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What's new in LanguaL™?

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Abstract

LanguaL™ is a multilingual, facetted thesaurus created to describe foods in a systematic way. Originally developed in the US more than 30 years ago, LanguaL has been managed by the European LanguaL™ technical committee since 1999. Proposals for new terms or clarification of existing terms are submitted by LanguaL™ users and published on the LanguaL™ website for discussion. This year, descriptors were added for indexing dietary supplements. LanguaL™ 2010 also includes new descriptors for USDA SR24, revised fish and plant species information with links to authoritative sources, and an update of food additive information.

1. The LanguaL™ thesaurus

Systematic food description is essential to the acquisition, processing, and dissemination of food composition data. LanguaL™ (http://www.langual.org) is a multilingual, facetted thesaurus created to describe foods in a systematic way. The work on LanguaL™ was started in the late 1970's by the Center for Food Safety and Applied Nutrition (CFSAN) of the US Food and Drug Administration (FDA) as an ongoing co-operative effort of specialists in food technology, information science and nutrition.[1] Since then, LanguaL™ has been developed in collaboration with the US National Cancer Institute (NCI) at the National Institutes of Health (NIH), and, more recently, its European partners, notably in France, Denmark, Switzerland and Hungary. The LanguaL™ thesaurus has been managed by the European LanguaL™ technical committee since 1999.

The LanguaL™ thesaurus provides a standardized language for describing foods, specifically for classifying food products for information retrieval. LanguaL™ is based on the concept that:

- Any food (or food product) can be systematically described by a combination of characteristics (also called descriptors)
- These characteristics can be categorized into viewpoints (also called facets) and coded for computer processing

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- The resulting viewpoint/characteristic codes can be used to retrieve data about the food from external databases

Using the LanguaL™ thesaurus, each food product in a database can thus be described by a set of standard, controlled terms (descriptors) chosen from facets characteristic of the nutritional and/or hygienic quality of a product, as for example: Facet A – product type, Facet B - biological origin, Facet G - methods of cooking, Facet J – methods of conservation, and Facet H - technological treatments.

More than 27,000 foods in European food composition databases are now LanguaL™ indexed to facilitate search and retrieval in the context of the EuroFIR eSearch Prototype facility [2]. In addition, the USDA National Nutrient Database for Standard Reference (SR24) is now partly LanguaL™ indexed; the indexing files are available from the USDA ARS Nutrient Data site [3]. In total, more than 35,000 foods from American, European, and other countries are now LanguaL™ indexed.

2. Major updates in LanguaL™ 2010

2.1. Dietary supplements

A. PRODUCT TYPE [A0361]	E. PHYSICAL STATE, SHAPE OR FORM [E0113]
. **DIETARY SUPPLEMENT [A1298]**	...
. . DIETARY SUPPLEMENT, AMINO ACID OR PROTEIN [A1305]	. **SUPPLEMENT FORM [E0154]**
. . DIETARY SUPPLEMENT, COMBINATION [A1313]	. . BAR [E0164]
. . . BOTANICAL SUPPLEMENT WITH VITAMIN/MINERAL [A1317]	. . CAPSULE [E0159]
. . . DIETARY SUPPLEMENT, COMBINATION, OTHER [A1325]	. . . GEL CAP [E0160]
. . . DIETARY SUPPLEMENT, MULTI-VITAMIN/MINERAL [A1314]	. . . SOFTGEL CAPSULE [E0161]
. . . DIETARY SUPPLEMENT, MULTI-VITAMIN/MINERAL AMINO ACIDS [A1321]	. . LIQUID, SUPPLEMENT FORM [E0165]
. . . DIETARY SUPPLEMENT, VITAMIN(S) AND FATTY ACIDS [A1324]	. . . ORAL DROPS [E0166]
. . DIETARY SUPPLEMENT, HERBAL OR BOTANICAL [A1306]	. . + PARENTERAL PREPARATION [E0169]
. . . PROBIOTIC OR BACTERIA SUPPLEMENT [A1308]	. . . SPRAY [E0168]
. . . YEAST SUPPLEMENT [A1307]	. . . SYRUP [E0167]
. . DIETARY SUPPLEMENT, METABOLITE, CONSTITUENT, EXTRACT [A1309]	. . LOZENGE [E0174]
. . . ENZYME SUPPLEMENT [A1311]	. . POWDER [E0162]
. . . FATTY ACID OR FAT/OIL SUPPLEMENT [A1310]	. . . GRANULES [E0163]
. . . PHYTOESTROGEN SUPPLEMENT [A1312]	. . SUPPLEMENT FORM, OTHER [E0172]
. . DIETARY SUPPLEMENT, MINERAL [A1299]	. . . GEL [E0175]
. . . MULTI-MINERAL SUPPLEMENT [A1300]	. . . GUMMY [E0176]
. . . SINGLE MINERAL SUPPLEMENT [A1301]	. . . WAFER [E0173]
. . DIETARY SUPPLEMENT, NOT SPECIFIED [A1329]	. . SUPPLEMENT FORM, UNKNOWN [E0177]
. . DIETARY SUPPLEMENT, OTHER [A1326]	. . TABLET [E0155]
. . . DIETARY SUPPLEMENT, ELECTROLYTE [A1327]	. . . CHEWABLE TABLET [E0156]
. . . DIETARY SUPPLEMENT, FIBRE [A1328]	. . . NON-CHEWABLE TABLET [E0157]
. . DIETARY SUPPLEMENT, VITAMIN [A1302]	. . . . EFFERVESCENT TABLET [E0158]
. . . MULTI-VITAMIN SUPPLEMENT [A1303]	...
. . . SINGLE VITAMIN SUPPLEMENT [A1304]	

Fig.1.Examples of new LanguaL descriptors for dietary supplements (a) Facet A – Product type; (b) Facet E – Physical State, Shape or Form

The LanguaL™ thesaurus was originally designed for indexing conventional foods and ingredients. A major update this year was to adapt the vocabulary for indexing dietary supplements. Working groups from the European Food Data standard CEN/TC 387 [4] and the National Institutes of Health, Office of Dietary Supplements [5], proposed new descriptors in the LanguaL™ thesaurus to allow indexing of dietary supplements according to different criteria: supplement type, form, ingredients, dietary use and claims [6]. The definitions of the Dietary Supplement classification in Facet A (Product Type) contain reference to the US Dietary Supplement Health and Education Act of 1994, as well as to Codex Alimentarius and European Commission (EC) regulations. Some examples of the new LanguaL™ descriptors for Product Type and for Supplement Form are given in Figure 1.

2.2. USDA SR24

New descriptors were also introduced in order to index foods in USDA SR24. These were specific descriptors in Facet B (biological origin) as well as a section on food colors in Facet Z (adjunct