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For Efficient Dairy Plant Operation

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NEW CODEX STANDARDS RELEVANT TO DAIRY INDUSTRY

This bulletin includes technical and latest development on products, systems, techniques etc. reported in journals, companies' leaflets and books and based on studies and experience. The technical information on different issues is on different areas of plant operation. It is hoped that the information contained herein will be useful to readers.

The theme of information in this issue is **New Codex Standards Relevant to Dairy Industry**. It may be understood that the information given here is by no means complete.

In this issue:

This Issue No.44, which normally would have been May-June 2003 issue, is being released as May-July 2003 issue to include the important decisions of the Codex Alimentarius Commission taken in its 26th Session held at Rome during 30 June – 7 July 2003, so that these could be reported to the dairy industry promptly.

1. INTRODUCTION

The importance of food standards of Codex Alimentarius Commission is well realized : these are accepted by the World Trade Organization (WTO) for the global trade of food commodities (see Technews Issues 25 : March-April 2000 and 33 : July-August 2001). In due course of time most of the national food standards are likely to be harmonized with those of Codex. It is, therefore, necessary that the dairy industry is updated with the latest information on relevant Codex food standards.

While the Codex food standards (including code of practices / guidelines etc.) are developed by different relevant Codex Committees, final decision on them is taken by the Commission in its biennial sessions (which now would be held annually) held in Rome and Geneva alternatively.

The Codex standards are developed through an 8-step procedure (see Technews Issue 22 : September-October 1999). The draft standards are submitted to the Commission for discussion and endorsement at Steps 5 and 8, the Step 8 being the final adoption stage. The Codex Committees may submit draft standard at Step 5/8, which means that Steps 6 & 7 are recommended to be omitted; or at Step 5 Accelerated where there is urgency, in which case the final endorsement is made at Step 5 itself. Depending upon the outcome of discussion in its session, the Commission may endorse a draft standard submitted, return at the same Step for further discussion / reconsideration, or return at lower Step for revision.

The 26th Session of the Commission was held during 30 June – 7 July 2003 at Rome. The Commission considered and took several decisions on proposals submitted by different Codex Committees. This issue reports the important decisions of the Commission, relevant to dairy sector.

2. STANDARDS REVOKED OR MODIFIED

The Codex Alimentarius Commission (CAC) revoked / considered several existing standards for revision, as proposed by the different Codex Committees. This means that the revoked standards are now not applicable, while the standards that have been retained after some modifications continue to apply but in their modified forms. Such standards and related texts important for dairy industry are listed below:

a) Maximum Level for Lead in Butter (0.05 ppm)

It has been revoked as proposed by the Codex Committee on Food Additives and Contaminants.

b) Maximum Level for Lead in Milk-fat (0.1 ppm)

It has been revoked as proposed by the Codex Committee on Food Additives and Contaminants.

c) Maximum Level for Lead in Milk (0.02 ppm with a footnote that 'For dairy products, appropriate concentration factor applies.')

The limit has been retained with a revised footnote 'concentration factor applies to partially or wholly dehydrated milks'. This means that ML for lead applies for milk, condensed milk and milk powders only.

d) Maximum Residue Limits for Pesticides (ALINORM 03/24, Appendix IV; ALINORM 03/24A, Appendix VI)

The MRLs revoked are given below:

Pesticide	Type of milk	MRL (ppm)
Chlorpyrifos	Milks	0.01
Monocrotophos	Milk products	0.02
	Milks	0.002
Thiabendazole	Cattle milk	0.1
Dimethipin	Milks	0.02
2,4-D	Milks	0.05
Anilazine	Milks	0.01
Carbendazim	Milks	0.10
Fenthion	Milks	0.05
Mecarbum	Cattle milk	0.01
Propoxur	Milks	0.05

