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Datasheet for the decision of 16 September 2016

Case Number: T 0862/12 - 3.3.04

Application Number: 99931439.6

Publication Number: 1102857

IPC: C12N15/82, C12N9/12, C12N5/10, C12Q1/68, A01H1/04, A01H5/00

Language of the proceedings: EN

Title of invention:
Controlling starch synthesis

Patent Proprietor:
State of Israel-Ministry Of Agriculture

Opponent:
Nunhems B.V.

Headword:
Sweet tomato/STATE OF ISRAEL

Relevant legal provisions:
EPC Art. 123(3)
EPC R. 115(2)
RPBA Art. 15(3)

Keyword:
Auxiliary requests 6 to 8 - extension of scope of protection (yes)

Decisions cited:

Catchword:

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Case Number: T 0862/12 - 3.3.04

D E C I S I O N
of Technical Board of Appeal 3.3.04
of 16 September 2016

Appellant: (Patent Proprietor)	State Of Israel-Ministry Of Agriculture Volcani Research Center P.O. Box 6 IL-50 250 Beit Dagan (IL)
Representative:	Becker Kurig Straus Patentanwälte Bavariastrasse 7 80336 München (DE)
Respondent: (Opponent)	Nunhems B.V. Voort 6 6083 AC Nunhem (NL)
Representative:	Majer, Dorothea Nunhems Netherlands B.V. P.O. Box 4005 6080 AA Haelen (NL)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 17 February 2012 concerning maintenance of the European Patent No. 1102857 in amended form.**

Composition of the Board:

Chairwoman	G. Alt
Members:	M. Montrone
	L. Bühler

Summary of Facts and Submissions

I. The appeal was lodged by the patent proprietor (hereinafter "appellant") against the interlocutory decision of the opposition division maintaining European patent No. 1 102 857 in amended form. The patent has the title "*Controlling starch synthesis*".

II. The patent was opposed under Article 100(a) EPC on the grounds of lack of novelty (Article 54 EPC) and inventive step (Article 56 EPC), and under Article 100(b) EPC and Article 100(c) EPC, on the ground that the subject-matter of the patent extended beyond the content of the application as filed.

Under Article 114(1) EPC, the opposition division raised an objection under Article 53(b) EPC as a further ground under Article 100(a) EPC.

III. The opposition division held that the subject-matter of claims 10 to 12 of the main request, corresponding to the claims as granted, did not meet the requirements of Article 53(b) EPC, and that claims 1 to 3 of auxiliary request 1 contained added subject-matter. The claims of auxiliary request 2 were considered to meet the requirements of the EPC.

Claim 1 as granted reads:

"1. A cultivated tomato plant comprising a genome of *Lycopersicon esculentum* wherein said genome comprises an introgression derived from a wild *Lycopersicon spp.*, said introgression comprises an allele encoding ADPGPPase large subunit 1 (LS1), said introgression expresses said ADPGPPase large subunit 1 (LS1) in the

cultivated tomato plant fruit to higher levels than in *Lycopersicon esculentum*."

IV. With its statement of grounds of appeal the appellant submitted a main request and eight auxiliary requests.

V. The opponent (hereinafter "respondent") replied to the appellant's statement of grounds of appeal and subsequently announced that it would not be attending the oral proceedings.

VI. Oral proceedings before the board were held on 16 September 2016, in the absence of the respondent. The appellant withdrew its main request and auxiliary requests 1 to 5 during the oral proceedings, leaving only auxiliary requests 6 to 8 for consideration.

Claim 1 of auxiliary requests 6 to 8 reads:

"1. A cultivated tomato plant comprising a genome of *Lycopersicon esculentum* wherein said genome comprises an allele derived from a wild *Lycopersicon hirsutum*, said allele encoding ADPGPPase large subunit 1 (LS1), wherein said ADPGPPase large subunit 1 (LS1) is expressed in the cultivated tomato plant fruit, and wherein the activity of the ADPGPPase in said tomato plant is increased compared to *Lycopersicon esculentum*."

In response to a question from the board, the appellant when asked by the board agreed that the activity of an enzyme depended on various factors, for example the amount of the enzyme available for catalysing the reaction or the enzyme's specific, *i.e.* intrinsic, ability to do so. At the end of the oral proceedings, the chairwoman announced the board's decision.

VII. The appellant's arguments, as far as they are relevant for the present decision, may be summarised as follows:

Auxiliary requests 6 to 8

Extension of protection (Article 123(3) EPC)

The protection conferred by amended claim 1 had not been extended compared to claim 1 as granted, since the feature "wherein the activity of the ADPGPPase in said tomato plant is increased" referred to in claim 1 of auxiliary request 6 was implied by the feature "expresses said ADPGPPase large subunit 1 (LS1) in the cultivated tomato plant fruit to higher levels" referred to in claim 1 as granted. LS1 was a subunit of ADPGPPase and therefore its expression to higher levels necessarily resulted in the generation of higher amounts of ADPGPPase, which implied increased activity of the enzyme in tomato plants.

