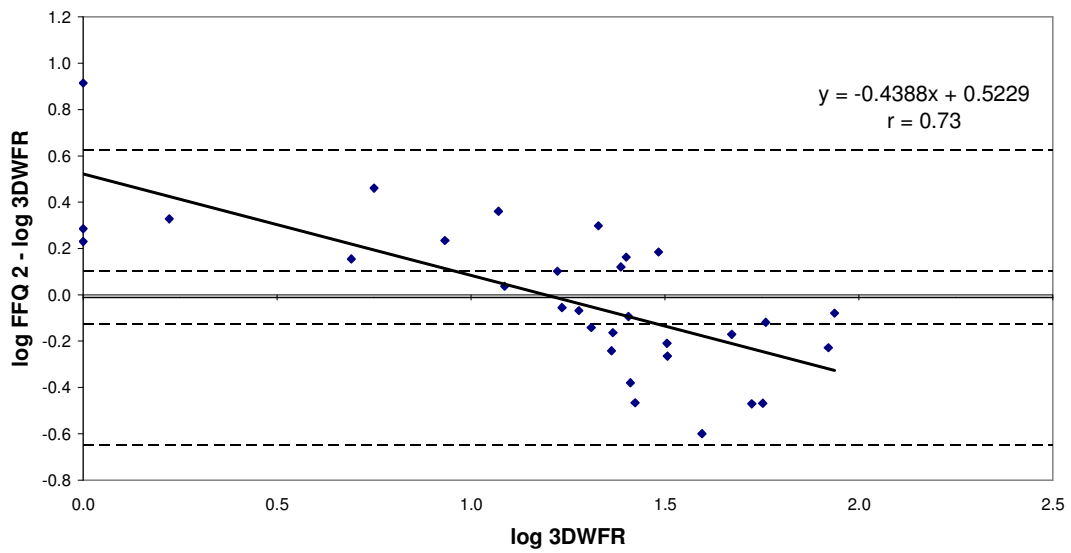
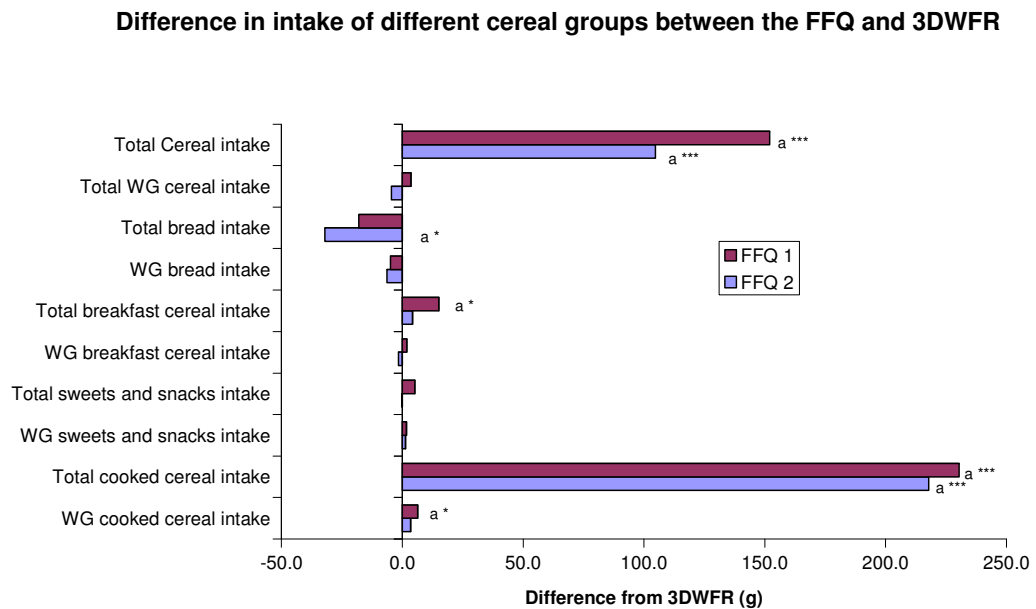


Figure S2: Difference between the intake of different groups of cereal products estimated by the 3-day weighed food record and the repeated food frequency questionnaires.



a = different from 3DWFR

* = $P < 0.05$

*** = $P < 0.0001$