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**Datasheet for the decision  
of 4 February 2022**

**Case Number:** T 1031/19 - 3.3.09

**Application Number:** 10196959.0

**Publication Number:** 2338350

**IPC:** A23L33/10, A23C9/123

**Language of the proceedings:** EN

**Title of invention:**  
FERMENTED DAIRY PRODUCT

**Patent Proprietor:**  
DSM IP Assets B.V.

**Opponent:**  
Chr. Hansen A/S

**Headword:**  
Fermented Dairy Product/DSM

**Relevant legal provisions:**  
EPC Art. 56  
RPBA Art. 12(4)  
RPBA 2020 Art. 13(2)

**Keyword:**

Main request and auxiliary request 1: inventive step - (no)

Auxiliary request 2: withdrawn

Auxiliary request 3: admission - (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 1031/19 - 3.3.09

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.09**  
**of 4 February 2022**

**Appellant:** DSM IP Assets B.V.  
(Patent Proprietor) Het Overloon 1  
6411 TE Heerlen (NL)

**Representative:** HGF  
HGF Limited  
1 City Walk  
Leeds LS11 9DX (GB)

**Respondent:** Chr. Hansen A/S  
(Opponent) Boege Alle 10-12  
2970 Hoersholm (DK)

**Representative:** Hoffmann Eitle  
Patent- und Rechtsanwälte PartmbB  
Arabellastraße 30  
81925 München (DE)

**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 5 February 2019  
revoking European patent No. 2338350 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** A. Haderlein  
**Members:** A. Veronese  
F. Blumer

## Summary of Facts and Submissions

- I. The appeal was filed by the patent proprietor (appellant) against the decision of the opposition division to revoke European patent No. 2 338 350. The opponent had requested revocation of the patent in its entirety on, *inter alia*, the ground under Article 100(a) (lack of inventive step).
- II. The documents submitted during the opposition proceedings included:
- D1: EP 2 223 301 A1  
D2: EP 1 989 942 A1  
D3: H. Roginski et al., Encyclopedia of Dairy Sciences, 2003, pp. 1018-1021 (Fermented Milks)  
D4: WO 98/54337 A2
- III. The opposition division's decision is based on a main request and auxiliary requests 1 to 6. In its decision, the opposition division held, among other things, that:
- the invention defined in claim 4 of auxiliary request 2 was not sufficiently disclosed
  - the subject-matter of claim 1 of auxiliary request 3 lacked an inventive step over D4 combined with D3
- IV. With its statement setting out the grounds of appeal, the patent proprietor (appellant) filed a main request and auxiliary requests 1 and 2. Auxiliary request 2 was later withdrawn.

V. Claims 1 and 3 of the main request correspond to claim 1 of auxiliary request 3 and claim 4 of auxiliary request 2 of the decision under appeal, respectively.

VI. Claims 1 and 3 of the main request read:

"1. A method for preparing a fermented dairy product comprising the steps of:

- (a) providing milk;
- (b) providing viable bacteria of each of a yogurt starter culture, a probiotic culture, and a helper strain; wherein the yogurt starter culture comprises a strain of *Streptococcus thermophilus* in combination with a strain of *Lactobacillus delbrueckii* spp. *bulgaricus* and/or a strain of *Lactobacillus acidophilus*; and wherein the helper strain is a bacterial strain capable of reducing the redox potential (Eh) of sterilized skim milk to -50 mV or lower values upon incubation of sterilized skim milk with said helper strain for 5-24 hours at 25-33 °C and wherein the helper strain is not capable of reducing the redox potential (Eh) of sterilized skim milk to -50 mV or more negative values upon incubation of sterilized skim milk with said helper strain for 5 hours at 42 °C, and wherein the probiotic culture comprises one or more strains selected from the group consisting of *Bifidobacterium* and *Lactobacillus rhamnosus*;
- (c) adding said viable bacteria to said milk, thereby providing inoculated milk; and
- (d) incubating the inoculated milk until the pH of the composition has dropped to 5.0 or lower, thereby obtaining the fermented dairy product;

wherein the helper strain is a Gram positive, non-spore-forming, anaerobic, catalase negative lactococcal

strain forming lactic acid as an end product of its carbohydrate metabolism, and the helper strain is mesophilic, and wherein the inoculated milk in (d) is incubated at a temperature of 42-45 °C; and the helper strain is not selected from the group consisting of *Lactococcus lactis* DSM21407 or a mutant or a variant thereof, and *Lactococcus lactis* DSM21406 or a mutant or a variant thereof."

