verbraucherzentrale

FOODSTUFFS ENRICHED WITH VITAMIN D

Market check by the German consumer organisations in stationary retail

FOODSTUFFS ENRICHED WITH VITAMIN D

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1. BACKGROUND

1.1 VITAMIN D

Vitamin D is not a vitamin in the proper sense, because it does not necessarily need to be taken up through food. Instead, it is predominantly manufactured by the body itself through sunlight on the skin (endogenous synthesis). This does not necessarily require direct exposure to sunlight. When one regularly spends time outdoors, this endogenous synthesis represents 80–90 per cent of vitamin D supply. Intake through food only plays a minor role at around 10–20 per cent. If the body cannot form its own vitamin D (lack of endogenous synthesis), the German Society for Nutrition (Deutsche Gesellschaft für Ernährung, DGE) recommends a daily intake of 20 µg vitamin D from medical or nutritional supplements [1]. The risk group for insufficient vitamin D synthesis especially includes elderly persons necessitating care who do not spend much or any time outdoors.

Especially in the winter months, the vitamin D intake in the German population is below optimal. This is due to the fact that in winter, insolation is weaker in Germany. However, this does not automatically mean that a vitamin D deficiency is present and that medical or nutritional supplements are required [2].

1.2 ENRICHMENT OF FOODSTUFFS WITH VITAMIN D

The enrichment of foodstuffs with vitamins and minerals is governed by European Union (EU) laws. Regulation (EC) 1925/2006 (Enrichment Regulation) prescribes that vitamin D may be added to foodstuffs in the form of cholecalciferol and ergocalciferol [3].[1]

The regulation prescribes that maximum quantities should be defined for the enrichment of foodstuffs with vitamins and minerals. This has not yet been done. As long as the EU does not prescribe maximum quantities, national law can be used. In Germany, according to the Directive on vitaminated foodstuffs (Verordnung über vitaminisierte Lebensmittel) only margarine and mixed fat products may be enriched with vitamin D [4]. All other foodstuffs may generally not be enriched with vitamin D. Providers that wish to enrich these foodstuffs with vitamin D must submit an application to the German Federal Office of Consumer Protection and Food Safety (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, BVL) [5-7]. They have two options:

§ 1. A SPECIAL AUTHORISATION (PURSUANT TO § 68 OF THE GERMAN FOOD AND FEED CODE (LEBENSMITTEL- UND FUTTERMITTELGESETZBUCH, LFGB))

The special authorisation is only valid for the manufacturer that applies for it, and only for the product applied for.

§ 2. A GENERAL APPROVAL (PURSUANT TO § 54 LFGB)

The general approval also applies for other manufacturers from the European Union or other states of the European Economic Zone. The products must have the same formulation and must be legal for sale in their country of origin.

1 An exception is unprocessed foodstuffs like fruits, vegetables and meat as well as drinks with an alcohol content above 1.2% vol. [3]. The enrichment of organic foodstuffs with vitamins and minerals is only permitted when it is prescribed by law. This is the case for instance with baby food.

1.3 ENRICHMENT CONCEPT OF THE GERMAN FEDERAL INSTITUTE FOR RISK ASSESSMENT (BUNDESINSTITUT FÜR RISIKOBEWERTUNG, BFR)

The BfR has proposed a concept for the enrichment of foodstuffs with vitamin D and has recommended maximum quantities. The concept's goal is to ensure that the enrichment of foodstuffs with vitamin D does not result in harm to health. It took into consideration the fact that vitamin D is also obtained from other sources, for instance nutritional supplements [8].

The BfR's concept is considered when providers apply for a special authorisation for enrichment. The German Federal Office of Consumer Protection and Food Safety is responsible for processing these applications. To date the BVL has rejected most applications for the enrichment of foodstuffs that the BfR judged to be unsuitable. This includes foodstuffs subject to strong fluctuations in consumption, i.e. that are eaten in very different amounts. For example, the consumption of drinks varies very strongly from person to person as well as seasonally. This makes it difficult to estimate how much vitamin D is obtained by the general population from enriched drinks. The same is true for foodstuffs that are only eaten rarely or in small quantities, like spices. Foodstuffs that have a high food or sugar content, have a very long shelf life, or are luxury products, like coffee, chocolate or alcoholic beverages, are also considered by the BfR to be unsuitable for enrichment.

In contrast, the BfR considers foodstuffs that are regularly consumed in similar quantities by all population groups to be suitable for enrichment: milk products, baked goods, spreadable fats and edible oils.
Additionally, foodstuffs treated with UV, which are approved as novel foods, are also considered (see 1.5).

1.4 BFR'S MAXIMUM RECOMMENDED QUANTITIES

The BfR recommends the following maximum quantities for the enrichment of foodstuffs with vitamin D [8]:

- **Milk and milk products, including cheese:** **1.5 µg per 100 g**
- **Bread and cereal products, excluding pastries** **5.0 µg per 100 g**
- **Spreadable fats and edible oils:** **7.5 µg per 100 g**
- **UV-treated edible mushrooms*:** **10.0 µg per 100 g**
- **UV-treated milk*:** **3.2 µg per 100 g**
- **Other foodstuffs:** **no enrichment recommended**

The maximum quantities were defined to ensure that the population on average takes up 10 µg of vitamin D per day from common foodstuffs. The average vitamin D intake should not exceed this. Otherwise the risk that people who consume many enriched foodstuffs exceed the safe daily intake increases. For this reason, a further condition was that even with a high consumption of enriched foodstuffs the daily intake of vitamin D should not exceed 50 µg. This quantity corresponds to the daily maximum for children aged 1 to 10.

To avoid consumers being misled, there is also a minimum quantity for vitamin D in enriched foodstuffs. The European Regulation on the Provision of Food Information to Consumers defines nutrient reference values. The nutrient reference value (NRV) states, for vitamins and minerals, how much of them adults need daily. If vitamins or nutrients are highlighted on food packaging, the foodstuff must contain at least 15 per cent of the nutrient reference value. For beverages at least 7.5 per cent are required. For vitamin D, the nutrient reference value is 5 µg. Foodstuffs must therefore contain at least 0.75 µg of vitamin D per 100 g, beverages at least 0.38 µg of vitamin D per 100 ml in order for the labelling of the quantity on the packaging to be permissible.

** UV-treated foodstuffs are subject to Regulation (EU) 2015/2283 on Novel Foods [9].*

1.5 INCREASING THE VITAMIN D CONTENT THROUGH UV TREATMENT

Since a few years, it is allowed to treat mushrooms, baker's yeast, yeast bread and milk with UV radiation. The UV treatment results in more vitamin D being formed in the foodstuff. This method to increase the vitamin D content is new. That is why the foods are referred to as novel foods. In the EU, novel foods must first be tested for safety and receive approval before they can be sold. This is governed by the European Novel Food Regulation [9]. The European Food Safety Agency (EFSA) is responsible for the safety check. EFSA concluded that these UV-treated foodstuffs can be safely consumed. This only applies when the conditions defined in the approval for UV-treated mushrooms, baker's yeast, yeast bread and milk are respected. The UV treatment must be clearly labelled on the products, for instance with the claim "UV-treated", "vitamin D yeast" or "contains vitamin D created by UV treatment". The manufacturers must also observe the prescribed maximum quantities for vitamin D in the foodstuffs [11, 12].

1.6 ADVERTISING FOODSTUFFS WITH VITAMIN D

Providers of foodstuffs may advertise with the vitamin D content of their product when it contains a minimum quantity of vitamin D. Some advertising claims regarding health are permitted. The permitted claims include for instance "vitamin D helps maintain healthy bones" ("Vitamin D trägt zur Erhaltung normaler Knochen bei"), "vitamin D supports the normal function of the immune system" ("Vitamin D trägt zu einer normalen Funktion des Immunsystems bei") and "vitamin D is necessary for healthy growth and healthy development of the bones of children" ("Vitamin D wird für ein gesundes Wachstum und eine gesunde Entwicklung der Knochen bei Kindern benötigt"). Claims about health or nutritional value may however only be made when the product fulfils the conditions of Regulation No. 1924/2006 (the so-called Health Claims Regulation). This regulation defines uniform rules for the use of claims about nutritional value or health on foodstuffs for all member states of the European Union [13].

