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D E C I S I O N
of 20 October 1998

Case Number: T 0599/94 - 3.3.4

Application Number: 85850058.0

Publication Number: 0154614

IPC: A23C 9/123

Language of the proceedings: EN

Title of invention:
Method of cultivating, in milk, organisms having a slow growth capacity, and organisms produced by the method, and milk products containing such organisms

Patentee:
Arla, ekonomisk förening

Opponent:
Krayer, Warner Dirk

Headword:
Cultivating milk/ARLA

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0599/94 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 20 October 1998

Appellant: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 17 May 1994 rejecting the opposition filed against European patent No. 0 154 614 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: D. D. Harkness
C. Holtz

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division issued on 17 May 1994 whereby the opposition which had been filed under Article 100(a)(b) EPC against European patent No. 0 154 614, application No. 85 850 058.0, with the title "Method of cultivating, in milk, organisms having a slow growth capacity, and organisms produced by the method, and milk products containing such organisms", was rejected according to Article 102(2) EPC.

The decision was based on claims 1 to 11 as granted. Claim 1 reads as follows:

"1. A method of cultivating, in milk, organism having a slow growth capacity (Lactobacillus acidophilus, certain types of Bifidobacteria, Streptococcus faecium), characterised in that a bulk starter culture is prepared in that milk is heat treated according to an UHT (Ultra High Temperature) process to a temperature of about 140°C and is supplied to a sterilised tank over a sterile equipment, an amount of said organism having the slow growth capacity is admixed to the UHT treated milk under known sterile conditions, the mixture is kept at optimum growth temperature for the actual organism, and the organism is allowed to grow until the bulk starter culture has reached a pH value of about 4.5-5.0 corresponding to a growth period of 14-48 hours and whereby a bacterial content of more than 10^8 per ml has been obtained, and parallel thereto a process milk batch is prepared, which may include additives, and which comprises milk which has preferably been heat treated by any known method in order to denaturate whey proteins, has been homogenised and might have been given additives like yeast extract and protein preparations, and which has thereafter been UHT treated and transmitted to an

ordinary product tank, which has been carefully cleaned and disinfected, whereupon the bulk starter culture is admixed to the process milk batch in an amount of 2.5 - 25% the amount preferably being calculated for a growth period of 14-24 hours, and the milk/bulk starter culture mixture is maintained at the optimum growth temperature of the bacterial culture, and the culture is allowed to grow until a pH value of about 4.5-4.7 has been reached, whereby the bacteria content of the ready product is at least 10^8 per ml, whereby the process is interrupted and the product is cooled and packed."

Claims 2 to 11 are dependent on claim 1 and relate to further embodiments of the process of claim 1.

The opposition division considered that the claimed subject matter was novel and inventive over the prior art documents

"Bifidobacteria And Their Role" by J. Rasic et. al., 1983, Birkhäuser Verlag, Basel-Boston-Stuttgart, pages 102 to 129

"Yoghurt" by J. Rasic et. al., 1978, Technical Dairy Publishing House, Copenhagen (DK), pages 172 to 176, 319 to 320, 364 to 365

because these documents did not disclose the cultivation of slow growing organisms in milk by a sterile preparation of the bulk starter and by using an ordinary non-sterile tank (novelty) and that there was made available by the claimed subject matter a process for cultivating solely slow-growing organisms in milk on an industrial scale where sterilisation of the final product tank was no longer necessary. Thus the prior art cited did not lead a person skilled in the art to said process (inventive step).

II. Oral proceedings took place on 20 October 1998. Although duly summoned the respondent did not attend.

III. The appellant argued in essence as follows:

The objections under Articles 54 and 83 EPC were no longer maintained. The subject matter of Claim 1 was, however, not inventive as documents (1) and/or (2) already disclosed a large scale production of milk products containing slow growing bacteria by providing a preparation of a bulk starter and disclosed all other features of claim 1, i.e. pH, the growth period, the number of cells, UHT treatment of the bulk starter and of the large portion of the milk, addition of yeast extract and protein preparations and the percentage of the bulk starter culture mixed with the process milk batch, the only differing step in the whole process described in these documents compared to that of claim 1 being the use of a sterilised large tank for the final production of the process milk batch instead of using a tank which had only been disinfected. However, this feature was obviously derivable from document (2) by common general knowledge because it was evident to the skilled person that the process described in this document when using a sterilised large tank was an exception to the rule.