"3. Use of a helper strain for reducing the inoculation rate and/or for enhancing the survival rate of a probiotic culture in preparing a fermented dairy product milk comprising viable bacteria of said probiotic culture, wherein the helper strain is a bacterial strain capable of reducing the redox potential (Eh) of sterilized skim milk to -50 mV or lower values upon incubation of sterilized skim milk with said helper strain for 5-24 hours at 25-33 °C and wherein the helper strain is not capable of reducing the redox potential (Eh) of sterilized skim milk to -50 mV or more negative values upon incubation of sterilized skim milk with said helper strain for 5 hours at 42 °C and wherein the helper strain is a Gram positive, non-spore-forming, anaerobic, catalase negative lactococcal strain forming lactic acid as an end product of its carbohydrate metabolism, and the helper strain is mesophilic, and wherein the incubation temperature is 42-45 °C and the helper strain is not selected from the group consisting of

*Lactococcus lactis* DSM21407 or a mutant or a variant thereof, and  
*Lactococcus lactis* DSM21406 or a mutant or a variant thereof."

- VII. Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request.
- VIII. With its letter dated 6 January 2022, the appellant filed auxiliary request 3. This request contains one claim, which corresponds to claim 3 of the main request and claim 4 of auxiliary request 2 of the decision under appeal. All other claims were deleted.
- IX. With its reply to the appellant's statement setting out the grounds of appeal, the opponent (respondent) filed, *inter alia*, document D28.

D28: EP 0 111 392 A2

- X. The arguments of the proprietor (appellant) relevant for the decision can be summarised as follows.

D28 was filed with the reply to the statement setting out the grounds of appeal. Since it could have been filed during the proceedings before the opposition division, it was not to be admitted.

The subject-matter of claim 1 of the main request involved an inventive step. Contrary to the opposition division's finding, D1 or D2 was the closest prior art. Like the opposed patent, these documents focused on survival of probiotic strains. D4 did not address this issue.

Starting from D1 or D2, which did not disclose the claimed fermentation temperature, the underlying problem was the provision of an alternative method for producing a dairy product which enhanced the survival of probiotics. The prior art did not hint at the claimed solution.

Even starting from D4, the subject-matter of claim 1 of the main request involved an inventive step. D4 did not disclose compositions comprising probiotics. The underlying problem was the provision of a method for producing a fermented dairy product which enhanced probiotic survival. The skilled person would not have expected the fermentation conditions of D4 to enhance probiotic survival. As taught by D1 and D2, probiotics were delicate bacteria. The skilled person could not expect the effects of the starter strain, the helper strain and the fermentation temperature described in D4 on probiotic bacteria. Neither D4 nor any of the other available documents, e.g. D3 or D28, hinted at the claimed solution.

Auxiliary request 3 was filed in reaction to the communication issued by the board in preparation for the oral proceedings. It was filed by the appellant's new representative immediately after taking over representation. All claims, with the exception of previous claim 3, were deleted. Since this resulted in a simplification of the proceedings, the request had to be admitted. Claim 1 specified that the method aimed to enhance the survival rate of probiotics. This removed any doubt that D1 or D2, rather than D4, was the closest prior art. The claimed subject-matter involved an inventive step over the teaching of these documents.

XI. The arguments of the opponent (respondent) relevant for the decision can be summarised as follows.

D28 was filed at the earliest stage of the appeal proceedings to address issues raised late during the opposition proceedings.



The claimed invention lacked an inventive step over D4, which was the closest prior art. D4 related, like claim 1 of the main request, to a method for preparing a fermented dairy product. Furthermore, and contrary to the appellant's submissions, it also addressed the issue of promoting the growth and survivability of probiotics.

