



Conclusions from Group of Independent Experts on "Food Additives and Processing Aids permitted in processing of organic Food of Plant and Animal origin"

The meeting took place on 4 and 5 July 2007

Experts:

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Agenda

Elaboration of a recommendation to the Commission on the authorisation of the following substances:

- Talc, bentonite and kaolin as regards purity when used as processing aids
- Hydrochloric acid (E507) as processing aid for cheese production
- Sodium hydrogen carbonate for sour cheese production
- Nitrates/nitrites for meat production
- Sulphur dioxide and potassium metabisulphite for alcoholic fruit drinks (fruit wines, cider, perry and mead)
- Sulphuric acid, hydrochloric acid, ammonium hydroxide, hydrogen peroxide, kieselgur, perlite and cellulose for gelatine production

This work follows from the Commission Regulation (EC) No. 780/2006¹ and from the declaration² by the Commission services made on 23 March 2006 in the Standing Committee on Organic Farming (SCOF) at the time of the adoption of that Regulation.

The recommendations are based on the objectives, principles and criteria for organic production as set out in Council Regulation (EC) No 834/2007³ on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/97.

¹ OJ L 137, 25.5.2006

² "The competent services of the Commission undertake to review the outstanding technical elements of the draft Commission Regulation AGRI/2005/60270 rev 1 on additives and processing aids in animal products before its entry into application, and if necessary propose the appropriate measures. The issues to be examined are, in particular, alcoholic fruit drinks, talc, bentonite, kaolin, nitrates/nitrites, gelatine produced from organic raw materials, sodium hydrogen carbonate, hydrochloric acid and purity of processing aids."

Thursday, July 05, 2007

Conclusions from Group of Independent Experts on Food Additives and Processing Aids Permitted in Processing of Organic Food of Plant and Animal Origin.

Group members:

Alex Beck, DE, Luc Fillaudeau, FR, Ursula Kretzschmar, CH, Helle Margrete Meltzer, NO, Lisbeth Munksgaard, DK

The group has, based on the knowledge available in the group and presented by the Commission, given the following recommendations based on the objectives, principles and criteria for organic production as set out in Council Regulation (EC) No 834/2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91. The group is generally suggesting to the Commission for coming occasions to provide clear guidelines and standardized information sheets on the substances to facilitate the evaluation work of such an expert group. The information sheets should be handed in by applicants of new food additives and processing aids.

Talc, bentonite and kaolin as regards purity when used as processing agent (E 553b, E 558, E559)

Uses known to the group:

Filter aid for rough beer, fruit juice or wine clarification. Talc is in addition used as a releasing agent and for surface treatment.

Purity problems:

It was not quite clear what had been the issues discussed in SCOF. Dioxin was mentioned. Heavy metals and asbestos may also be concerns. There is no JECFA⁴ evaluation available for talc and bentonite, only for kaolin.

Considerations:

Filter aids are used in large amounts and cannot be regenerated for reuse. They are important processing aids used in several productions both organic and conventional.

Cellulose and other compounds could be alternative filter aids at the same level as the mentioned compounds.

Newer methods such as membrane filtration or known methods such as decantation or centrifugation may be relevant alternatives. The newer methods may not be applicable at an industrial level for the time being at a realistic economic level.

Some beer types and fruit juices are sold without clarification. Others cannot be marketed without clarification after the maturation step (haze formation, customer acceptance).

Talc can for a number of applications be replaced by starch.

³ OJ L 198, 22.7.1991, p.1. regulation as last amended by Regulation (EC) No 394/2007 (OJ L 98, 13.4.2007)

⁴ Joint FAO/WHO Expert Committee on Food Additives

During the dioxin crises dioxins were found in some kaolin sources but not in all.

Recommendations

- Referring to article 3 (c) of the new regulation, the purity of these substances is unclear.
- The compounds should be used in additive quality, if available in relevant quantities. Kaolin should be used only from sources without dioxin.
- JECFA or EFSA⁵ evaluation of talk and bentonite should be elaborated.
- Development of and research in alternative production processes should be supported.

Hydrochloric acid (E507) as processing aid for cheese production

Uses known to the group:

The substance is used for pH adjustment for cheese production.

Considerations:

The group does not understand the need to use hydrochloric acid as processing aid in cheese production. All over Europe a broad varieties of cheeses, including varieties comparable to gouda, are produced without this aid. Alternatives, such as lactic acid, citric acid etc, are available.

Recommendations

- Referring to article 6(b), the group doubts that hydrochloric acid is necessary for cheese production.
- Referring to article 21 (1) (ii), the above mentioned alternatives are available and listed as additives allowed in organic food production.
- The expert group strongly recommends to accept both alternative substances as processing aids for cheese production.
- More information as to why hydrochloric acid is necessary is required.