Health claims regarding vitamin D on foods do not necessarily mean that foods that are enriched with vitamin D or treated with UV are a sensible addition to the menu. On the contrary, too much vitamin D can harm the body. If one regularly takes up more than 100 µg of vitamin D per day, this can result in nausea and vomiting, and even to reduced kidney function [14, 15].

2. WHY A MARKET CHECK?

The market check investigated foodstuffs that were enriched or treated with UV radiation to increase their vitamin D content. The foodstuffs were on sale in food retail stores (stationary retail). The goal was to discover how much vitamin D they contained and how frequently vitamins or minerals were added. The advertising with claims about nutritional value and health relating to vitamin D was also evaluated. The market check was also intended to show whether the products target specific groups with their packaging, for instance through product names or pictures.

3. HOW WE PROCEEDED

The market check was conducted between 20 April and 17 May 2021. In total, 112 products enriched with vitamin D or treated with UV radiation in stationary retail (discounter, supermarkets, drugstores, organic products stores) were purchased:

- 16 beverages (refreshment beverages, juices, shots, smoothies and teas)
- 19 milk products
- 30 milk replacement products (plant drinks, yoghurt alternatives)
- 28 spreadable fats and liquid plant oil preparations
- 13 cereals (muesli bars, breakfast flakes, muesli)
- three sweets
- three UV-treated products

The 112 products represent a random sample (see Annex). Other products may be available in retail that were not investigated in this market check.

The vitamin D contents were compared with the BfR's maximum recommended quantity for enriching foodstuffs with vitamin D [8]. The addition of other vitamins and/or minerals was also recorded. To evaluate the composition of nutrients, the sugar and saturated fats contents were observed.

The German consumer organisations tested the packaging and the advertising claims of the products. The focus was especially on checking whether the wording corresponded to the permitted claims about nutritional value and health relating to vitamin D.

The German consumer organisations also asked the BVL if general approvals or special authorisations for the addition of vitamin D were available for the tested beverages, milk products, milk replacement products, cereals and sweets [6].

4. OUR RESULTS

4.1 VITAMIN D CONTENT

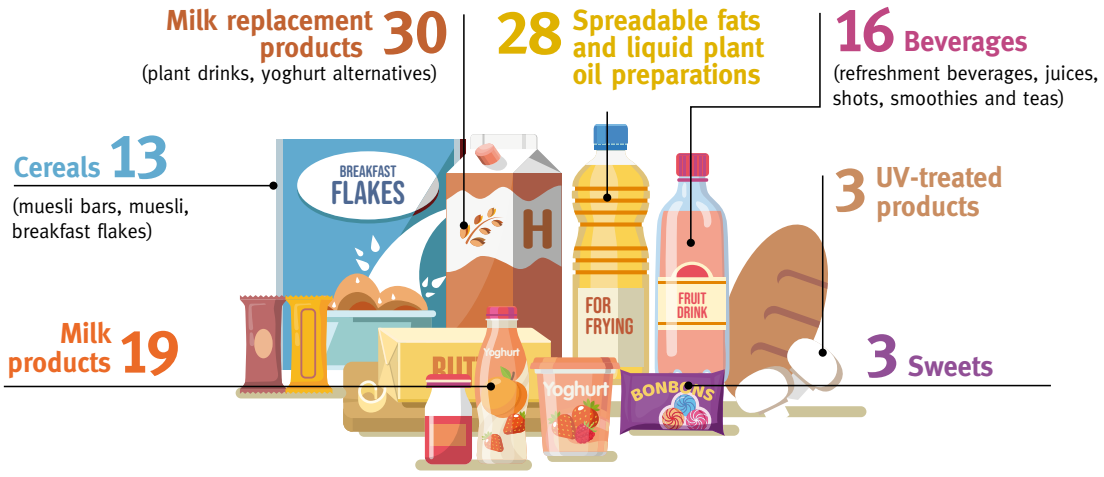
The vitamin D content of the products varied widely. One drink meal had the lowest vitamin D content at 0.25 µg per 100 ml. A muesli bar for pregnant women had the most vitamin D at 25 µg per 100 g. In some product groups, the differences were not very large. For example, most margarines and spreadable fats contained 7.5 µg of vitamin D. This corresponds to the BfR's maximum recommended quantity for this product group. In contrast, the vitamin D content in cereals varied greatly, from 1.4 µg to 25 µg per 100 g.

The BfR recommends only enriching some foodstuffs with vitamin D. For these product groups, the BfR also provides maximum recommended quantities [8]. Table 1 shows how many of the tested products exceeded the maximum recommended quantities. For other product groups like smoothies, drinks, milk replacement products and sweets, the BfR recommends no enrichment. The German consumer organisations nevertheless found enriched products, containing between 0.5 µg and 12.5 µg of vitamin D per 100 g.

Table 1: *Number of products that exceeded the BfR's maximum recommended quantity for enrichment (see Annex)*

Product group	Number of tested products	Number of products that exceeded the BfR's maximum recommended quantity for enrichment
Beverages	16	15*
Milk products	19	11
Milk replacement products	30	30*
Spreadable fats and liquid plant oil preparations	28	–
Cereals	13	2
Sweets	3	3*
UV-treated foodstuffs	3	–
Total	**112**	**61**

**BfR recommends no addition of vitamin D*



4.2 OTHER VITAMINS AND MINERALS

Besides vitamin D, manufacturers also add other vitamins and minerals to their products. The most frequent was calcium (50 times), vitamin B6 (43 times), vitamin E (38 times), and vitamin B1 (26 times). The added vitamins and minerals varied based on product group (see Item 4.4).

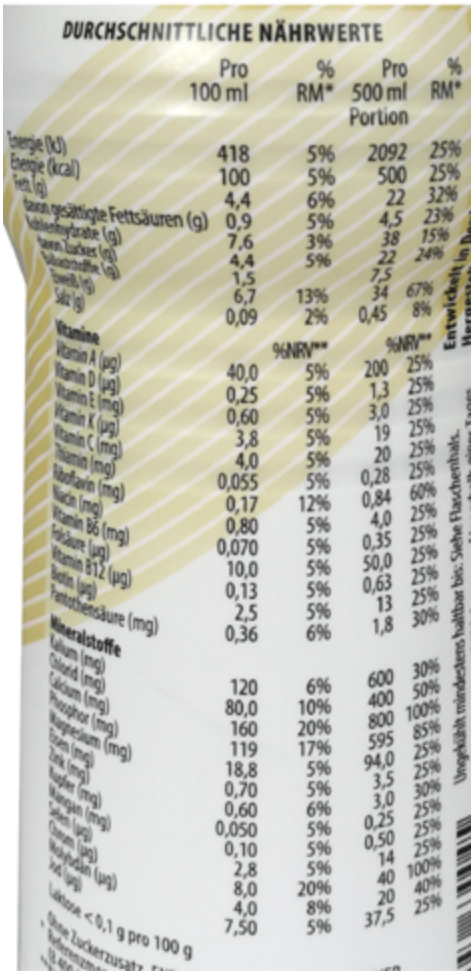
In addition to vitamin D, there are 12 known vitamins. The German consumer organisations found eleven of these in the products in the market check. One milk product and two cereals even had all eleven added. Up to ten different vitamins were added to beverages (Figure 1).