3. NEW STANDARDS ADOPTED

The Codex Alimentarius Commission endorsed several standards and related texts at Step 8, 5/8 or 5A of the Codex step procedure, as proposed by different Codex Committees. These standards have now become applicable. Such standards and related texts important for dairy industry are listed below along with their salient features:

a) Revised Standard for Cream and Prepared Creams (ALINORM 03/11, Appendix II)

This standard of the Codex Committee of Milk and Milk Products applies to cream and prepared creams as defined therein. The standard provides definitions for cream, reconstituted cream, recombined cream and prepared creams. Compositionally, the minimum fat content required for a product to qualify as cream is 10 % (weight/weight).

b) Revised Standard for Fermented Milks (ALINORM 03/11, Appendix III)

This standard of the Codex Committee of Milk and Milk Product

applies to fermented milks, that is fermented milk including heat treated fermented milk, concentrated fermented milk and composite milk products based on these products, for direct consumption or for further processing. Definitions have been provided for fermented milk, concentrated fermented milk and flavoured (composite) fermented milk. All the fermented milks (for example, yoghurt, kefir, koumiss, etc.) that have been heat-treated after fermentation shall be named as 'heat-treated fermented milk', unless provided otherwise by the country of retail sale.

c) Revised Standard for Whey Powders (ALINORM 03/11, Appendix IV)

This standard of the Codex Committee of Milk and Milk Product applies to whey powder and acid whey powder intended for direct consumption or for further processing. Definitions of whey, acid whey and whey powder have been provided. The reference content for lactose is 61 % (mass/mass) and for fat is 2 % (mass/mass).

d) Appendix on Cheese Rind, Surface and Coatings of the Codex General Standard for Cheese (ALINORM 03/11, Appendix VI)

This text, proposed by the Codex Committee of Milk and Milk Products, makes an appendix to the Codex General Standard for Cheese (STAN A-6- 1978, Rev.1- 1999). The appendix provides definitions of the terms ‘Cheese Rind’ and Cheese Surface’, and provides information on permitted cheese coatings.

e) Revised Guidelines for the Application of HACCP System (ALINORM 03/13A, Appendix II)

The original HACCP document existed in the form of an annex to the Codex “Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3 (1997), and (1999))”. It was considered to revise the same to make it more flexible in its application so that it can also be applied by small and less developed businesses. The revised guidelines of the Codex

Committee of Food hygiene provide adequate flexibility to small and/or less developed businesses in application of HACCP. Regarding obstacles in implementing HACCP, particularly in reference to small and less developed businesses, and recommendations in resolving these obstacles, a reference has been made to "Obstacles to the Application of HACCP, Particularly in Small and Less Developed Businesses, and Approaches to Overcome Them" (a document in preparation by FAO/WHO).

f) Maximum Residue Limits (MRLs) (ALINORM 03/24, Appendix II; ALINORM 03/24A, Appendix III, IV)

The MRLs, proposed by the CCPR, that have been endorsed are given below:

Pesticide	**Type of milk**	**MRL(ppm)**
2,4-D	Milks	0.01
Dimethoate	Milk of cattle, goats & sheep	0.05
Carbendazim	Milks	0.05
Glufosinate ammonium	Milks	0.02
Fenpyroximate	Cattle milk	0.005
Kresoxim-methyl	Milks	0.01
Chlormeqaut	Milk of cattle, goats & sheep	0.5
Chlorpyrifos	Milk of cattle, goats & sheep	0.02
Thiabendazole	Cattle milk	0.2
Disulfoton	Milk of cattle, goats & sheep	0.01
Clethodim	Milks	0.05
Dimetipin	Milks	0.01
Fipronil	Cattle milk	0.02

g) Maximum Residue Limits for Veterinary Drugs (ALINORM 03/31, Appendix II, III, ALINORM 03/31A, Appendix II, III)

The MRLs, proposed by the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF), that have been endorsed are given below:

