

ASSESSMENT OF FERMENTED DAIRY PRODUCTS ADEQUACY IN DIET OF LACTOSE INTOLERANT PERSONS

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Background and Objective:

Milk and dairy products are an important source of many nutrients that are known to have many beneficial effects on human health. On the other hand, milk and dairy products can cause allergies and intolerances. Allergy is caused by milk proteins that cause immune reactions, while intolerance is caused by a milk sugar, lactose, due to reduced activity of enzyme lactase which digests it. To avoid the unpleasant symptoms of lactose intolerance, lactose intolerant persons can consume fermented milk products that are known to have reduced lactose content. The aim of this study was to determine the content of lactose in commercial fermented dairy beverages by HPLC method and assess their adequacy in diet of lactose intolerant persons.

Methods and Samples:



Results:

Lactose content of analyzed products ranged from 2.65 g/100 g up to 4.05 g/100 g in plain yogurts, and from 2.61 g/100 g up to 4.63 g/100 g in functional products (**Table 1**).

Table 1 Basic characteristics and lactose content of analyzed fermented milk products

Sample code	Yoghurt type	Fat content declared by producer (g/100 g)	Lactose (g/100 g)
Fermented products			
Y-7	Set	3.2	2.81 ± 0.24
Y-8	Set	3.2	3.50 ± 0.15
Y-9	Drinkable	2.8	4.05 ± 0.31
Y-10	Drinkable	0.1	3.35 ± 0.15
Y-11	Drinkable	3.2	3.05 ± 0.04
Y-12	Drinkable	0.9	3.93 ± 0.17
Y-13	Drinkable	0.9	3.14 ± 0.20
Y-14	Drinkable	2.8	2.65 ± 0.09
Y-17	Drinkable	0.5	2.88 ± 0.19
Y-18	Set	3.2	2.89 ± 0.06
Y-19	Drinkable	2.8	3.07 ± 0.33
Y-20	Drinkable	0.05	2.82 ± 0.22
Y-23	Drinkable	2.8	2.96 ± 0.11
Probiotic fermented products			
FY-2	Drinkable	3.2	2.87 ± 0.13
FY-3	Drinkable	1.5	3.33 ± 0.32
FY-4	Drinkable	3.5	3.49 ± 0.11
FY-5	Drinkable	1.0	2.77 ± 0.09
FY-6	Drinkable	0.5	2.61 ± 0.17
FY-21	Drinkable	0.9	4.63 ± 0.10
FY-22	Drinkable	3.5	4.33 ± 0.15
FY-24	Drinkable	3.1	3.17 ± 0.15

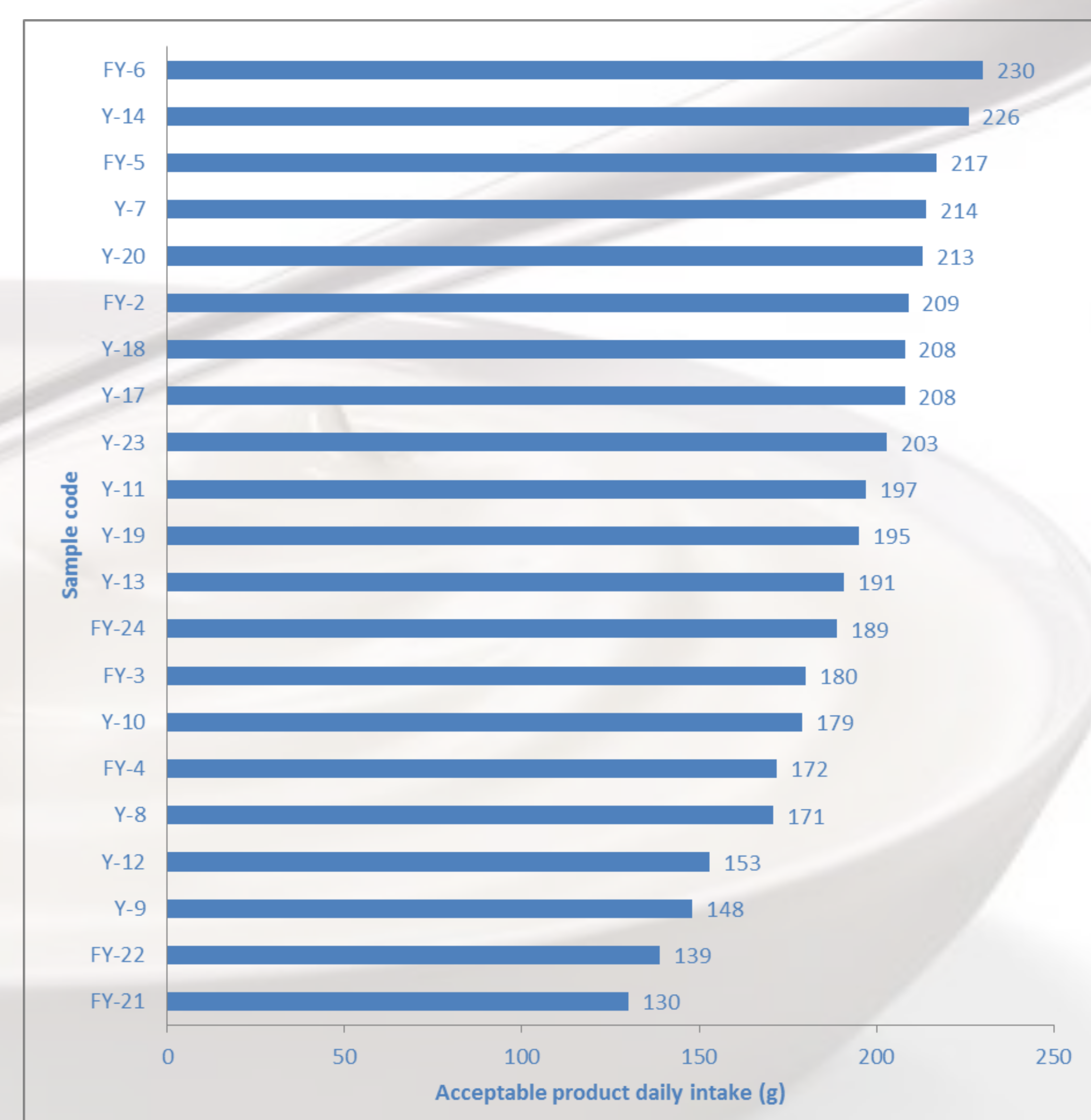


Figure 1 Lactose intolerant individual acceptable product daily intake for analyzed plain yoghurts (Y) and functional yoghurts (FY) under the presumption that person can digest 6 g of lactose daily with no or minor symptoms

Conclusions:

Based on determined lactose content and a presumption that most of lactose intolerant persons can digest up to 6 g of lactose on a daily basis without obvious symptoms it is assessed that acceptable amount of analyzed products ranges from 130 to 230 g (**Figure 1**). Nevertheless, individual differences should be considered prior to ingestion.