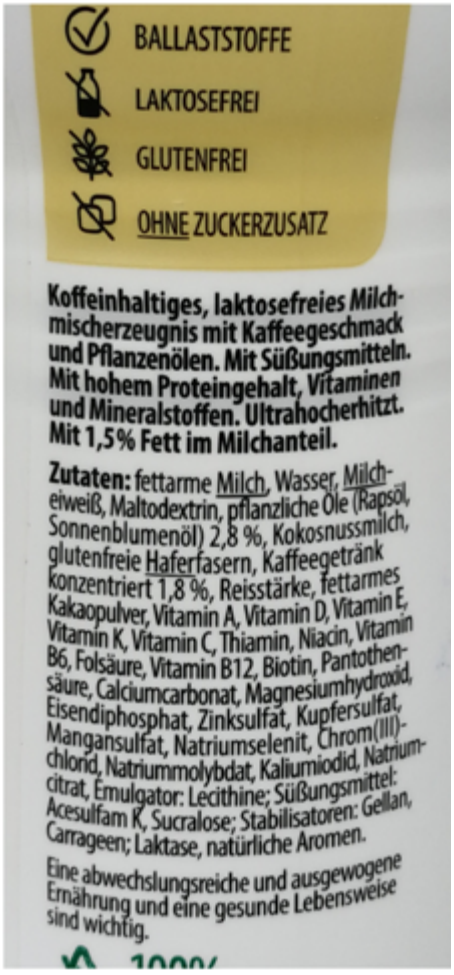
Cereals were most frequently enriched with additional vitamins, especially with B-vitamins. Spreadable fats and UV-treated foodstuffs were additionally enriched the least frequently.

Furthermore, in total 14 of the 17 minerals of important to life were found in the products. 13 were added to a milk product.

All cereals were enriched with minerals, especially calcium and iron. Spreadable fats and sweets least often contained added minerals.

Figure 1: *Milk beverage with eleven additives*





4.3 RESULTS PRODUCT GROUPS

4.3.1 Beverages

The German consumer organisations found 16 different beverages enriched with vitamin D (Figure 2). This included seven juices, three refreshment drinks, two shots, two smoothies and two teas.

A further shot (live fresh) was marketed as a nutritional supplement and so was not considered in this market check. The manufacturer recommended the 60 ml shot with 20 µg of vitamin D as a daily portion. This corresponds to the maximum quantity proposed by the BfR for vitamin D in nutritional supplements. The shots of e.g. innocent are assessed differently because they are marketed as beverages (fruit juice mix). For these, the BfR recommends no enrichment. This shows that the definition of nutritional supplements in the EC's Food Supplement Directive is not clear and is interpreted differently [16]. In our view the definition should therefore be revised. This is also requested by the European Economic and Social Committee in a current opinion [17].

The beverages on average contained 1.85 µg of vitamin D per 100 ml. The lowest quantity was in tea (0.5 µg), the highest in smoothies (5.6 µg). The BfR is against enriching beverages with vitamin D (see 1.3).

A general approval was issued for a Swedish refreshment beverage. This allows the addition of 1.5 µg of vitamin D per 100 ml. This corresponded to the content in the product. There were no approvals for the other products. In the view of the German consumer organisations, 15 of the 16 tested beverages should therefore not be legal for sale.

Figure 2: *Overview of drinks with vitamin D enrichment*

Besides vitamin D, other vitamins or minerals were added to all juices, all refreshment beverages, both smoothies and one shot. One shot and both teas were not enriched with other vitamins or minerals.

Two juices (Figure 3) had another ten vitamins and minerals added: "Amecke für Ihn" ("Extra für den Mann") and "Amecke für Sie" ("Speziell für Frauen"). The various vitamins and minerals were advertised with 16 health-related claims. For example, "Amecke für Ihn" had the claim "Zinc helps maintain the normal testosterone level in the blood and supports normal reproduction" ("Zink hilft bei Erhaltung des normalen Testosteronspiegels im Blut und trägt zu einer normalen Reproduktion bei"). "Amecke für Sie" for instance advertised with the claim "Folic acid plays a role in cell division, contributes to placenta growth during pregnancy and to normal psychological function" ("Folsäure hat eine Funktion bei der Zellteilung, trägt zum Wachstum des mütterlichen Gewebes in der Schwangerschaft und zur normalen psychischen Funktion bei"). Another advertising claim read "Vitamin B6 helps regulate hormonal activity" ("Vitamin B6 hilft bei der Regulierung der Hormontätigkeit"). In all cases, the preconditions for these claims were fulfilled: The products contained the prescribed minimum quantities of the respective vitamins and minerals for beverages (7.5% of the nutritional reference value).

The products shown above explicitly targeted either women or men. Adults were also the specific target group of five other beverages. Three of them explicitly noted that the beverages were not recommended for children and adolescents under 14 years of age (low-calorie refreshment beverages). One smoothie was specially advertised as being for children, one juice was targeted at children and adolescents.

Two shots and one juice were explicitly described as a "source of vitamin D". The preconditions for these nutrition-related claims were fulfilled in all cases, and the minimum quantities were observed. On 13 beverages, there were health-related claims about vitamin D. Two of these were not permissible. One juice had an unspecific claim ("contributes to personal wellbeing", "trägt zum persönlichen Wohlbefinden bei"). Such claims are only allowed when they are supplemented by approved specific claims (for example "Vitamin D contributes to the normal functioning of the immune system", "Vitamin D trägt zu einer normalen Funktion des Immunsystems bei."). The juice, however, did not have a more specific claim. One tea gave the impression that it could help again disease ("Avoid colds", "Erkältung vermeiden"). This is forbidden for foodstuffs.

The average sugar content of the beverages was 7.5 g per 100 ml (for smoothies 11 g, juices 9.9 g, refreshment beverages 4.2 g and teas 0.2 g per 100 ml).

Figure 3:
"Amecke + Für Sie" and "Amecke + Für Ihn" juices

4.3.2 Milk and milk products

The German consumer organisations found 19 different milk and milk products enriched with vitamin D (Figure 4). On average, the products contained 1.64 µg of vitamin D per 100 g. The highest content was 6.25 µg, the lowest was 0.75 µg of vitamin D per 100 g. For the enrichment of "milk and milk products including cheese", the BfR recommends a maximum quantity of 1.5 µg of vitamin D per 100 g. This was exceeded in more than half of the products (see Annex). The products were nine milk mix products (1.67 µg/100 g), one yoghurt (1.67 µg/100 g) and one cheese composition (6.25 µg/100 g). An inquiry with the BVL showed that special authorisations had been delivered for two of the tested milk products in the past. These are "FruchtZwerge Erdbeere, Aprikose" and "Milbona Safari Fruit King Fruchtquark (Erdbeere, Himbeere, Aprikose, Banane)". Furthermore, in the past a general approval for milk drinks for toddlers was issued [7]. The German consumer organisations could not completely verify whether it actually applies to the tested milk products. That is why they inquired with the respective responsible food safety agency.

In addition to vitamin D, all milk products were enriched with other vitamins or minerals, for instance with vitamin B6, vitamin E or calcium. A caffeine-containing milk mix product from the manufacturer YFood Labs GmbH even contained another eleven added vitamins and another thirteen added minerals (Figure 5).

Figure 4: *Overview of milk products with vitamin D enrichment*

Figure 5:
Caffeine-containing lactose-free milk mix product with coffee flavour and plant oils (YFood Labs GmbH)

The packaging of the products was very varied. Seven product packagings specifically targeted children with images and/or product names (Figure 6). Three other products addressed other target groups, for instance sports enthusiasts or health-conscious or stressed persons. Nine products did not address a specific target group.

16 milk products referred to the vitamin D content of the product using nutrition-related claims. For ten products, the manufacturers used approved health-related claims regarding vitamin D, for example "Vitamin D contributes to the normal function of the immune system of children" ("Vitamin D trägt zu einer normalen Funktion des Immunsystems bei Kindern bei"). The average sugar content of the products was 8.4 g per 100 g.

Figure 6: *Examples of children's products with vitamin D enrichment*

4.3.3 Milk replacement products

The German consumer organisations found 30 different milk products enriched with vitamin D (Figure 7). On average, the products contained 0.79 µg of vitamin D per 100 g. The highest content was 1.1 µg, the lowest was 0.75 µg of vitamin D per 100 g. For milk replacement products, the BfR currently recommends no enrichment with vitamin D. This means that all tested products violate the BfR maximum quantity recommendations for vitamin D in foodstuffs (see Annex). An inquiry with the BVL showed that no general approval or special authorisations had been issued for any of the tested milk replacement products. The German consumer organisations inquired with the respective food safety agency whether the products are legal for sale in Germany.

