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**Datasheet for the decision
of 15 June 2026**

Case Number: T 0317/25 - 3.3.09

Application Number: 17775192.2

Publication Number: 3437481

IPC: A23C9/12, A23C9/13, A23L29/212,
A23L29/00, C12N9/78, C12N9/80,
A23C9/137, A23L33/20,
A23L33/125, A23L33/195

Language of the proceedings: EN

Title of invention:
YOGURT PRODUCTION METHOD

Patent Proprietors:
AJINOMOTO CO., INC.
Amano Enzyme Inc.

Opponent:
STRAWMAN LIMITED

Headword:
Yogurt production/AJINOMOTO AND AMANO ENZYME

Relevant legal provisions:
EPC Art. 56, 100(a)

Keyword:

Inventive step - (no)



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0317/25 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 15 June 2026

Appellant:

(Opponent)

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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
20 December 2024 concerning maintenance of the
European Patent No. 3437481 in amended form.**

Composition of the Board:

Chairman	A. Zellner
Members:	M. Ansorge
	G. Decker

Summary of Facts and Submissions

- I. The opponent (appellant) lodged an appeal against the opposition division's interlocutory decision holding auxiliary request 8 allowable.
- II. With its notice of opposition, the opponent had requested that the patent be revoked on the ground for opposition under Article 100(a) EPC (lack of inventive step), *inter alia*.
- III. The opposition division held that auxiliary request 8 met the requirements of Rule 80 EPC and Articles 83, 84 and 123(2) and (3) EPC and that the claimed subject-matter involved an inventive step over D3 or D6 as the closest prior art.
- IV. Claim 1 of auxiliary request 8 (the only claim request on file) reads as follows:

"A method of producing yogurt comprising a step of adding protein glutaminase to raw milk and a step of adding starch to raw milk, wherein the raw milk has a fat content of milk of not more than 1.5 wt% and a protein content of not more than 5.5 wt%, wherein the starch has an average particle size of not less than 1 μm and less than 40 μm , the average particle size is measured by dynamic light scattering as defined in the description."

V. The following documents have been cited in the case in hand:

D3: C. Lobato-Calleros et al., "Impact of native and chemically modified starches addition as fat replacers in the viscoelasticity of reduced-fat stirred yogurt", Journal of Food Engineering 131 (2014), pages 110-115

D4: N. Miwa et al., "Effect of enzymatic deamidation by protein-glutaminase on the textural and microstructural properties of set yoghurt", International Dairy Journal 36 (2014), pages 1-5

D6: US 2015/0030723 A1

VI. Requests

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondents (patent proprietors) requested that the appeal be dismissed.

Reasons for the Decision

1. Inventive step

1.1 The appellant argued that the claimed subject-matter did not involve an inventive step in view of D3 as the closest prior art.

1.2 As outlined below, the board shares the appellant's opinion.

1.3 Both parties agreed that D3 qualifies as a suitable closest prior-art document and the opposition division

also considered D3 a suitable starting point in the assessment of inventive step. The board agrees.

- 1.4 D3 is a document studying the impact of adding native and chemically modified starches as fat replacers in the viscoelasticity of reduced-fat stirred yogurt. D3 discloses a method of producing yogurt comprising a step of adding starch to raw milk, wherein the raw milk has a fat content of no more than 1.5 wt% and a protein content of no more than 5.5 wt% (see the abstract, Table 1 and section "2. Materials and methods" of D3). D3 describes that native maize starch, chemically modified maize starch or tapioca starch may be added to a raw milk.
- 1.5 The parties agree that the feature "adding protein glutaminase to raw milk" is not disclosed in D3.
- 1.6 With respect to the question of whether the maize starch or tapioca starch disclosed in D3 implicitly fulfils the feature "wherein the starch has an average particle size of not less than 1 μm and less than 40 μm , the average particle size is measured by dynamic light scattering as defined in the description" (hereinafter: the "feature in question"), the board comes to the conclusion that the feature in question is implicitly disclosed in D3. The maize starch disclosed in D3 (another name for cornstarch, as mentioned in the patent; see e.g. paragraph [0047]) implicitly has a particle size in the claimed range. The cornstarch (Nisshoku waxy cornstarch MD) mentioned in paragraph [0047] of the patent has an average particle size of 15 μm . This is a typical average particle diameter for cornstarch particles. Although corn/maize starch is a natural product and the particle size may vary to some extent, it is not credible that

the maize starch disclosed in D3 could have an average particle size outside the claimed range (i.e. below 1 μm or 40 μm or above). Neither the opposition division nor the respondents gave reasons as to why the average particle size of the starch might be a further difference over D3. In addition, without any further explanation as to which kind of average is meant, the feature "average particle size" leads to uncertainty and variance regarding this feature.