Veterinary drug	Type of milk	MRL (ppb)
Chlortetracycline / Oxytetracycline / Tetracycline	Cattle milk / sheep milk	100
Clenbuterol	Milk	0.05
Cyfluthrin	Cattle milk	40
Eprinomectin	Cattle milk	20
Ivermectin	Cattle milk	10
Lincomycin	Cattle milk	150
Deltamethrin	Cattle milk	30
Dihydrostreptomycin / Streptomycin	Sheep milk	200

h) Revisions to the Annex to Table 3 of the Codex General Standard for Food Additives (ALINORM 03/12A, Appendix III)

Standards related to food additives and contaminants are proposed by the Codex Committee on Food Additives and Contaminants. Table 3 of the Codex General Standard For Food Additives lists additives permitted for use in food in general, unless otherwise specified, in accordance with GMP. Annex to Table 3 lists food categories or individual food items excluded from the general conditions of Table 3. The use of additives listed in Table 3 in these food items is governed by the provisions in Tables 1 and 2, which provide list of additives permitted for use under specified conditions in certain food categories or individual food items.

Among the dairy products, milk and buttermilk; fermented and renneted milk products (plain) excluding dairy based drinks; pasteurized cream; sterilized, UHT, whipping or whipped, and reduced fat creams; and butter and concentrated butter (only butter) are included in the Annex to Table 3. The infant formulae and follow-on formulae and foods for young children (weaning foods) are also included in this Annex. The revision does not pertain to dairy products.

i) Working Principles for Risk Analysis in the Framework of the Codex Alimentarius (ALINORM 03/33A, Appendix IV)

The Codex Committee on General Principles proposed these principles to the Commission. The principles include a provision that requires that risk assessment should be based on data from different parts of the world, including that from developing countries. When relevant data from developing countries are not available, the Commission should request FAO/WHO to initiate time-bound studies for this purpose. However, the conduct of the risk assessment should not be inappropriately delayed pending receipt of such data. The principles also include that risk assessments should be based on realistic exposure scenarios, with consideration of different situations being defined by risk assessment policy. They should include consideration of susceptible and high-risk population groups. Acute, chronic (including long-term), cumulative and/or combined adverse health effects should be taken into account in carrying out risk assessment, where relevant.

j) Amendment to the General Labelling Standard (Class Names) (ALINORM 03/22A, Appendix II)

This amendment to the General Labelling Standard, proposed by the Codex Committee on Food Labelling, provides for the use of the class name 'Milk Protein' for ingredients that are milk products containing a minimum of 50 % milk protein (mass/mass) in dry matter (Milk protein = Kjeldahl nitrogen x 6.38).

k) Amendment to the Guidelines on Nutrition Labelling (ALINORM 03/22A, Appendix III)

The approved text, proposed by the Codex Committee on Food Labelling**,** is an amendment to the "Guidelines on Nutritional Labelling (GL-2-1985, Rev.1-1993)". The text pertains to provisions on listing of nutrients. The Commission, however, advised the Committee to continue its work on trans-fatty acids.

l) Revised Guidelines on Good Laboratory Practice in Residue Analysis (ALINORM 03/24A, Appendix II)

These Guidelines of the Codex Committee on Pesticide Residues (CCPR) are intended to assist in ensuring the reliability of analytical results in checking compliance with maximum residue limits of foods moving in international trade. Reliable analytical results are essential to protect the health of consumers and to facilitate international trade. The guidelines provide information on requirements pertaining to the analyst, basic laboratory resources and the analysis.

m) Guidelines on the Judgment of Equivalence of Sanitary Measures Associated with Food Inspection and Certification Systems (ALINORM 03/30A, Appendix II)

The Codex Committee on Food Inspection and Certification Systems proposed these guidelines to the Commission.