In addition to vitamin D, all milk replacement products were enriched with two to four other vitamins or minerals, for instance with riboflavin, vitamin B12, vitamin E or calcium. An oat drink from the Oatly brand contained six added micro-nutrients, three vitamins and three minerals (Figure 8).

The packaging of the milk replacement products was similar. All product packagings were designed so that the images and/or product names addressed target groups such as vegans, climate-conscious consumers or sports enthusiasts.

Eleven milk replacement products advertised the vitamin D content of the product with nutrition-related information. On average, the products contained 4.4 g of sugar per 100 ml.

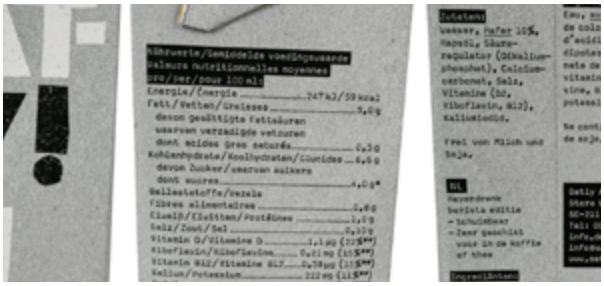


Figure 8: *Haferdrink – Barista-Edition (Oatly AB, Sweden)*

Figure 7: *Overview of milk replacement products with vitamin D enrichment*

4.3.4 Spreadable fats and liquid plant oil preparations

The German consumer organisations recorded 28 spreadable fats and liquid plant oil preparations that were enriched with vitamin D (Figure 9). There is no special authorisation for edible oils allowing manufacturers to add vitamin D. The manufacturers seem to respect this, as no oil with enrichment was found.

A general approval allows manufacturers to add up to 7.5 µg of vitamin D per 100 g to spreadable fats or liquid plant oil preparations. Some products reached this maximum quantity, but none exceeded it. The lowest content was 2.3 µg of vitamin D per 100 g. On average the products contained 6.7 µg of vitamin D per 100 g. Twelve of the 28 products also contained added vitamin A or vitamin E. Ten other spreadable fats and two liquid plant oil preparations naturally contained a lot of vitamin E, for instance from rapeseed oil. None of the products was enriched with minerals. Plant phytosterols were added to five spreadable fats.

These are plant substances that can reduce the uptake of cholesterol in the intestines. Only people with high cholesterol levels should consume them. This needs to be stated on the packaging [9]. On one of the five products, this indication was missing (Figure 10). One spreadable fat targeted families, and therefore also children.

The saturated fats contents varied widely, between 4.6 g and 26 g per 100 g of the product. On average, the content was 14.4 g of saturated fats per 100 g. Margarines especially contained a lot of saturated fats. Liquid plant oil preparations and “light” or “fit” products contained significantly less.

Figure 10:
Spreadable fat with lacking information on health-related claims (Deli Reform, Active Halbfett-Margarine mit Pflanzensterinzusatz)

Figure 9:
Overview of spreadable fats and liquid plant oil preparations with vitamin D enrichment

4.3.5 Cereals

In total, the German consumer organisations recorded 13 cereals with vitamin D enrichment (Figure 11). This included ten breakfast cereals and three cereal bars.

On average, the products contained 4.67 µg of vitamin D per 100 g. The highest content was 25 µg of vitamin D per 100 g, the lowest was 1.47 µg of vitamin D per 100 g. For the enrichment of "cereal products", the BfR recommends a maximum quantity of 5.0 µg of vitamin D per 100 g. This was exceeded in two products (Figure 12): One children's muesli contained 7 µg of vitamin D per 100 g and one bar for pregnant women contained 25 µg of vitamin D per 100 g.

An inquiry with the BVL showed that no special authorisations had been delivered for the tested cereals in the past. However, there are several general approvals for cereals. Only the respective food safety agency can decide whether the general approvals apply for the tested products.

All cereals were enriched with an average of six other vitamins, for instance with vitamin B1, vitamin C, niacin or folic acid. Two products from the Ovomaltine brand stood out for the particularly large number of added vitamins. In addition to vitamin D, they contained another eleven vitamins (Figure 13).

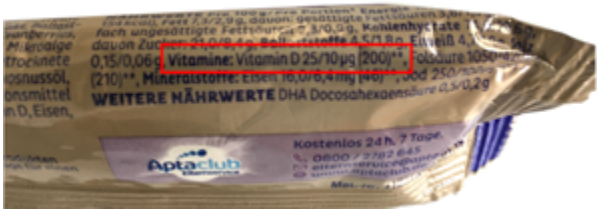
Figure 11: *Examples of cereals with vitamin D enrichment*

Figure 12:
Examples where BfR's maximum recommended quantities were exceeded (Milupa Nutricia GmbH, Müsliriegel für Schwangere Beerenmix and Milupa Nutricia GmbH, Kindermüsli Früchte)

Nährwertkennzeichnung
ohne Zuckerzusatz²

Im Durchschnitt enthalten		Pro 100 g Trockenprodukt	(% der Referenzmenge)	Pro Portion 125 g¹	(% der Referenzmenge)
Energie	kJ	1512		774	
	kcal	358		185	
Fett	g	5,3		5,1	
davon:					
gesättigte Fettsäuren	g	1,0		2,3	
Kohlenhydrate	g	63,1		26,3	
davon: Zucker²	g	20		11,2	
Ballaststoffe	g	9,1		3,2	
Eiweiß	g	10		6,5	
Salz	g	0,03		0,1	
Vitamine					
Vitamin D	µg	7,0 (70)		2,5 (25)	
Thiamin (Vitamin B1)	mg	0,5 (100)		0,2 (42)	
Mineralstoffe					
Natrium	mg	10		44	
Calcium	mg	200 (50)		178 (45)	

¹ Zubereitung pro Portion = 35 g Kindermüsli + 90 ml Kuhmilch (3,5 %)
² Enthält von Natur aus Zucker



All recorded products also contained one to four added minerals, mostly calcium and iron.

The packaging of the products was very varied. Four packagings had images for children. Other products addressed target groups like sports enthusiasts, parents or pregnant women. Five cereals did not address a specific target group.
Only one product advertised its vitamin D content with nutrition-related information. Almost all of the recorded products contained a lot of sugar (more than 20 g per 100 g).

While purchasing the products, the bars from the Made good brand also stood out. In those bars, the vitamin D was not added as a vitamin but via the ingredient “vegetable extract”. They contained 11 µg of vitamin D per 100 g. Because the vitamin D was not added alone, the German consumer organisations did not consider these products in their evaluation of the market check (Figure 14).