- 1.7 Accordingly, the subject-matter of claim 1 differs from D3 only on account of the features "adding protein glutaminase to raw milk".
- 1.8 With respect to the question of whether there is an improvement over D3 resulting from the difference over D3, the board has the following comments to make.
 - 1.8.1 The board shares the appellant's opinion that it is not credible that there could be an improvement over the whole claimed range for the reason that the amount of protein glutaminase and starch is not limited in claim 1.
 - 1.8.2 At best, it can be derived from Tables 3 and 4 of the patent that the addition of protein glutaminase in general leads to a reduced syneresis rate irrespective of whether or not starch is added. This is a general trend, and this effect is also credible when assuming that the starches used in the examples were not the specific starches disclosed in D3.
 - 1.8.3 Further improvements such as an improved smoothness, viscosity or total evaluation cannot be acknowledged. With respect to the measured viscosity values given in Tables 3 and 4, there is no improvement resulting from

adding protein glutaminase. Insofar as the sensory evaluation of smoothness, viscosity sense and the total evaluation is concerned, the board shares the appellant's opinion that these evaluations, performed by three expert panels, are not suitable for demonstrating an improvement resulting from the distinguishing feature over D3. The yogurt produced according to the method in D3 also has advantageous viscosity properties (see Figures 1 and 2 and section 3.3. of D3). There is no further credible improvement over D3, apart from reduced syneresis.

- 1.9 In view of the above, the objective technical problem is at best to provide a method for producing yogurt having a reduced syneresis rate.
- 1.10 With respect to the question of obviousness, the board comes to the following conclusions.
 - 1.10.1 D3 alone does not teach adding a protein glutaminase; however, a skilled person seeking a solution to the above problem would consider D6, which relates to a similar technical field and purpose. It is obvious, for instance in view of the teaching in paragraphs [0079] and [0080] of D6, to consider adding an enzyme to achieve decreased syneresis, with protein glutaminase being one of the preferred enzymes taught in D6 (see paragraphs [0086] to [0088] of D6). As taught in paragraph [0007] of D6, e.g. starch is a common stabiliser. Combining a starch-containing milk drink with an enzyme as claimed in D6 is also envisaged in D6 (see e.g. paragraph [0079] of D6). In this context, it is noted that D3 teaches that adding tapioca starch, native maize starch or chemically modified maize starch leads to decreased syneresis over a control yogurt having no added starch (see Table 1 of D3). A skilled

person seeking to further decrease syneresis would contemplate adding protein glutaminase, as taught in D6.

1.10.2 In addition, a skilled person seeking a solution to the stated problem would also consider D4.

1.10.3 In this context, the respondents submitted that document D4 teaches adding protein glutaminase to improve the texture of a yogurt; however, D4 not only teaches that the texture of the yogurt can be improved, but also that the protein glutaminase (PG) treatment leads to decreased syneresis.

1.10.4 The following passage of text from the abstract of D4 is relevant in this respect, *inter alia*:

"Textural analysis results showed that PG treatment decreased the firmness of non-fat and low-fat yoghurts and that adhesiveness increased due to PG treatment, regardless of fat content. With the increase in the degree of deamidation, syneresis on the surface of the non-fat and low-fat yoghurt decreased, and the surface appeared to be smooth and glossy." (emphasis added)

Further relevant teaching of D4 is found in Table 2, which investigates and summarises the effect of protein glutaminase on texture and syneresis properties of set yogurts made from milk with different fat contents (see the explanation given on page 3, left-hand column, last paragraph, to page 3, right-hand column, first to third paragraphs). As can be understood from Table 2 of D4, regardless of the fat content, the protein glutaminase treatment exhibits a tendency to increase the adhesiveness. In addition, protein glutaminase-induced deamidation affects the appearance of the surface of

set yogurts. With the increase in the degree of deamidation, low-fat yogurts exhibit less syneresis, and it is restrained completely with a higher degree of deamidation. Protein glutaminase treatment also helps to reduce the syneresis of the non-fat yogurt despite more syneresis than low-fat yogurt. As can be derived from Table 2, when using 1.5, 2.0 or 3.0 protein glutaminase (U g^{-1} protein) in low-fat yogurt or non-fat yogurt, syneresis is significantly reduced or even not detectable. This teaches that syneresis in non-fat or low-fat yogurts (such as those described in D3) could be significantly reduced by the protein glutaminase treatment. In addition, D4 teaches that the addition of protein glutaminase improves the texture of a yogurt. To the board, yogurt texture has a similar meaning as viscosity and smoothness of a yogurt.

- 1.11 In summary, the closest prior-art document D3 teaches that using the specific kinds of starch (native maize starch, chemically modified maize starch or tapioca starch) is suitable for decreasing syneresis of yogurt. Documents D4 and D6 both teach that syneresis can be decreased or even completely avoided when a suitable amount of protein glutaminase is added. Therefore, the claimed subject-matter is obvious over D3 as the closest prior art.
2. In view of the above, the subject-matter of claim 1 of auxiliary request 8 does not involve an inventive step in view of D3 as the closest prior art in combination with D6 or D4. Consequently, the appeal is allowable and the opposed patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



K. Götz-Wein

A. Zellner

Decision electronically authenticated