Equivalence has been defined as the state wherein sanitary measures applied in an exporting country, though different from the measures applied in an importing country, achieve, as demonstrated by the exporting country, the importing country's appropriate level of sanitary protection. The guidelines also state that an importing country has the right to set a level of sanitary protection it deems appropriate in relation to the protection of human life and health.

n) Amendment to the Guidelines for Production, Processing and Labelling of Organically Produced Foods:Revised Section 5 – Criteria (ALINORM 03/22A, Appendix V)

The approved text, proposed by the Codex Committee on Food Labelling**,** is an amendment to the "Guidelines for production, Processing and Labelling of Organically Produced Foods (GL-32-1999, Rev.1-2001)". The amendment provides information on requirements for inclusion of substances in the 'list of permitted substances' for use in organic production and sets out criteria for the development of list of substances by countries. The 'list of permitted

substances' is an open list subject to inclusion of new substances or the removal of ongoing substances as per the proposals from the Codex member countries.

4. STANDARDS ADVANCED OR RETURNED FOR FURTHER CONSIDERATION

The Codex Alimentarius Commission (CAC) endorsed several standards and related texts at Step 5 as proposed by the different Codex Committees. This means that these standards will now be circulated for comments of the member countries for comments at Step 6 and further consideration at forthcoming Sessions of the relevant Committees. Some standards submitted at Step 8 were returned to Step 6. Standards and related texts important for dairy industry are listed below along with their salient features:

a) Code of Hygienic Practice for Milk and Milk Products (ALINORM 03/13A, Appendix III)

The Codex Committee on Food Hygiene is elaborating the Code. The objective of this Code is to apply the recommendations of the "Recommended Code of Practice : General Principles of Food Hygiene (RCP-1-1969, Rev.3 1997, Amend.1-1999)" to the particular case of milk and milk products. It also provides guidance on how to achieve the general requirements contained in the hygiene sections of the Codex commodity standards for milk products. This Code applies to the production processing and handling of milk and milk products as defined in the "General Standard for the Use of Dairy Terms" (STAN-206-1999). The Code is flexible enough to be applicable to different types of milk production systems including smallholder dairying system prevalent in our country.

b) Amendment to Section 3.3 "Composition" of the Codex General Standard for Cheese (ALINORM 03/11, Appendix V)

The Codex General Standard for Cheese (work of CCMMP) does not specify a minimum protein content for a product to qualify as cheese. As protein is an important constituent of cheese, an amendment has been made to the Section 3.3 "Composition" of the Codex General Standard for Cheese to include the following text:

"Compositionally, the protein content in cheese should be distinctly higher than the protein level of milk from which the cheese was made."

c) Maximum Residue Limits for Pesticides (ALINORM 03/24A, Appendix V)

The MRLs, proposed by the CCPR, that have been endorsed at Step 5 are given below:

Pesticide	**Type of milk**	**MRL (ppm)**
Carbaryl	Milks	0.05
Diphenylamine	Cattle milk	0.0004 F
Methomyl	Milks	0.02
Propargite	Milks	0.1 F
Oxamyl	Milks	0.02
Diflubenzuron	Milks	0.02 F
Deltamethrin	Milks	0.05 F
Tebufenozide	Cattle milk	0.01
Chlorpropham	Cattle milk	0.0005 F
Spinosad	Cattle milk	1
Flutolanil	Milks	0.05
Imidacloprid	Milks	0.02

F = Residue is fat soluble. For milk product with a fat content less than 2%, the MRLs applied should be half of those specified in milk. The MRL for the milk products with a fat content of 2% or more should be 25 times the maximum residue limit specified for milk, expressed on a fat basis.

d) Maximum Residue Limit for Cefuroxime (ALINORM 03/31A, Appendix V)

The temporary MRL for **cefuroxime (50 ppb) in cattle milk** was proposed at Step 5 by the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF) and endorsed at Step 5 by the CAC during its 26th Session.

e) Code of Practice on Good Animal Feeding (ALINORM 03/38A, Appendix II)

This Code, proposed by the Codex Task Force on Animal Feeding has been developed to help ensure the safety of food for human consumption through adherence to good animal feeding practice at the farm level and good manufacturing practices (GMPs) during the procurement, handling, storage, processing, and distribution of animal feed and feed ingredients for food producing animals. It applies to the production and use of all materials destined for animal feed and feed ingredients at all levels whether produced industrially or on farm. It also includes grazing or free-range feeding and forage crop production. It distinctly mentions that animal products, which could be a source of the BSE agent, should not be used for feeding directly to, or for feed manufacturing for, ruminants.