Figure 13:
Example of the large number of added vitamins (Wander GmbH, Ovomaltine Crunchy Müsli)


DU BEKOMMST RAUS:

Nährwerte:

pro	100 g	Portion[1]
Brennwert	1767 kJ (420 kcal)	1143 kJ (272 kcal)
Fett	12.0 g	8.1 g
davon gesättigte Fettsäuren	1.2 g	1.8 g
Kohlenhydrate	66.0 g	39.2 g
davon Zucker	20.1 g	16.3 g
Ballaststoffe	6.0 g	3.0 g
Eiweiss	9.0 g	8.8 g
Salz	0.75 g	0.53 g

12 Vitamine

D	2.5 µg / 50[2]	1.3 µg / 26[2]
E	6.0 mg / 50[2]	3.0 mg / 25[2]
K	38 µg / 50[2]	19 µg / 25[2]
C	40 mg / 50[2]	22 mg / 28[2]
Thiamin	0.55 mg / 50[2]	0.32 mg / 29[2]
Riboflavin	0.70 mg / 50[2]	0.58 mg / 42[2]
Niacin	8.0 mg / 50[2]	4.1 mg / 26[2]
B6	0.70 mg / 50[2]	0.41 mg / 29[2]
Folsäure	100 µg / 50[2]	55.4 µg / 28[2]
B12	1.3 µg / 52[2]	1.2 µg / 48[2]
Biotin	25 µg / 50[2]	17 µg / 34[2]
Pantothensäure	3.0 mg / 50[2]	2.0 mg / 33[2]

Figure 14:
Example of vitamin addition through vegetable extracts (Made Good, Chocolate Chip Granola bar)


MADEGOOD®

allergikerfreundlich

Durchschnittliche Nährwerte

	pro 100 g	pro Riegel (24g)
Brennwert	1,743 KJ / 417 Kcal	418 KJ / 100 Kcal
Fett	14 g	3.4 g
davon gesättigte Fettsäuren	4.1 g	1 g
Kohlenhydrate	61 g	15 g
davon Zucker	23 g	5.6 g
Ballaststoffe	8.6 g	2.1 g
Eiweiss	6.9 g	1.7 g
Salz	0.02 g	0 g
Vitamin A	501 mcg (63% NRV*)	120 mcg (15% NRV*)
Vitamin D	11 mcg (222% NRV*)	2.7 mcg (53% NRV*)
Vitamin E	8.4 mg (70% NRV*)	2.0 mg (17% NRV*)
Vitamin C	50 mg (63% NRV*)	12 mg (15% NRV*)
Thiamin	0.75 mg (68% NRV*)	0.18 mg (16% NRV*)
Vitamin B6	0.99 mg (71% NRV*)	0.24 mg (17% NRV*)

* % der Referenzmenge für die tägliche Zufuhr

100 Kalorien pro Riegel

Vitamine aus Gemüseextrakt

Haferflocken Riegel gebacken, mit Schokoladenstücke

Zutaten: 40,5% glutenfreie **Haferflocken***, Agavensirup*, 13,0% Schokoladenstücke (Kakaomasse*, Rohrzucker*, Kakaobutter*), dunkler Reissirup*, Sonnenblumenöl*, Knusper-Vollkornreis*, Inulin (Agave)*, Melasse*, 0,2% Gemüseextrakt (Spinat, Brokkoli, Karotten, Tomaten, Rüben), Shiitake-Pilzextrakt, natürliches Aroma*, Geliermittel (Agar)*.
* *aus kontrolliert biologischem Anbau.*

Riverside Natural Foods Ltd.
Vaughan, ON L4K 4N5
Canada
www.madegoodfoods.de

Certified Organic by Pro-Cert CA-ORG-016
Produkt aus Kanada

Eingeführt von:
Riverside International B.V.
D. Egginkstraat 10
2131 BK Hoofddorp
Die Niederlande

Nettogewicht: 144g (6x24g)

CA-ORG-016
Non-EU agriculture

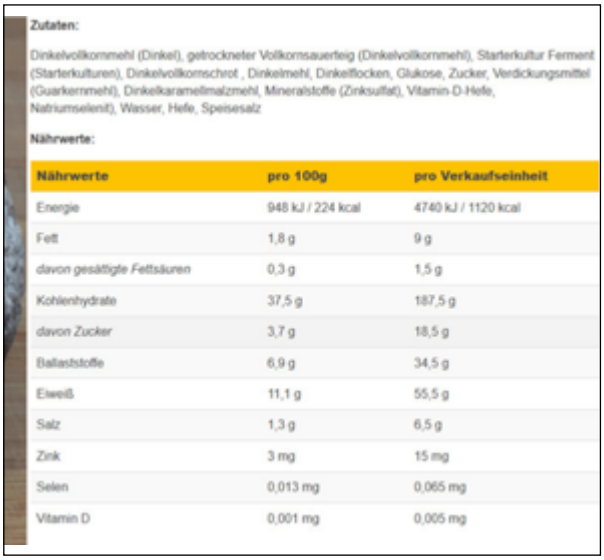
4.3.6 Sweets

The German consumer organisations recorded three sweets with added vitamin D. There was no general approval or special authorisation for the enrichment of these sweets with vitamin D. Nonetheless, the herbal fruit bonbons ("Kräuter-Frucht-Bonbons") had 12.5 µg of vitamin D per 100 g added. For the other products, the vitamin D content was not stated. The products contained up to seven other added vitamins and minerals. One of the foodstuffs bore an approved health-related claim for vitamin D. This is particularly concerning as it is not permissible to add vitamin D to the product.

4.3.7 UV-treated foodstuffs

Currently only a few UV-treated foodstuffs are sold. The German consumer organisations could only record three products that were treated with UV radiation to enrich them with vitamin D. These were UV-treated mushrooms and two breads with UV-treated yeast.
The breads only contained a little vitamin D: 1 µg and 1.55 µg of vitamin D per 100 g (Figure 15).
The mushrooms contained 6.25 µg per 100 g (Figure 16/ Figure 17). The mushrooms and the two breads were thus clearly under the maximum quantities recommended by the BfR for vitamin D in UV-treated foodstuffs. The maximum recommended quantity for UV-treated edible mushrooms is 10 µg of vitamin D per 100 g. The maximum recommended quantity for bread is 5 µg of vitamin D per 100 g. The Mampfred-Pausenbrot bread was additionally enriched with calcium. The Feel-Happy bread was additionally enriched with zinc and selenium.
With its product name and packaging, the Mampfred-Pausenbrot bread was targeted at school-aged children and parents. The vitamin D mushrooms addressed vegans with the slogan on the back of the product: "In this country, one of the few vegan options to obtain vitamin D" ("Hierzulande eine der wenigen veganen Möglichkeiten Vitamin D aufzunehmen").

Figure 15:
Feel-Happy bread with addition of UV-irradiated vitamin-enriched yeast with nutritional value table (website of the manufacturer, screenshot)



Zutaten:

Dinkelvollkornmehl (Dinkel), getrockneter Vollkornsauerteig (Dinkelvollkornmehl), Starterkultur Ferment (Starterkulturen), Dinkelvollkornschrot , Dinkelmehl, Dinkelflocken, Glukose, Zucker, Verdickungsmittel (Guarkernmehl), Dinkelkaramellmalzmehl, Mineralstoffe (Zinksulfat), Vitamin-D-Hefe, Natriumselenit), Wasser, Hefe, Speisesalz

Nährwerte:

Nährwerte	pro 100g	pro Verkaufseinheit
Energie	948 kJ / 224 kcal	4740 kJ / 1120 kcal
Fett	1,8 g	9 g
davon gesättigte Fettsäuren	0,3 g	1,5 g
Kohlenhydrate	37,5 g	187,5 g
davon Zucker	3,7 g	18,5 g
Ballaststoffe	6,9 g	34,5 g
Eiweiß	11,1 g	55,5 g
Salz	1,3 g	6,5 g
Zink	3 mg	15 mg
Selen	0,013 mg	0,065 mg
Vitamin D	0,001 mg	0,005 mg

Figure 16:
UV-irradiated and vitamin D-enriched mushrooms (champigons), front view and nutritional value table

Figure 17:
UV-irradiated and vitamin D-enriched mushrooms (champigons), rear view

4.3.8 Example calculation for children

The German consumer organisations wanted to test how high the uptake of vitamin D from enriched foodstuffs can be. They therefore developed an illustrative menu for a 10-year-old child. Products that are enriched with vitamin D were chosen for each meal. The quantities of vitamin D they contained were added up and compared to the maximum quantity proposed by the BfR (see 1.4). This maximum quantity is 10 µg of vitamin D per day. The example shows that this maximum quantity can quickly be exceeded when consuming enriched foodstuffs.