VIII. The respondent's written arguments, as far as they are relevant for the present decision, may be summarised as follows:

Auxiliary requests 6 to 8

Extension of protection (Article 123(3) EPC)

The protection conferred by the subject-matter of claim 1 as amended had been extended compared to claim 1 as granted, since according to the latter claim the gene encoding ADPGPPase subunit LS1 was expressed to higher levels in tomato fruits, while according to amended claim 1 the activity of the ADPGPPase enzyme, consisting of four independent subunits all encoded by

separate genes, was increased in any part of the tomato plant, *i.e.* not only in the fruits.

IX. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims of one of auxiliary requests 6 to 8, all filed with the statement of grounds of appeal.

The respondent requested in writing that the appeal be dismissed.

Reasons for the Decision

1. The duly summoned respondent did not attend the oral proceedings, which in accordance with Rule 115(2) EPC and Article 15(3) RPBA took place in its absence.

Auxiliary request 6

Extension of protection (Article 123(3) EPC)

2. Article 123(3) EPC stipulates that a European patent may not be amended in such a way as to extend the protection it confers. According to the established case law of the boards of appeal, in deciding whether or not that requirement is met it is necessary to compare the protection conferred by the totality of the claims as granted with that conferred by the claims as amended (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, II.E.2.2).

3. The subject-matter of claim 1 of both the claims as granted and of auxiliary request 6 confers the broadest protection, since it is directed to a cultivated tomato

plant. Accordingly, to assess in the present case whether or not the requirements of Article 123(3) EPC are fulfilled, it is sufficient to compare the protection conferred by these two claims.

4. Claim 1 of auxiliary request 6 differs from claim 1 of the patent as granted *inter alia* in that the feature "expresses said ADPGPPase large subunit 1 (LS1) in the cultivated tomato plant fruit to higher levels" (see section III above) has been replaced with the feature "wherein the activity of the ADPGPPase in said tomato plant is increased" (see section IV above).

5. Thus, according to claim 1 of auxiliary request 6, the enzyme ADPGPPase is defined by an "activity" that is "increased" in a "tomato plant", while claim 1 as granted refers to the gene encoding the ADP-glucose pyrophosphorylase large subunit 1 (ADPGPPase LS1) as being expressed in "tomato fruits" to "higher levels".

6. The appellant argued that this amendment did not extend the protection conferred by claim 1 of auxiliary request 6, since the expression of the gene encoding the ADPGPPase LS1 in tomato fruits "to higher levels" resulted in an increased activity of ADPGPPase in tomato plants.

7. Therefore, the question to be assessed is whether or not this amendment extends the protection conferred by claim 1 of auxiliary request 6 *vis-à-vis* that of claim 1 as granted.

7.1 Enzymes are biological catalysts of chemical reactions. At the oral proceedings the appellant agreed that the activity of an enzyme may be affected under standard conditions by various factors, for example the amount

of the enzyme available for catalysing the reaction or the enzyme's specific, *i.e.* intrinsic, ability to do so.

7.2 Accordingly, the ADPGPPase having an "activity" which is "increased" as referred to in claim 1 may be the result *inter alia* of (i) the presence of an increased amount of ADPGPPase which is due to the expression "to higher levels" of the gene encoding the LS1 of the wild tomato *Lycopersicon (L.) hirsutum*, or (ii) an improved intrinsic activity of the ADPGPPase enzyme as such, which is due to the mere replacement of the LS1 from the cultivated tomato plant with that of the wild tomato *L. hirsutum*, without the need for a higher expression of the gene encoding LS1.

8. Thus, the subject-matter of claim 1 of auxiliary request 6 encompasses the subject-matter of claim 1 as granted (item (i) of point 7.2 above) and, in addition, subject-matter not encompassed by claim 1 as granted (item (ii) of point 7.2 above), namely an ADPGPPase enzyme with an improved intrinsic activity which does not rely on the expression of the gene encoding LS1 to "higher levels".

9. Consequently, the protection conferred by the subject-matter of claim 1 of auxiliary request 6 is broader than that of claim 1 as granted, and therefore the request as a whole does not meet the requirements of Article 123(3) EPC.

10. In view of the conclusion reached by the board in point 9 above, the arguments of the respondent (see section VIII above) with regard to Article 123(3) EPC did not need to be considered.

Auxiliary requests 7 and 8

11. The subject-matter of claims 1 of auxiliary requests 7 and 8 is identical to that of auxiliary request 6. Accordingly, for the reasons set out above, auxiliary requests 7 and 8 do not meet the requirements of Article 123(3) EPC either.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairwoman:

P. Cremona G. Alt

Decision electronically authenticated