

BAKING UPDATE

VitaD® Yeast

Practical technology from Lallemand Inc., parent of American Yeast, producers and distributors of Eagle® yeast, fresh and instant.



FDA change of regulation on nutritional labeling - What's new for bakers?

In May 2016, the FDA announced several changes to its nutritional labeling regulation that will impact bakers. Vitamin D and Potassium are now considered nutrients of health concern by many health agencies; therefore, it is now mandatory to declare their content on the Nutrition Facts label, while Vitamins C and A declarations are no longer compulsory. In the particular case of Vitamin D, the NHANES nationwide food consumption surveys revealed that Americans don't always get enough. In fact, Vitamin D intake is considered inadequate for more than 75% of Americans, averaging only 150 IU (4 mcg)/day when the recommended daily intake is now 800 IU (20 mcg).

New Daily Values

For the first time since the implementation of the Nutrition Labeling and Education Act of 1990, the Daily Value (DV) for most vitamins will change. The ones for Vitamin D and Sodium are being updated based on newer scientific evidence from the Institute of Medicine. More specifically, the DV for Vitamin D for the general population is being increased from 400 (10 mcg) to 800 IU (20 mcg).

New Measurement Units

The way some vitamins are reported in the Nutrition Facts label will also change. For example, in addition to percent DV of Vitamin D, manufacturers will now have to declare on the label the actual amount in micrograms (mcg) instead of in International Unit (IU). Forty (40) IU of Vitamin D equals 1 mcg of Vitamin D.

The percent (%) DV of each mandatory nutrient must appear on the Nutrition Facts label. This will help consumers understand the nutritional content of a food product in the context of their total daily diet and do nutrient comparisons between similar products.

Food manufacturers calculate this percentage for each nutrient by dividing the amount declared on the label by the Daily Reference Value (DRV) for that nutrient. If the declared amount for a product is zero, the declared percent Daily Value will also be zero.

For bread, since most ingredients entering the composition of a standard formulation do not contain any Vitamin D, bakers who want to avoid having a 0% DV for Vitamin D on their label will have no choice but to turn to fortification.

New Serving Sizes for Bakery Products

By law, serving sizes must be based on amounts of foods and beverages that people are actually consuming, not what they should be eating. Since the previous serving size requirements were published in 1993, the quantities that people eat and drink nowadays have changed.

The FDA has therefore modified their Reference Amounts Customarily Consumed per eating occasion (RACC) for many food categories, including the bakery products category. In the particular case of bread, the RACC is now 50 g and therefore, depending on the weight of the slice of bread, the serving size will either be "1 slice (50g)" or "2 slices (50g)". More details are presented in the table below. ●

REFERENCE AMOUNTS CUSTOMARILY CONSUMED PER EATING OCCASION (RACC) FOR BAKERY PRODUCTS

BAKERY PRODUCTS	RACC	LABEL STATEMENT
Bagels, toaster pastries, muffins (excluding English muffins)	110 g	_ piece(s) (_ g)
Biscuits, croissants, tortillas, soft bread sticks, soft pretzels, corn bread, hush puppies, scones, crumpets, English muffins	55 g	_ piece(s) (_ g)
Breads (excluding sweet quick type), rolls	50 g	_ piece(s) (_ g) for sliced bread and distinct pieces (e.g., rolls); 2 oz (56 g/_ inch slice) for unsliced bread
Bread sticks - Crackers that are usually not used as snack, melba toast, hard bread sticks, ice cream cones	15 g	_ piece(s) (_ g)

Fortifying bread with Vitamin D

Bread fortification with Vitamin D is an old practice dating back to the 1940's. Until recently, bakers only had the choice of purified sources of vitamin D (D3 and D2) to fortify bread; these are obtained from harsh chemical extraction processes, and some are not suitable for vegetarians and vegans (i.e. D3).

Lallemand has developed a process that exposes yeast to UVB light and allows the natural conversion of its sterols into Vitamin D2.

Under 21 CFR 184.1950, Vitamin D3 and D2 can be used to fortify grain products, including bread to a negligible level of only 90 IU (2.25 mcg)/100g. According to 21 CFR 172.381, Lallemand Vitamin D2 bakers yeast (Vita D® yeast) is the only fortifying ingredient which can be used up to a maximum level of 400 IU (10 mcg) of Vitamin D per 100 grams of yeast-leavened baked goods, baking mixes and baked snack foods. ●

More Vitamin D Please

There are many reasons for adding Vitamin D to bread. Bakers can decide to do it to avoid having a 0% DV for Vitamin D on their label.

Bakers may also offer bread with an elevated level of Vitamin D to help consumers get more of it. More and more consumers recognize the importance of this nutrient for their bone and overall health. Indeed, Vitamin D deficiency is associated with an increased risk of all-cause mortality, low immunity, rickets, osteomalacia, and osteoporosis. More often recently, the deficiency of this single vitamin is being linked with frequent headaches in men, mental diseases (depression, Alzheimer's disease), asthma, upper respiratory tract infection and multiple sclerosis.