Table 2: *Example calculation vitamin D intake in children*

There is a danger or exceeding the adequate intake of vitamin D due to enriched foodstuffs: example calculation for a 10-year-old child weighing 40 kg		
Meals	Of which foodstuffs enriched with vitamin D	**Vitamin D in µg**
Breakfast	Whole-grain wheat cereals (40 g)	1.7
	Milk replacement product oat drink (150 ml)	1.1
	Multi-fruit juice for children (150 ml)	3.7
Snack	Oat bar, baked, with mixed berries (24 g)	2.7
Lunch	Cottage cheese preparation with fruits (100 g)	1.3
Snack	Immunity smoothie for children (90 g)	5.0
Dinner	Cheese sticks from firm mozzarella and Gouda (40 g)	2.5
	Whole-grain spelt bread with vitamin D yeast (100 g)	1.6
	Margarine (10 g)	0.7
Daily intake from enriched foodstuffs		**20.3 µg**
Maximum quantity proposed by the BfR for the intake of vitamin D from enriched everyday foodstuffs		**10 µg/day**

5. CONCLUSION AND DEMANDS

Most people do not need enriched foods or food supplements. But many are confused by the manufacturers' advertising claims. They then wonder if they are getting enough nutrients like vitamin D. This uncertainty is used by manufacturers to sell products enriched with vitamins and minerals. The market check showed that foodstuffs are being sold for which the BfR has not recommended any enrichment with vitamin D. This applied to 48 products in the market check. They either have a poor nutritional value profile or are subject to strong fluctuations in consumption.

For the other products in the market check (milk products, spreadable fats and liquid plant oil preparations and cereals), the BfR recommends maximum quantities for the enrichment with vitamin D. The enrichment through UV treatment is governed EU-wide by the Novel Food Regulation. In the market check, 13 of the 61 products (21 per cent) exceeded the maximum recommended quantities. The maximum quantities of the BfR are scientific recommendations that are meant to protect the health of the population. They are referred to by the BVL when it issues special authorisations and general approvals [8]. The German consumer organisations have long been calling for legally defined maximum quantities in Germany. The advertising with added vitamins frequently makes foodstuffs appear better than they are. Many of the products also contain high quantities of unhelpful nutrients. For example, many beverages, cereals and sweets contain a lot of sugar, and some also contain much fat (often unhelpful nutritional profles).

Our inquiries with the BVL showed that 61 per cent of the products should not even be in the market. They had no special authorisations and (in the German consumer organisations' view) no general approvals [6, 7]. For another ten products, it is not clear whether existing general approvals apply to them. The German consumer organisations inquired with the food safety agencies, but the results are still outstanding.

The German consumer organisations demand:

- **Foodstuff manufacturers must observe the legal provisions. Only margarines and spreadable fats may be enriched with vitamin D, according to the Regulation on Vitaminated Foodstuffs. All other foodstuffs may only be sold when the enrichment has been allowed by a general approval or a special authorisation.**
- **The food safety agencies should check more stringently whether manufacturers are observing the prohibitions on enrichment. Products that are sold despite the prohibition must be removed from the market.**
- **The definition of food supplements must be revised to clearly separate these from enriched foodstuffs.**
- **As long as there are no legally binding maximum quantities at the EU level for vitamin D and all other vitamins and minerals, German lawmakers should set national limits. This would protect especially sensitive population groups like children from overdosing.**

What consumers can do:

The market check showed that consuming enriched foodstuffs can quickly lead to the BfR's maximum recommended quantity of 10 µg of vitamin D per day being exceeded. A lot can sometimes be too much. When shopping, consumers should therefore check whether foodstuffs are enriched with vitamin D. If possible, products that they consume in large amounts or very regularly should not be enriched with vitamin D. In particular, they should ensure that they consume no more than 10 µg of vitamin D per day through the various enriched products.

How to make sure you get enough vitamin D:

- Spent some time outdoors every day, for instance by having a walk at noon. This way you trigger the vitamin D production in your body in spring and summer. In the winter months, the body can rely on the hopefully well-stocked vitamin D reserves in fat and muscle tissue and the liver.
- Regularly eat fatty fish like salmon, mackerel or sardines. Eggs and mushrooms also supply valuable vitamin D.
- In addition to vitamin D, movement and calcium are necessary to strengthen muscles and bones: Make sure you move enough, and do sport. Make sure to consume calcium-rich foodstuffs like milk products, mineral water and dark green vegetables.

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7. ANNEX

Overview of tested beverages with vitamin D enrichment from stationary retail.

The product overview represents the situation at the time of the market survey. Since then, the product packaging, labelling and/or composition may have changed. We are always happy to receive information from you about changes to products in retail.

Overview of tested **beverages with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 ml	Maximum quantity for enrichment observed or exceeded [1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Amecke + Vitamin D für die Abwehr-kräfte**	Amecke GmbH & Co. KG	**2.5 µg**	✗	**No**	Pantothenic acid, vitamin B6, vitamin B12, selenium
2	**Amecke für Ihn**	Amecke GmbH & Co. KG	**0.75 µg**	✗	**No**	Vitamin C, vitamin B1, vitamin B2, niacin, pantothenic acid, vitamin B6, vitamin B12, folic acid, biotin, vitamin E, calcium, iron, magnesium, zinc
3	**Amecke für Sie**	Amecke GmbH & Co. KG	**0.75 µg**	✗	**No**	Vitamin C, vitamin B1, vitamin B2, niacin, pantothenic acid, vitamin B6, vitamin B12, folic acid, biotin, vitamin E, calcium, iron, magnesium, zinc
4	**hohes C Plus Groß & Stark mit Calcium und Vitamin D**	Eckes-Granini Deutschland GmbH	**0.75 µg**	✗	**No**	Vitamin C, calcium
5	**hohes C Plus Sonnenvitamin D**	Eckes-Granini Deutschland GmbH	**0.75 µg**	✗	**No**	Vitamin C, pantothenic acid, vitamin B12
6	**innocent Ingwer Kurkuma Power**	innocent Deutschland GmbH	**0.96 µg**	✗	**No**	Vitamin A
7	**innocent Ingwer Power scharf**	innocent Deutschland GmbH	**1.3 µg**	✗	**No**	Vitamin A
8	**Meßmer Plus Vitamin D Granatapfel Tee**	Meßmer Tee-Gesell-schaft mbH	**0.62 µg**	✗	**No**	
9	**Mivolis Kräuter-tee Inner Sunshine mit Vitamin D & Orangen-Pfirsich-Geschmack**	dm-drogerie markt GmbH + Co. KG	**0.5 µg**	✗	**No**	

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching beverages with vitamin D: **NO ENRICHMENT RECOMMENDED**

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

16 Beverages

continued
Overview of tested **beverages with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 ml	Maximum quantity for enrichment observed or exceeded [1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
10	**Mivolis Immun Smoothie Apfel-Banane-Pfirsich**	dm-drogerie markt GmbH + Co. KG	**0.5 µg**	✗	**No**	Vitamin C, zinc
11	**Mivolis Immun Smoothie für Kinder Apfel-Banane-Erdbere**	dm-drogerie markt GmbH + Co. KG	**5.6 µg**	✗	**No**	Vitamin B6, vitamin C
12	**Rotbäckchen Guter Start**	Haus Rabenhorst O. Lauffs GmbH & Co. KG	**2.5 µg**	✗	**No**	Calcium, vitamin B1, vitamin B2, vitamin B6, vitamin B12, vitamin C, vitamin E, niacin, pantothenic acid, biotin
13	**Rotbäckchen Sonnenkraft**	Haus Rabenhorst O. Lauffs GmbH & Co. KG	**2.5 µg**	✗	**No**	Calcium
14	**Vitamin Well Defence**	Vitamin Well AB, Stockholm, Schweden	**1.5 µg**	✗	**No**	Vitamin A, vitamin C, folic acid, vitamin B12, zinc
15	**Vitamin Well Hydrate**	Vitamin Well AB, Stockholm, Schweden	**1.5 µg**	✗	**No**	Vitamin E, vitamin C, niacin, folic acid, B12, biotin, pantothenic acid, zinc
16	**Vitamin Well Reload**	Vitamin Well AB, Stockholm, Schweden	**1.5 µg**	✓	**Yes, special authorisation**	Vitamin E, niacin, folic acid, vitamin B12, biotin, pantothenic acid, magnesium, zinc, selenium