The Code has been advanced to Step 8 except the following provisions, which have been retained at Step 6 for further discussion by the Task Force:

* The definition of a feed additive: The proposed definition was considered too broad.
* The labelling of feed containing feed ingredient derived from biotechnology: The relevant provision states that the competent authorities may decide that feed and feed ingredients consisting, containing or produced from genetically modified organisms should be labelled with references to the genetic modification as a risk management measure.
* The requirements for traceability / tracing of feed and feed ingredients.

f) Code of Practice for the Prevention and Reduction of Lead Contamination in Foods (ALINORM 03/12A, Appendix XII)

Lead is a toxic heavy metal with widespread industrial uses, but no known nutritional benefits. Chronic exposure to lead at relatively low levels can result in damage to the kidneys and liver, and to the reproductive, cardiovascular, immune, hematopoietic, nervous, and gastrointestinal systems. Short-term exposure to high amounts of lead can cause gastrointestinal distress, anemia, encephalopathy, and death. The most critical effect of low-level lead exposure is reduced cognitive and intellectual development in children. The Code under elaboration by the CCFAC intends to provide control measures and actions to be taken in order to prevent and reduce lead contamination in foods from farm till consumer.

g) Principles for Exposure Assessment of Contaminants and Toxins in Foods (ALINORM 03/12A, Appendix VIII)

Exposure assessment is one of the four components of risk assessment within the risk analysis framework adopted by Codex (ALINORM 03/33A, Appendix IV) as the basis for all standard-setting processes. The purpose of this document of the CCFAC is to outline steps in contaminant data selection and analysis undertaken by JECFA when requested by CCFAC to conduct a dietary exposure assessment.

h) Risk Analysis Principles Applied by the Codex Committee on Food Additives and Contaminants (ALINORM 03/12A, Appendix IV)

This document of the Codex Committee on Food Additives and Contaminants (CCFAC) addresses the respective applications of risk analysis principles by the CCFAC and the Joint FAO/WHO Expert Committee on Food Additives (JECFA). For matters, which cannot be addressed by JECFA, this document does not preclude the possible consideration of recommendations arising from other internationally recognized expert bodies. The document provides the conditions under which the CCFAC could endorse the maximum use level for food additives and the Maximum Levels (MLs) for contaminants.

i) Guidelines for Organically Produced Foods : Proposed Draft Revised Annex 2 - Permitted Substances (ALINORM 03/22A, Appendix VI)

The 'list of permitted substances' for use during organic production of foods has been revised.

j) Guidelines on Use of Health and Nutrition Claims (ALINORM 03/22A, Appendix IV)

These guidelines of the Codex Committee on Food Labelling relate to the use of nutrition and health claims in food labelling and advertising. The guidelines apply to all foods for which health and nutrition claims are made.

SOME OTHER IMPORTANT DECISIONS

Some other decisions of interest, taken by the Commission are:

- *The Commission would now meet annually in place of its practice hitherto of meeting biennially. Thus, the next Session is scheduled to be held during 28 June – 2 July 2004 in Geneva.*
- *The next Session of the Codex Committee on Pesticide Residues would be held at New Delhi in April 2004. This would be the first time when a meeting of any Codex standard setting Committee is held in India. So far, only once a meeting of any Codex related body has been held in India : that of the FAO/WHO Coordinating Committee for Asia at New Delhi during 10-16 January 1977.*

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Please send your letters to :

Dr. N.N. Varshney
National Dairy Development Board
PB No.40
Anand 388001
Gujarat

Fax No. (02692) 260157
Email : nnv@nddb.coop