A survey conducted for Lallemand revealed that 83% of the respondents believed that Vitamin D plays a moderate-to-great role in maintaining or improving health. Almost 50% of the respondents expressed their preference for bread containing Vitamin D. ●

Possible Nutrients Content Claims Using Lallemand VitaD® Yeast Products

By law, to declare a Nutrient Content Claim on a label, any food or product is required to contain 10%-19% of the DV per RACC to be a "Good source", "Contains" or "Provides" [21 CFR 101.54(e)] and at least 20% for a "High", "Rich in," or "Excellent source of " [21 CFR 101.54(b)]. With the new RACC established for bread at 50 g [21CFR101.12] and the new DV for Vitamin D at 800 IU (20 mcg), a serving of bread must now contain 80-152 IU (2-3.8 mcg) of Vitamin D for a "Good source" claim, and 160 IU (4 mcg) of Vitamin D for an "Excellent source of " claim. To keep "Good" or "Excellent" source of Vitamin D claim, most bread will have to change their fortification source of Vitamin D, with the only viable option being Lallemand VitaD Yeast Products. Otherwise, they will have to remove their nutrient content claim. ●

Regulations permitting the addition of Vitamin D from Bakers yeast at ≤400 IU (10 mcg) /100 g and % DV claims in the Bakery products category.

RACC*	Before the new regulation**		After the new regulation†	
	Maximum IU/RACC	% DV claim††	Maximum mcg/RACC	% DV claim††
15 g	60	Good source	1.5	No claim
50 g	200	Excellent source	5	Excellent source
55 g	220	Excellent source	5.5	Excellent source
110 g	440	Excellent source	11	Excellent source

* RACC values for bakery products, RACC, Reference amounts customarily consumed per eating occasion.

** Before the new regulation, the DV for Vitamin D was 400 IU (10 mcg); DV, Daily Value.

† After the new regulation, the DV for Vitamin D is 800 IU (20 mcg)

†† ≥ 10% DV = "Good" source; ≥20% DV = "Excellent" source

New VitaD® Yeast Products

To facilitate bakeries compliance with new nutrition labelling regulations in USA and Canada, Lallemand introduced a new range of Instaferm® VitaD® Premixes which are simple blends composed of dried VitaD® yeast (*Saccharomyces cerevisiae*) and wheat flour, for inclusion in bread, rolls and fine bakery products.

The use of a premix gives more control and flexibility to bakers when considering the Vitamin D enrichment of their bread formula. Every Instaferm® VitaD® Premix offers the following advantages:

- Delivers consistency with the same vitamin D levels each and every time.
- Absolute convenient and accurate scaling based on the flour weight.
- Specific solution for any batch size.
- 100% made from ingredients of vegetarian origin; suitable for vegetarians and vegans.
- Replaces the use of Vitamins D2 and D3 in bread recipes where "Good source" and "Excellent source" Vitamin D content claims are desired and can no longer be achieved.

The amount of Instaferm® VitaD® Premix needed to make a Vitamin D content claim will vary depending on the desired claim and recipe batch size. Usage levels should be tailored to suit the individual needs of each product and conditions. Our Technical Support Team can help customize the required dosage in formulations. ●

USAGE LEVELS

Desired Vitamin D Claim	Instaferm® VitaD® Premix SB for a batch size of 50-275 LBS	Instaferm® VitaD® Premix LB for a batch size of 400-1300 LBS	Vitamin D/50g of bread or rolls‡
"Good source, "Contains" or "Provides"*	0.1% on F.W.	0.04% on F.W.	2-3.8 mcg (80-152 IU)
"High," "Rich In," or "Excellent Source Of"†	0.4% on F.W.	0.12% on F.W.	4-10 mcg (160-400 IU)

*To be declared a "Good source, "Contains" or "Provides" Vitamin D, food needs to contain 10%-19% of the DV per RACC per eating occasion [21 CFR 101.54(e)].

†To be declared a "High," "Rich in" or "Excellent source of" Vitamin D, food needs to contain at least 20% of the DV per RACC [21 CFR 101.54(b)].

‡RACC for bread and rolls is 50 g [21CFR101.12].

VitaD® Calculator

To assist bakers and bakeries in their bread formulations, Lallemand has designed a tool to facilitate the calculation of the amount of Instaferm® VitaD® Premix needed per dough, based on the concentration desired per serving of bread.

The calculator will provide the amount of Instaferm® VitaD® Premix to be added in pounds, ounces and grams, by taking into consideration the following factors:

- Vitamin D concentration in the Instaferm® VitaD® Premix (1360 or 4400 IU/g; 34 or 110 mcg/g)
- Scaling weight
- Weight loss percentage specific to the formulation
- Desired amount of Vitamin D per serving yield or servings
- Serving size weight. ●



BAKING UPDATE

Lallemand Baking Update is produced by Lallemand Inc. to provide bakers with a source of practical information and technology for solving problems. If you would like to be on our mailing list to receive future copies, or if you have questions or comments, please contact us at:

LALLEMAND Inc.
1620 Préfontaine
Montréal, QC H1W 2N8 CANADA
tel: (800) 840-4047 (514) 522-2133
fax: (514) 255-6861
email: baking@lallemand.com
www.lallemandbaking.com

To the best of our knowledge, the information in Lallemand Baking Update is true and accurate. However, any recommendations or suggestions are made without warranty or guarantee.

© Lallemand Inc.

11/2017