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching beverages with vitamin D: **NO ENRICHMENT RECOMMENDED**

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

19 Milk products

Overview of tested **milk products with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Actimel Botanicals (Grüner Apfel, Kiwi & Aloe Vera)**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
2	**Actimel Classic ohne Zuckerzusatz**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
3	**Actimel Erdbeere**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
4	**Actimel Joghurt für dein Immunsystem Heidelbeere**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, vitamin E, calcium
5	**Actimel Kids Erdbeer-Banane**	Danone GmbH	**1.67 µg**	✗	**General approval to be tested by the German Food Safety Authority**	Vitamin B6, calcium
6	**Actimel Kids Natürlich gesüßt mit Blütenhonig (Kirsche)**	Danone GmbH	**1.67 µg**	✗	**General approval to be tested by the German Food Safety Authority**	Vitamin B6, calcium
7	**Actimel Natürlich gesüßt mit Blütenhonig (Heidelbeere)**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
8	**Actimel Superfruits (Mango, Kurkuma & Goji)**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
9	**Actimel Superfruits (Granatapfel)**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
10	**Actimel Vanille**	Danone GmbH	**1.67 µg**	✗	**No**	Vitamin B6, calcium
11	**Cheestrings mit Gouda**	Privatmolkerei Bauer GmbH & Co. KG	**6.25 µg**	✗	**No**	

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching milk and milk products with vitamin D **(1.5 µg per 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

19 Milk products

continued
Overview of tested **milk products with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
12	**COVAP Omega 3 Milchgetränk**	COVAP. Sociedad Cooperativa Andaluza Ganadera del Valle de los Pedroches, Spanien	**0.75 µg**	✓	**No**	Vitamin A, vitamin E, vitamin B6, folic acid, vitamin C, calcium
13	**FruchtZwerge Erdbeere, Aprikose**	Danone GmbH	**1.25 µg**	✓	**Special authorisation**	Calcium
14	**FruchtZwerge Quetschies Erdbeere**	Danone GmbH	**1.25 µg**	✓	**No**	Calcium
15	**FruchtZwerge weniger süß Erdbeere, Aprikose, Banane**	Danone GmbH	**1.25 µg**	✓	**No**	Calcium
16	**LactiPro Classic mit L. Casei und Vitamin D und B6 Joghurtdrink**	Euco GmbH	**0.75 µg**	✓	**No**	Vitamin B6
17	**Milbona Safari Fruit King Fruchtquark (Erdbeere, Himbeere, Aprikose, Banane)**	Milchfrisch Vertriebs-GmbH	**1.25 µg**	✓	**Special authorisation**	Calcium
18	**MinusL STAY STRONG Proteinmilch**	OMIRA GmbH	**1.5 µg**	✓	**No**	Calcium
19	**YFood Shake Cold Brew Coffee (+ 100 mg Koffein)**	YFood Labs GmbH	**0.25 µg**	✓	**No**	Vitamin A, vitamin E, Vitamin K, vitamin C, thiamine, riboflavin, niacin, vitamin B6, folic acid, vitamin B12, pantothenic acid, potassium, chloride, calcium, phosphorus, magnesium, iron, zinc, copper, manganese, selenium, chrome, molybdenum, iodine

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching milk and milk products with vitamin D **(1.5 µg per 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

30 Milk replacement products

Overview of tested **milk replacement products with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Alpro Barista Hafer**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12
2	**Alpro Barista Soja**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
3	**Alpro Haferdrink**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
4	**Alpro Hafer-Mandeldrink**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin E, riboflavin, vitamin B12, calcium
5	**Alpro Kokosnussdrink Orginal**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
6	**Alpro Mandeldrink**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin E, riboflavin, vitamin B12, calcium
7	**Alpro Skyr Style Erdbeere**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
8	**Alpro Skyr Style Natur Ohne Zucker**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
9	**Alpro Skyr Style Vanille**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
10	**Alpro Sojadessert Karamell**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
11	**Alpro Soja-dessert Dunkle Schokolade Feinherb**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
12	**Alpro Sojadessert Schokolade Mildfein**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
13	**Alpro Sojadessert Vanillie**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
14	**Alpro Sojadrink Banane**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
15	**Alpro Sojadrink Light**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
16	**Alpro Sojadrink Schokolade**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, calcium
17	**Alpro Sojadrink Vanille**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching milk and milk products with vitamin D: **NO ENRICHMENT RECOMMENDED**

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

30 Milk replacement products

continued
Overview of tested **milk replacement products with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
18	**Alpro Sojajoghurt-alternative mit Hafer + Heidelbeere**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
19	**Alpro Sojajoghurt-alternative Natur**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
20	**Alpro Sojajoghurt-alternative Natur mit Hafer**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
21	**Alpro Sojajoghurt-alternative Natur mit Kokosnuss**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
22	**Alpro Sojajoghurt-alternative Natur Ohne Zucker**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Vitamin B12, calcium
23	**Alpro, Mehr Frucht und ohne Zucker-zusatz, Mango**	Alpro C.V.A, Belgien	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium
24	**Dream & Joya Mandel Reis**	Mona Natur-produkte GmbH, Österreich	**0.75 µg**	✗	**No**	Vitamin B12, calcium
25	**Oatly Hafer Barista**	Oatly AB, Schweden	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, potassium, calcium, phosphorus, iodine
26	**Oatly Hafer Calcium**	Oatly AB, Schweden	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium, iodine
27	**Oatly Hafer Kakao**	Oatly AB, Schweden	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12, calcium, iodine
28	**vehappy Haferdrink Barista**	Euco GmbH	**0.75 µg**	✗	**No**	Riboflavin, vitamin B12
29	**vehappy Mandeldrink ungesüßt**	Euco GmbH	**0.75 µg**	✗	**No**	Vitamin E, riboflavin, vitamin B12, calcium
30	**vehappy Sojadrink Classic**	Euco GmbH	**0.75 µg**	✗	**No**	Vitamin E, riboflavin, vitamin B12, calcium

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching milk and milk products with vitamin D: **NO ENRICHMENT RECOMMENDED**

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

28 Spreadable fats and liquid plant oil preparations

Overview of tested **spreadable fats and liquid plant oil preparations with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Becel ProActiv CLASSIC**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A, vitamin E
2	**Becel ProActiv VITAL**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A, vitamin E
3	**Becel ProActiv**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	naturally present vitamin E
4	**Bellasan – Pflanzen-margarine**	Walter Rau Lebensmittel-werke GmbH	**7.5 µg**	✓	**General approval**	naturally present vitamin E
5	**Bellasan activ Cholesterinsen-kende Halbfett-Margarine**	Walter Rau Lebensmittel-werke GmbH	**2.5 µg**	✓	**General approval**	Vitamin A, vitamin E
6	**Bellasan Looping Halb-fett-Margarine**	Walter Rau Lebensmittel-werke GmbH	**2.5 µg**	✓	**General approval**	
7	**Belolive Halb-fettmargarine mit Olivenöl**	Vandemoor-tele Europe NV	**2.4 µg**	✓	**General approval**	
8	**Bertolli Brot-aufstrich mit Olivenöl**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A
9	**Deli Reform Active**	Walter Rau Lebensmittel-werke GmbH	**7.5 µg**	✓	**General approval**	Vitamin A, vitamin E
10	**Deli Reform Das Original**	Walter Rau Lebensmittel-werke GmbH	**7.5 µg**	✓	**General approval**	naturally present vitamin E
11	**Deli Reform Die Leichte**	Walter Rau Lebensmittel-werke GmbH	**7.5 µg**	✓	**General approval**	
12	**Deli Reform für meine Familie**	Walter Rau Lebensmittel-werke GmbH	**7.5 µg**	✓	**General approval**	naturally present vitamin E
13	**Gut & Günstig - Die Leichte Halb-fettmargarine**	EDEKA Zent-rale Stiftung & Co. KG	**7.5 µg**	✓	**General approval**	naturally present vitamin E
14	**Gut & Günstig – Pflanzen-margarine**	EDEKA Zent-rale Stiftung & Co. KG	**7.5 µg**	✓	**General approval**	naturally present vitamin E