Sodium carbonate (E500) for production of sour milk cheese

Uses known to the group:

Used for cheese production in one region of Germany for one specific type of cheese. Used for pH regulation in an intermediate phase of the production.

Considerations:

Apparently, this type of cheese can not be produced without using sodium carbonate. The substance is unproblematic and accepted, in general, for plant products, for some animal products and as a processing aid for sugar production in the current EU organic regulations.

Recommendations

- Referring to article 6 (b) and 21 (1), the group considers that sodium carbonate is necessary.
- Sodium carbonate should be accepted in the production of sour milk cheese.
- The Commission should consider if this use in animal products is too narrow, whether the substance could not be considered for a wider use in foods based on animal products, comparable to the general acceptance for use in plant products.

⁵ European Food Safety Authority

Potassium nitrates (E252) / Sodium nitrites (E250) for meat production

Function in the products:

Additive functioning as
Preservation agent against botulinum
Antioxidant
Colouring
Influences taste

Considerations:

Nitrate is a slow source of nitrite, so the group only considered nitrite.

Nitrite is very reactive and can form nitrosamines during heat treatment. Volatile nitrosamines are carcinogenic. Reactivity reduces the level of nitrite in the product.

Preservation: Other preservation techniques such as higher salt concentrations, smoking or cooling can replace nitrate if all hygienic standards are fulfilled all the time. In small local productions nitrite may prevent other harmful micro organisms during a short critical period while processing fermented products. If nitrite is banned in organic products within a short time, this may lead to sanitary and quality problems in some small productions due to lack of knowledge about alternative processing techniques. The lower levels in the new regulation also ask for adapted production processes in order to avoid health risks.

Antioxidative effect:

Exclusion of nitrite may reduce shelf life slightly.

Colouring and taste:

Consumers from traditional cured meat products are used to the special taste and colour of nitrite salted meat. Some consumers prefer the colour and taste of organic meat products without nitrite. Other consumers want the same taste and colour from organic and traditional products. It is possible to have the acceptance in the market. An example: In Denmark, where nitrite has not been used for organic meat products for more than 10 years, development of cured, organic meat products of good quality saw a rapidly increasing market.

Recommendations:

Referring to article 3 (c), 4 (b) and 6 (c) the group recommends that nitrate and nitrite within a reasonable time scale should be eliminated from organic meat products. In order to avoid harm to people, this should be done after a general and efficient education programme in alternative processing methods and hygiene to organic meat manufacturers.

Addition of nitrite and nitrate should be kept as low as possible if not eliminated. The added amounts should be regulated, not the residual amounts.

Sulphur dioxide (E220) and potassium metabisulphite (E224) for alcoholic fruit drinks (fruit wines, cider, perry and mead)

Uses known to the group:

Used to stop fermentation and prevention of off flavour.

Considerations:

The product is used in traditional productions. No efficient products working at industrial scale are known. Concerns about allergenicity. Low alcoholic cider is served to children in some countries.

Recommendations

Referring to article 6 (b) and 21 (1) the group recommends that the substances should be allowed until alternative compounds or technologies are known.

Research in alternatives should be encouraged. Theme 2 in FP7 may include a call for research in 2008. The EU ORWINE project will provide new results within a few years.

Processing aids needed for the production of gelatine

Uses known to the group:

The group is aware that gelatine is used as an ingredient in sweets and fruit jellies. Furthermore, it has a number of other uses in food production as a processing aid, like clarifying wine, fruit juices etc. At the moment, gelatine is accepted as a conventional ingredient (annex VI, C) and as a processing aid. For the production of gelatine, a number of processing aids are needed, like HCl, H₂SO₄, NH₃, silicon dioxide, perlite and H₂O₂.

Considerations:

The production of gelatine is a highly industrialized process. It could be discussed if it complies with the guidelines for organic food production. However, the situation is similar for other organically produced foods like sugar, syrup etc. The substances used in the production process are harmless. In general, the group is aware that the proposed processing aids are needed. When it comes to H₂O₂, the group questions the necessity for its need and asks for further clarification⁶.

Recommendations

- The recommendations refer to articles 4 (c) (i), 6 (c) and (d) and 21 (1).
- The group recommends to clarify the need for H₂O₂ in the production process.
- The group accepts the present day production method for the time being and recommends to add the needed substances to annex VI, B.
- The group recommends development and research to find production methods that are more in compliance with the overall directions of organic food.

⁶ To an inquiry of Alex Beck about the necessity of H₂O₂, the gelatine industry responded as follows: After the UHT sterilisation the liquid Gelatine is going through the next processing step "polishing" and "drying" in a non-sterile environment. Liquid gelatine is a highly sensitive growth medium for micro-organisms. The EU reg. 853/2004 and the directive 1999/74 and 90/425 are setting maximum levels of accepted micro-organism contaminations in gelatine. Therefore, in the current production plants, the use of H₂O₂ is necessary to fulfil these requirements.