The method defined in claim 1 of the main request differed from that of D4 in that a probiotic was included. The problem was the provision of an alternative method for preparing a fermented milk product. The solution, namely the inclusion of a probiotic, was obvious in view of D4 alone or in combination with D3 and D28. There was no evidence of any prejudice which would have prompted the skilled person away from including probiotics when carrying out the method described in D4.

Auxiliary request 3 was filed very late in reply to the board's communication issued in preparation for the oral proceedings. There were no exceptional reasons for the late filing. The new request shifted the discussion to issues not dealt with previously. The fact that a new representative had taken over representation was not a justification either. Thus, auxiliary request 3 was not to be admitted.

#### Requests

- XII. The proprietor-appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of:

- the main request or, alternatively, auxiliary request 1, all filed with the statement setting out the grounds of appeal or, alternatively
- auxiliary request 3 filed by letter dated 6 January 2022

XIII. The opponent-respondent requested that the appeal be dismissed.

## **Reasons for the Decision**

### **Main request and auxiliary request 1**

1. *Admission of document D28*
  - 1.1 D28 was filed by the respondent with its reply to the appellant's statement of grounds of appeal. The appellant requested that D28 not be admitted into the appeal proceedings.
  - 1.2 As noted by the respondent, D28 concerns an issue, the temperature of fermentation, which was brought forward late by the appellant during the opposition proceedings (see the appellant's letter dated 9 November 2018, filed before the oral proceedings held before the opposition division).
  - 1.3 The issue relating to the temperature of fermentation is further developed by the appellant in its statement of grounds of appeal (see e.g. page 12, second paragraph). Since D28 was filed at the earliest stage of the appeal proceedings to address an issue which was presented late and its teaching does not lead to the

creation of a fresh case, the board does not see any reason to disregard it (Article 12(4) RPBA 2007, applicable under Article 25(2) RPBA 2020).

2. *Inventive step*

2.1 Claim 1 of the main request relates to a method for preparing a fermented dairy product. The method comprises providing viable bacteria of each of:

- a yogurt starter culture comprising a strain of *Streptococcus thermophilus* in combination with a strain of *Lactobacillus delbrueckii* spp. *bulgaricus* and/or *Lactobacillus acidophilus*
- a helper strain capable of reducing the redox potential of milk at certain temperatures
- a probiotic culture comprising one or more strains selected among *Bifidobacterium* and *Lactobacillus rhamnosus*

2.2 The patent teaches that the helper strain interacts with the starter strain and that this results in a lowering of the redox potential of the culture, an enhancement of the acidification rate and, in particular, a reduction of the lag time, which is a parameter associated with growth rate and processing time (see paragraphs [0002], [0009] to [0013], [0016], [0017] and [0080]). It also teaches that the presence of the helper strain can enhance the survival of a probiotic culture, if present (see paragraphs [0009], [0017] and [0076]).

*The closest prior art*

- 2.3 Claim 1 of the main request corresponds to claim 1 of auxiliary request 3 of the decision under appeal. The opposition division decided, *inter alia*, that the subject-matter of this claim does not involve an inventive step over D4, considered the closest prior art, in combination with D3.
- 2.4 The appellant contested the opposition decision's finding, arguing that D1 or D2, rather than D4, had to be selected as the closest prior art because these documents related to, like the claimed invention, the enhancement of the survival rate of probiotics.
- 2.5 This approach is not persuasive. Claim 1 of the main request defines a method for preparing a fermented dairy product. The claim lists the steps characterising the method but does not mention its purpose. However, from the aforementioned passages of the description of the patent, it can be inferred that the primary purpose of the claimed invention is to increase the acidification rate of the culture and decrease the lag phase. This effect is achieved using a helper strain which interacts with the starter culture decreasing its redox potential. Enhancement of probiotics survivability is also mentioned but is not the primary purpose of the invention.
- 2.6 D4 aims to achieve the aforementioned primary purpose by a similar means. It proposes the use of helper strains to promote the growth of lactic acid bacteria. Preferably, the lactic bacteria are strains of *Streptococcus thermophilus* and *Lactobacillus delbrueckii* spp. *bulgaricus* present in a yogurt starter

culture (see example 2 on page 25). These are the same yogurt starter strains of claim 1.