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching spreadable fats and food oils with vitamin D: **(7.5 µg pro 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

28 Spreadable fats and liquid plant oil preparations

continued
Overview of tested **spreadable fats and liquid plant oil preparations with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
15	**Gut & Günstig – Sonnenblumen-margarine**	EDEKA Zentrale Stiftung & Co. KG	**7.5 µg**	✓	**General approval**	naturally present vitamin E
16	**ja! Pflanzen-margarine**	Walter Rau Lebensmittelwerke GmbH	**7.5 µg**	✓	**General approval**	naturally present vitamin E
17	**ja! Sonnenblumen-margarine**	Walter Rau Lebensmittelwerke GmbH	**7.5 µg**	✓	**General approval**	Vitamin E
18	**LÄTTA extra fit**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A
19	**LÄTTA Joghurt**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A
20	**LÄTTA Original**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A
21	**Rama Culinesse**	Upfield Deutschland GmbH	**6.8 µg**	✓	**General approval**	naturally present vitamin E
22	**Rama ohne Palmöl**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	
23	**Rama zum Braten Butternote**	Upfield Deutschland GmbH	**6.8 µg**	✓	**General approval**	naturally present vitamin E
24	**Rama zum Streichen, Backen & Kochen**	Upfield Deutschland GmbH	**7.5 µg**	✓	**General approval**	Vitamin A, vitamin E
25	**Sanella**	Upfield Deutschland GmbH	**2.3 µg**	✓	**General approval**	Vitamin A
26	**Vita D´or Margarine**	Vandemoortele Europe NV	**7.5 µg**	✓	**General approval**	naturally present vitamin E
27	**Vita D´or Sonnenblumen-margarine**	Vandemoortele Europe NV	**7.5 µg**	✓	**General approval**	naturally present vitamin E
28	**Weight Watchers Brotaufstrich mit feinem Buttergeschmack**	Vandemoortele Europe NV	**7.5 µg**	✓	**General approval**	Vitamin A, vitamin E

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching spreadable fats and food oils with vitamin D: **(7.5 µg pro 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

13 Cereals

Overview of tested **cereals with vitamin A enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Cliff Bar Energy Bar Blueberry Crisp**	Cliff Bar Europe B.V., Netherlands	**1.47 µg**	✓	**No**	Vitamin A, vitamin E, vitamin C, thiamine, riboflavin, niacin, vitamin B6, vitamin B12, calcium, magnesium
2	**Cliff Bar Energy Bar Crunchy Peanut Butter**	Cliff Bar Europe B.V., Netherlands	**1.47 µg**	✓	**No**	Vitamin A, vitamin E, vitamin C, thiamine, riboflavin, niacin, vitamin B6, vitamin B12, calcium, magnesium
3	**Milupa Kindermüsli Früchte**	Milupa Nutricia GmbH	**7 µg**	✗	**No**	Vitamin B1, calcium, sodium
4	**Milupa Müsliriegel für Schwangere Beerenmix**	Milupa Nutricia GmbH	**25 µg**	✗	**No**	Folic acid, iron, iodine
5	**Nestlé Cini Minis**	C.P.D. Cereal Partners Deutschland GmbH & Co. OHG	**3.2 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, pantothenic acid, calcium, iron
6	**Nestlé Cookie Crisp "Chokella Toasts"**	C.P.D. Cereal Partners Deutschland GmbH & Co. OHG	**3 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, pantothenic acid, calcium, iron
7	**Nestlé Lion Karamell & Schoko Cereals**	C.P.D. Cereal Partners Deutschland GmbH & Co. OHG	**2.5 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, pantothenic acid, calcium, iron
8	**Nestlé Multi Cheerios**	C.P.D. Cereal Partners Deutschland GmbH & Co. OHG	**2.5 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, pantothenic acid, calcium, iron

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching cereals with vitamin D **(5 µg per 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

13
Cereals

continued
Overview of tested **cereals with vitamin A enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
9	**Nestlé Nesquik Knusper-Frühstück**	C.P.D. Cereal Partners Deutschland GmbH & Co. OHG	**2.5 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, panto-thenic acid, calcium, iron
10	**Oreo´s Cereal**	Oreo Cereal Consumer Service, UK, Vertrieb in Deutschland durch: Genu-port Trade GmbH	**2.8 µg**	✓	**No**	Vitamin B1, vitamin B2, niacin, vitamin B6, folic acid, vitamin B12, iron
11	**Ovomaltine Crunchy Müsli**	WANDER GmbH	**2.5 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin A, vitamin E, vitamin C, thiamine, riboflavin, niacin, vitamin B6, folic acid, vitamin B12, biotin, pantothenic acid, calcium, magnesium, phosphorus, iron
12	**Ovomaltine Crunchy Müsli Plus**	WANDER GmbH	**2.5 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin A, vitamin E, vitamin C, thiamine, riboflavin, niacin, vitamin B6, folic acid, vitamin B12, biotin, pantothenic acid, calcium, magnesium, phosphorus, iron
13	**Weetabix Crispy Minis Choco**	Weetabix Ltd., UK, Vertrieb in Deutschland durch: Genu-port Trade GmbH	**4.3 µg**	✓	**General approval to be tested by the German Food Safety Authority**	Vitamin B1, vitamin B2, niacin, folic acid, iron

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching cereals with vitamin D **(5 µg per 100 g)** observed or exceeded

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)

3 Sweets

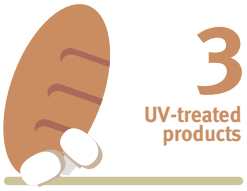
Overview of tested **sweets with vitamin D enrichment** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	General approval or special authorisation available[2]	Addition of other vitamins and minerals
1	**Em-eukal ImmunStark fruchtige Kräuterdrops**	SOLDAN Holding + Bonbon-spezialitäten GmbH	**12.3 µg**	✗	**No**	Vitamin C, zinc
2	**Cuétara Surtido El Autentico Gebäck-mischung**	Jose Salgado Garcia, Spanische Bodega	**Information on vitamin D enrichment quantities missing**	✗	**No**	Vitamin A, thiamine, riboflavin, niacin, vitamin B6, calcium, iron
3	**Nestlé Toffee Crisp**	Nestlé, UK	**Information on vitamin D enrichment quantities missing**	✗	**No**	Vitamin A, riboflavin, niacin, pantothenic acid, vitamin B6, folic acid, vitamin B12

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for enriching sweets with vitamin D: **NO ENRICHMENT RECOMMENDED**

2 General approval pursuant to § 54 LFGB (German Food and Feed Code) or special authorisation pursuant to § 68 LFGB for the supplementation with vitamin D issued by BVL (German Federal Office of Consumer Protection and Food Safety)



3
UV-treated products

Overview of tested **foodstuffs treated with UV (Novel Food)** from stationary retail

no.	Product name	Company/ manufacturer	Vitamin D content per 100 g	Maximum quantity for enrichment observed or exceeded[1]	Addition of other vitamins and minerals
1	**Vitamin D-Pilze**	Pilzland Vertriebs GmbH	**6.25 µg**	✓	
2	**Feel-Happy-Brot**	Bäckerei Vieweger	**1 µg**	✓	Selenium, zinc
3	**Mampfred – Das Pausenbrot**	Lieken Brot- und Backwaren GmbH	**1.55 µg**	✓	Calcium

✓ ✗

1 BfR's (German Federal Institute for Risk Assessment) maximum recommended quantity for UV-treated edible mushrooms **(10 µg per 100 g)** and bread **(5 µg per 100 g)** observed/exceeded

CONCEPT:
Verbraucherzentrale Bayern e.V. (leadership)

MARKET SURVEY AND REPORT:
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