IV. The respondent has not filed any written submissions at the appeal stage. In the written submissions filed in the opposition proceedings the main emphasis for inventive step was put on the feature that not a sterilised but merely a disinfected large tank was used for the process milk batch which amounted to an economic advantage while at the same time providing a satisfactory end-product. This was surprising and unexpected and thus inventive.

V. The appellant requested that the decision under appeal be set aside and the patent be revoked. The respondent did not file any requests.

Reasons for the Decision

1. The appeal is admissible.

2. Novelty (Article 54 EPC) and sufficiency of disclosure (Article 83 EPC) are no longer at issue.

3. The board has to decide whether the subject-matter of claim 1 involves an inventive step (Article 56 EPC) in the light of the prior art in the proceedings.

4. Document (1) relates to "Bifidobacteria and their Role" in the treatment of milk in the dairy. Document (2) also relates to fermented fresh milk products, in particular to the preparation of yoghurt. Document (1) makes reference to document (2) at so many places where the process steps are mentioned that, indeed, as has been done by the opposition division, one has to combine the disclosures of these two documents. Since document (1) is concerned with fermentation of milk, as is the patent in suit, the board considers that document (1) is the closest prior art, a view which is shared by the appellant. The board agrees to the analysis by the appellants of its disclosure (see section III above).

5. Starting from this technical teaching the problem to be solved can be seen in the provision of a cheaper and easier to handle process to produce slow growing bacteria in milk on a large scale and nevertheless to provide an acceptable end product.

6. The solution to this problem is provided by the process of claim 1. On the basis of the many examples in the patent in suit the board is satisfied that this problem has been solved.

7. The question is whether the distinguishing feature, namely the use of a disinfected and not sterilised large tank for the final production of the processed milk batch containing slow growing bacteria was inventive in the light of the teaching of documents (1)/(2). In order to answer this question in the board's view the decisive sentences in document (2) to which document (1) referred in this respect (see page 125, point 7.1.8.1 with the headline "Hygienic production" "More details have been outlined in the Yoghurt monography (i.e. document (2) (remark by the board))..." are the following on page 320, second last paragraph: "Aseptic production lines consist of the aseptic and non-septic sections, The aseptic section comprise all equipment from heat treatment of the milk and culture preparation up to the packaging line. Sterile conditions are created by filling the plant with sterile air under pressure after the completion of cleaning and sterilisation and maintaining these conditions during the manufacture... Alternatively, sterile conditions can be maintained during production in the same way as previously described." The board cannot but agree to the appellant's submission that this disclosure shows that a sterilised large tank is one option, perhaps even an exceptional option out of the two possibilities to use either a sterilised or a disinfected and/or carefully cleaned large tank, This position is further supported by figure 57a on page 320, showing the layout of a typical continuous yoghurt plant, which in connection with the equipment of culture (entity 13) speaks only of "sterilisation" and the first sentence in the last paragraph on page 319: "Rigid sanitation of the plant and

manufacturing rooms, as well as aseptic handling of cultures may provide necessary conditions for carrying out the continuous process...". From this the board concludes that the above stated problem was solved by means obviously derivable from this prior art,

8. The examination of the disclosure of two further documents on file results in the conclusion that these documents do not add any further let alone closer teaching than that of documents (1)/(2) and thus are not relevant for the examination of inventive step either alone or in combination with these documents.

9. The subject matter of Claim 1, therefore, does not fulfil the requirement of Article 56 EPC. The subclaims being dependent on the main claim share its fate.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. European patent No 0 154 614 is revoked.

The Registrar: The Chairwoman:

D. Spigarelli U. Kinkeldey