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**Datasheet for the decision
of 15 February 2022**

Case Number: T 1423/18 - 3.3.04

Application Number: 15168871.0

Publication Number: 2944692

IPC: C12N15/02, A01H1/00, A01H1/02,
A01H5/00, C12N15/09

Language of the proceedings: EN

Title of invention:
Cybrid plant of the genus Lactuca and method for producing the
same

Applicant:
Sakata Seed Corporation

Headword:
Cytoplasmic male sterile cybrid plant of the genus Lactuca/
SAKATA SEED CORPORATION

Relevant legal provisions:
EPC Art. 84

Keyword:
Main request, auxiliary requests 1 to 3: Claims - clarity (no)

Decisions cited:
G 0001/04

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 1423/18 - 3.3.04

D E C I S I O N
of Technical Board of Appeal 3.3.04
of 15 February 2022

Appellant: Sakata Seed Corporation
(Applicant) 2-7-1 Nakamachidai
Tsuzuki-ku
Yokohama-shi
Kanagawa 224-0041 (JP)

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

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 16 January 2018
refusing European patent application No.
15168871.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair L. Bühler
Members: R. Morawetz
B. Rutz

Summary of Facts and Submissions

- I. The appeal of the applicant (appellant) lies from the examining division's decision refusing European patent application No. 15 168 871.0, which was filed as a divisional application of European patent application No. 06 822 425.2.
- II. In the decision under appeal, the examining division held that claim 1 of the (sole) set of claims on file, filed on 16 February 2016, contravened the requirements of Article 84 EPC because it was formulated as a result to be achieved and lacked essential features.
- III. With its statement of grounds of appeal, the appellant submitted sets of claims of a main request and of auxiliary request 1 and provided arguments, *inter alia*, with respect to clarity (Article 84 EPC). The main request is identical to the set of claims underlying the decision under appeal. The set of claims of auxiliary request 1 differs from the set of claims of the main request in that claims 6 and 7 have been deleted.

Claim 1 of the main request and of auxiliary request 1 are identical and read as follows:

"A cybrid plant of the genus Lactuca, a progeny thereof, or a part thereof, comprising in cytoplasm thereof, a gene derived from mitochondria of a plant of the genus Helianthus, and being cytoplasmic male sterile."

- IV. The board scheduled oral proceedings and issued a communication under Article 15(1) RPBA in which it

indicated its preliminary opinion with respect to claim construction and the clarity of claim 1 of the claim requests on file.

- V. In response, the appellant filed sets of claims of auxiliary requests 2 and 3 and made further submissions with respect to, *inter alia*, claim construction and clarity.

Claim 1 of auxiliary requests 2 and 3 are identical and read as follows (amendments compared with claim 1 of the main request are indicated):

"A cybrid plant of the genus Lactuca, a progeny thereof, or a part thereof, comprising in cytoplasm thereof, a gene derived from mitochondria of a plant of the genus Helianthus, and being wherein the cybrid plant is cytoplasmic male sterile due to said gene derived from mitochondria of a plant of the genus Helianthus being a male sterile gene."

- VI. Oral proceedings before the board were held as scheduled. At the end of the oral proceedings, the Chair announced the board's decision.
- VII. The appellant's arguments submitted in writing and during the oral proceedings, as far as they are relevant to the present decision, are summarised as follows:

Main request and auxiliary request 1 - claim 1
Claim construction

The claim set out several structural features including the fact that "the plant is of the genus *Lactuca*", that "the plant comprises a gene", that "the gene is derived

from mitochondria of a different plant", that "the different plant is of the genus *Helianthus*" and that "the gene confers cytoplasmic male sterility".

Clarity (Article 84 EPC)

All the necessary structural features, i.e. the use of *Lactuca* as the "basic" plant, the use of *Helianthus* to provide the gene, the indication of introducing this gene into the cytoplasm of *Lactuca* and the nature of the gene, which was to confer cytoplasmic male sterility (CMS), were explicitly mentioned in claim 1. None of these features was unclear or ambiguous.