- 2.7 As in the opposed patent, the helper strains reduce the oxygen content and consequently the redox potential during fermentation. Furthermore, their combination with the yogurt starter strains increases the acidification rate during yogurt production (see claims 1, 4, 6, 10; page 5, lines 24 to 26; page 7, lines 15 to 18; and page 25, example 2).
- 2.8 What is more, D4 teaches that *Bifidobacteria* are generally included among lactic acid bacteria, i.e. among bacteria whose growth is enhanced by the disclosed helper strains. It also teaches that certain *Streptococcus thermophilus* strains improve the survival of *Bifidobacterium* due to their high oxygen uptake ability (see page 3, lines 5 to 9). Like in the opposed patent, *Streptococcus thermophilus* strains are the preferred starter strains (see page 25, example 2).
- 2.9 This means that D4 (i) relates to subject-matter conceived for the same primary purpose as the invention claimed in the opposed patent, (ii) aims to achieve similar effects by a similar means, and (iii) touches on the issue of growth and survival of probiotics.
- 2.10 D1 and D2 focus on the use of *Lactococcus lactis* strains to promote the survivability of *Bifidobacteria* in fermented products. However, these documents do not, in contrast to the patent and D4, concern the use of a helper strain for reducing the redox potential of the culture and for enhancing the ability of the yogurt starter strains to acidify the yogurt culture and decrease the acidification rate. Achieving a satisfactory acidification rate is mentioned (see e.g.

D1 paragraph [0028]), but increasing this rate is not the primary purpose of the invention disclosed.

2.11 For these reasons, in comparing the teaching of D4 with that of D1 or D2, as a whole, the board concludes that D4 is the closest prior art.

2.12 As noted by the respondent, since D4 is a realistic, feasible starting point, the following negative finding based on D4 would not be overcome if it were decided that starting from D1 or D2 would lead to a positive outcome.

*Technical difference*

2.13 The culture of example 2 of D4 was inoculated at 43°C with *Lactobacillus delbrueckii subs. bulgaricus* and *Streptococcus thermophilus* as starter strains and DN224 as the helper strain. It was not disputed that DN224 is a helper strain fulfilling the functional definition given in claim 1. It was also not disputed that the only difference distinguishing the claimed invention from the teaching of D4 is that a probiotic, namely *Bifidobacterium* or *Lactobacillus Rhamnosus*, is added to the culture, in addition to the helper and starter strains.

*Underlying technical problem*

2.14 According to the appellant, starting from D4, the underlying problem could be seen as the provision of a fermented dairy product culture containing a yogurt starter and a probiotic in which the survivability of the probiotic is "enhanced" or "promoted".

- 2.15 This formulation of the problem is not convincing. The bacterial cultures of D4 do not contain probiotics. However, as it turns out from the teaching of the patent itself, they are suitable for ensuring the growth and survival of probiotics, if these are added.
- 2.16 For these reasons, the problem cannot be seen as providing a culture "enhancing" or "promoting" probiotic survival.
- 2.17 This also means that, starting from the cultures of example 2 of D4, the problem can only be formulated, as proposed by the respondent, as the provision of an alternative method for preparing a fermented dairy product.
- 2.18 *Obviousness of the claimed solution*
- 2.19 According to the appellant, neither D4 nor any of the other cited documents prompted the skilled person to include probiotics, in particular *Bifidobacteria*, in the cultures disclosed in D4. In its opinion, D1 and D2 taught away from doing this. The skilled person would not have expected probiotics such as *Bifidobacteria* to be able to survive in the yogurt culture described in D4. The impact of the starter and helper strains on probiotic strains could not be predicted.
- 2.20 These arguments are not persuasive. As decided in the decision under appeal, D3, a document representing common general knowledge, teaches that *Bifidobacteria* are among the lactic acid bacteria most commonly used during the manufacture of probiotic fermented milks. Furthermore, these milks can be produced using more than one organism (see page 1021, right column).

Neither in D3 nor in D1 or D2 can the board find evidence of a "teaching away" or "technical prejudice" which would have dissuaded the skilled person from including probiotics in the cultures of D4.