The key technical feature of the present invention was producing the cybrid plant of the genus *Lactuca* having CMS, not specifying the gene responsible for the trait of CMS. The claimed cybrid plant of the genus *Lactuca* having CMS could be readily identified and distinguished from conventional plants based on the functional feature of CMS alone, i.e. an inability to produce pollen. There was no lack of clarity in that regard.

Auxiliary requests 2 and 3 - claim 1

Claim construction

The claim specified *verbatim* that it was the gene derived from mitochondria of a plant of the genus *Helianthus* which conferred CMS.

Clarity (Article 84 EPC)

Neither specifying a nucleotide sequence of a gene responsible for CMS nor specifying the responsible gene as such were key technical features of the present

invention.

Even in the absence of information about the nucleotide sequence of a gene responsible for CMS, the skilled person could clearly identify the claimed cybrid plant of the genus *Lactuca* based on the functional feature of CMS.

Male sterile genes of *Helianthus* were not key to the invention and thus did not need to be identified in claim 1. These genes had been known for decades and had been used in the respective fields by the skilled person (see the entire application and in particular page 2, last paragraph; page 7, third paragraph; page 27, last paragraph; page 28, lines 1 to 5 of the first paragraph; page 35, lines 1 to 5 of the second paragraph).

It would not be commensurate with the contribution of the invention to the art to request that one particular sequence of one particular male sterile gene be identified in the claims.

VIII. The appellant requested that the decision under appeal be set aside and that the case be remitted to the examining division with the order to grant a patent on the basis of the set of claims of the main request or, as an alternative, on the basis of the set of claims of auxiliary request 1, both filed with the statement of grounds of appeal, or as a further alternative, on the basis of the set of claims of auxiliary requests 2 or 3, both filed by letter dated 11 January 2022.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 99 EPC and is admissible.

Main request and auxiliary request 1 - claim 1

Claim construction

2. Based on the wording of the claim, the expression "*and being cytoplasmic male sterile*" is understood by the board to further define the "*cybrid plant of the genus Lactuca*" but not the "*gene derived from mitochondria of a plant of the genus Helianthus*". This understanding is also supported by the wording of dependent claim 4, which further defines the gene derived from mitochondria of a plant of the genus *Helianthus* as being "*a male sterile gene*". It is also the only technically sensible interpretation, because a gene contains no cytoplasm and therefore can only give rise to cytoplasmic male sterility in a plant, but cannot itself be "*cytoplasmic male sterile*".
3. The expression "*derived from*" is not defined any further in the claim and therefore has to be given its broadest sensible technical meaning. The board interprets the expression as meaning that the gene does not have to be identical to a gene naturally occurring in mitochondria of *Helianthus*, but can have substitutions, insertions or deletions.
4. The claim is therefore construed as relating to a cybrid plant of the genus *Lactuca*, the plant being cytoplasmic male sterile, and comprising in its cytoplasm a gene derived from mitochondria of a plant of the genus *Helianthus*, wherein the gene need not have

the same nucleotide sequence as any gene found in mitochondria of a plant of the genus *Helianthus*.

5. The appellant's argument that claim 1 sets out several structural features including the fact that "the gene confers cytoplasmic male sterility" thus fails.

Clarity (Article 84 EPC)

6. Article 84 EPC provides that the claims shall define the matter for which protection is sought and that they shall be clear and concise and be supported by the description. According to established case law of the boards of appeal, to meet the clarity requirement, an independent claim should explicitly specify all the technical features essential to the invention ("essential features") and their meaning should be clear to the skilled person from the wording of the claim alone. The essential features are those features which are necessary for solving the technical problem with which the application is concerned (see also Case Law of the Boards of Appeal, 9th edition 2019, II.A.3.2 and decision G 1/04, OJ EPO 2006, 334, Reasons, point 6.2).
7. The application is concerned with the technical problem of providing cytoplasmic male sterile plants of the genus *Lactuca*. A technical feature essential to the invention is therefore the gene(s) that is/are ultimately responsible for the trait of cytoplasmic male sterility in the claimed cybrid lettuce (see also the application, page 53, first full paragraph to page 54, first paragraph and page 56, last paragraph).
8. The appellant's main argument, namely that all the necessary structural features, including the nature of

the gene which confers cytoplasmic male sterility, are explicitly mentioned in claim 1, fails in view of the claim construction adopted by the board (see points 2 to 4 above). The appellant's further argument that none of the features recited in the claim is unclear or ambiguous likewise fails. The reasons are as follows.