- 2.21 In addition, as mentioned above, D4 teaches that *Bifidobacteria* are considered lactic acid bacteria, i.e. bacteria whose growth is promoted by the helper strains of D4. It also teaches that *Streptococcus thermophilus* strains promote the survival of *Bifidobacteria*, and *Streptococcus thermophilus* is used as the yogurt starter strains in example 2 of D4. Thus, the skilled person would not have had reasons to doubt the ability of *Bifidobacteria* to survive in the cultures of D4.
- 2.22 Finally, the appellant has argued that the skilled person would not have incubated a culture containing probiotics such as *Bifidobacterium* at a temperature within the claimed range, e.g. at 43°C like in example 2 of D4. Since the incubation temperatures in D1 and D2 were lower (at most 40°C), the skilled person would not have operated at a temperature falling within the claimed range. This argument is not convincing either because, as shown on page 8 of D28, *Bifidobacterium* can be cultivated at 42°C.
- 2.23 For these reasons, it is concluded that the subject-matter of claim 1 of the main request does not involve an inventive step.
- 2.24 Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request. Thus, the same conclusion applies.



### **Auxiliary request 3**

#### 3. *Admission*

3.1 Auxiliary request 3 was filed by the appellant with its letter dated 6 January 2022. This was after the notification of the summons to the oral proceedings before the board and after the issue of the board's preliminary opinion. The request contains one claim, which corresponds to claim 3 of the main request. The other claims were deleted.

3.2 The respondent requested that auxiliary request 3 not be admitted into the appeal proceedings.

3.3 The appellant submitted that auxiliary request 3 was filed by a new representative immediately after taking over representation. The request was filed in reaction to the board's preliminary opinion that the invention defined in previous claim 3 was sufficiently disclosed and that the relevant technical effect was demonstrated. The deletion of all claims, with the exception of previous claim 3, reduced the disputed matter, limited the scope of discussion and favoured procedural economy. The only claim left specified that the method aimed to enhance the survival rate of probiotics. Any doubt that D1 or D2, rather than D4, was the closest prior art was thus removed. Starting from D1 or D2, the invention involved an inventive step.

3.4 In accordance with Article 13(2) RPBA 2020, which is applicable to the case at issue, any amendment to a party's appeal case made after notification of a summons to oral proceedings must, in principle, not be taken into account unless there are exceptional

circumstances which have been justified with cogent reasons by the party concerned.

- 3.5 The fact that a new representative took over representation shortly before the oral proceedings is not a valid reason for filing a new request. Otherwise it would always be possible to circumvent the requirements of Article 13(2) RPBA 2020 by replacing the representative after notification of the board's summons to oral proceedings.
- 3.6 The argument that the request is a direct response to the board's preliminary opinion is not persuasive either because the board's opinion was based on facts and arguments previously presented in writing by the parties. This includes the board's positive preliminary opinion that the invention of claim 3 of the main request is sufficiently disclosed and that the relevant effects are demonstrated.
- 3.7 The board agrees that, depending on the circumstances, the deletion of claims could result in a limitation of the scope of discussion and favour procedural economy. However, such a limitation does not necessarily qualify as an exceptional circumstance. This will depend on the legal and factual circumstances of each case.
- 3.8 In this case, the inventive-step discussion had always focused on claim 1 of the main request directed to a method for preparing a fermented product and which does not specify the purpose of the method. It was only in its letter dated 6 January 2022 that the appellant drew attention to the fact that claim 3 of the main request was limited to the use of a helper strain for a specific purpose, namely for enhancing the survival of a probiotic strain. It was also on this ground that the

appellant then considered that the inventive-step attack based on D4 against claim 1 of the main request could not be applied to claim 3 and that a different inventive-step analysis had to be carried out.

- 3.9 By filing auxiliary request 3 and changing its line of defence, the appellant has changed its case. Dealing with this request would have obliged the board to address during the oral proceedings new issues associated with a use claim which had not been dealt with during the written proceedings. For these reasons, the board concludes that auxiliary request 3 is not to be taken into account (Article 13(2) RPBA 2020).

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



A. Nielsen-Hannerup

A. Haderlein

Decision electronically authenticated