9. A gene is normally characterised by its nucleotide sequence; however, the expression "*derived from mitochondria of a plant of the genus Helianthus*" does not convey any information about the nucleotide sequence of the gene to the skilled person (see also points 3 and 4 above). Therefore, the board considers that the structural feature corresponding to the "gene derived from mitochondria of a plant of the genus *Helianthus*" is ambiguous, meaning that the subject-matter for which protection is sought cannot be unambiguously determined.
10. The appellant's further arguments, put forward in response to the board's preliminary opinion and at the oral proceedings, are not found to be persuasive either. The reasons are as follows.
11. First, the appellant's argument that the key technical feature of the present invention was the production of a cybrid plant being CMS and not the gene responsible for the trait of CMS confuses the technical problem with which the application is concerned and the features which are necessary for solving that problem (see also point 7 above). To solve the technical problem with which the application is concerned it is essential that genetic information from mitochondria of a plant of the genus *Helianthus* is transferred into the cytoplasm of a plant of the genus *Lactuca* such that the plant becomes male sterile. A corresponding technical

feature is missing in the claim.

12. Second, while it is acknowledged that the skilled person can test for the trait of CMS, such a test does not distinguish plants of the genus *Lactuca* that comprise a "*gene derived from mitochondria of a plant of the genus Helianthus*" from plants of the genus *Lactuca* that do not comprise such a gene. Accordingly, this test is not sufficient to distinguish subject-matter covered by the claim from subject-matter not covered by the claim.
13. Third, the claim is for a cybrid plant which is said to comprise a "*gene derived from mitochondria of a plant of the genus Helianthus*". This feature cannot be ignored and it lacks clarity for the reasons set out in point 9 above.
14. In view of the above considerations the board concludes that claim 1 lacks clarity.

Auxiliary requests 2 and 3 - claim 1

Claim construction

15. The board agrees with the appellant that the claim now specifies that it is the "*gene derived from mitochondria of a plant of the genus Helianthus*" which confers CMS.
16. The observations made with regard to the expression "*derived from*" in the context of claim 1 of the main request (see points 3 and 4 above) equally apply to claim 1 of these requests.

Clarity (Article 84 EPC)

17. The board considers that the feature "*gene derived from mitochondria of a plant of the genus Helianthus (...)* being a male sterile gene" is ambiguous for the reasons set out in point 9 above.
18. The appellant's argument that male sterile genes of *Helianthus* as such are not key to the invention and thus do not need to be identified in claim 1 cannot succeed because the feature "*gene derived from mitochondria of a plant of the genus Helianthus ... being a male sterile gene*" is in fact a technical feature of the claim. It thus cannot be ignored and, since it is ambiguous (see preceding point), the skilled person is unable to unambiguously distinguish plants covered by the claim from plants that are not.
19. The appellant's further argument that the skilled person could identify the claimed plant of the genus *Lactuca* based on the functional feature CMS alone fails for reasons analogous to those set out in point 12 above. In brief, the CMS test does not distinguish between hybrid plants of the genus *Lactuca* that are CMS "*due to said gene derived from mitochondria of a plant of the genus Helianthus being a male sterile gene*" and plants that are CMS for any other reason. Accordingly, this test is not sufficient to distinguish plants covered by the claim from plants not covered by the claim.
20. The appellant's line of argument that is based on the assertion that the male sterile genes responsible for the CMS trait in *Helianthus* were known in the art cannot succeed because, due to the claim wording chosen, i.e. "*gene derived from ...*", the claim is not

limited to plants comprising male sterile genes of *Helianthus*. For the sake of completeness, although not relevant to this decision, the board notes that it is apparent from the disclosure of the application that it is the CMS trait of *Helianthus* that was known in the art and used by plant breeders, while the male sterile genes responsible for that trait have not been identified yet.

21. Finally, any considerations relating to the contribution of the invention to the art are not relevant when assessing the clarity of the claims.
22. In view of the above the board concludes that claim 1 lacks clarity.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



A. Chavinier Tomsic

L. Bühler

Decision electronically authenticated