

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

D E C I S I O N
of 18 May 2005

Case Number: T 0494/03 - 3.3.8

Application Number: 94903608.1

Publication Number: 0674715

IPC: C12N 15/82

Language of the proceedings: EN

Title of invention:

Methods for stable transformation of wheat

Patentee:

Syngenta Participations AG

Opponent:

Bayer Bioscience N.V.
Monsanto Company
Advanta Seeds

Headword:

Transgenic wheat/SYNGENTA

Relevant legal provisions:

EPC Art. 123(2), 87, 88, 54, 56
EPC R. 88

Keyword:

"- correction allowable under Rule 88 EPC - yes"
"- main request - added subject-matter - no"
"- main request - novelty and inventive step - yes"

Decisions cited:

G 0002/98, G 0003/89

Catchword:

-



Case Number: T 0494/03 - 3.3.8

D E C I S I O N
of the Technical Board of Appeal 3.3.8
of 18 May 2005

Appellant I:
(Proprietor of the patent) Syngenta Participations AG
Schwarzwaldallee 215
CH-4058 Basel (CH)

Representative:
Fisher, Adrian John
CARPMAELS & RANSFORD
43-45 Bloomsbury Square
London WC1A 2RA (GB)

Appellant II:
(Opponent 01) Bayer Bioscience N.V.
Technologiepark 38
B-9052 Gent (BE)

Representative:
Almond-Martin, Carol
Ernest Gutmann - Yves Plasseraud SA
88, Boulevard des Belges
F-69452 Lyon Cedex 06 (FR)

Appellant III:
(Opponent 03) Advanta Seeds
Dijkwelsestraat 70
NL-4421 AJ Kapelle (NL)

Representative:
Roberts, Timothy Wace
Brookes Batchellor
102-108 Clerkenwell Road
London EC1M 5SA (GB)

Party as of right: Monsanto Company
(Opponent 02) 800 North Lindbergh Boulevard
St. Louis
Missouri 63166 (US)

Representative: von Menges, Albrecht Dr.
Uexküll & Stolberg
Patentanwälte
Beselerstrasse 4
D-22607 Hamburg (DE)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
24 February 2003 concerning maintenance of
European patent No. 0674715 in amended form.

Composition of the Board:

Chairman: L. Galligani
Members: F. L. Davison-Brunel
C. Rennie-Smith

Summary of Facts and Submissions

I. European patent No. 0 674 715 with the title "Methods for stable transformation of wheat" was granted with 16 claims on the basis of European patent application No. 94903608.1, claiming priority from the priority documents US 992391 and US 147261 filed on 16 December 1992 and 1 November 1993 respectively.

Granted claim 1 read as follows:

"1. A method for producing stably transformed fertile wheat plants, said method comprising:

- (a) obtaining an immature embryo from a wheat plant;
- (b) plating said immature embryo on growth medium;
- (c) bombarding said immature embryo with a DNA sequence of interest 0 to 10 days post plating;
- (d) maintaining the embryo or developing callus; and,
- (e) regenerating fertile transformed plants."

Granted claims 2 to 16 related to further features of the method of claim 1.

II. Of five oppositions which were filed, those of opponents 4 and 5 were later withdrawn. The grounds of opposition were Article 100(a) EPC (lack of novelty and inventive step), Article 100(b) EPC (lack of sufficient disclosure) and Article 100(c) EPC (added subject-matter).

III. The opposition division rejected the request for correction of paragraph [0027] of the patent in suit from:

*"After bombardment the embryos are grown for several days in the dark on growth medium with auxin. Typically the embryos are grown **for about 5 to about 10 weeks, more specifically from about 1 to about 7 weeks,** before being subjected to selection pressure."*

to

*"After bombardment the embryos are grown for several days in the dark on growth medium with auxin. Typically the embryos are grown for **about 5 days to about 10 weeks, more specifically from about 1 to about 7 weeks,** before being subjected to selection pressure."*

(emphasis added by the board).

While acknowledging that an obvious error might have occurred in the paragraph, the opposition division was not convinced that the correction offered (about 5 **days** to about 10 weeks) was immediately obvious.

For the same reasons, the corresponding paragraph on page 5 of the application as filed could not be read as disclosing a time range of "for about 5 days to about 10 weeks". Consequently, the main claim request then on file was refused under Article 123(2) EPC because there was no basis in the application as filed for step (d) of the claimed method which read:

*"(d) maintaining the embryo or developing callus **for 5 days to 10 weeks prior to applying selection pressure;**"*

However, the patent was maintained on the basis of the auxiliary request then on file, claim 1 differing from claim 1 as granted only in that in step d), after

- "callus", the expression "for 1 to 10 weeks prior to applying selection pressure" was added. This request was considered by the opposition division to meet the requirements of Articles 123(2)(3) and 84 EPC, to enjoy the second priority date, to be novel and inventive and to meet also the requirements of Article 83 EPC.
- IV. Appellants I to III (respectively, patentee and opponents 1 and 3) each filed an appeal against the interlocutory decision of the opposition division. Opponent 2 is a party as of right to the proceedings. All appellants submitted statements of grounds of appeal in due time and paid the appeal fee.
- V. Appellants I and II each submitted observations on the other's statement of grounds of appeal.
- VI. The board sent a communication pursuant to Article 11(1) of the Rules of Procedure of the Boards of Appeal, setting out its preliminary non-binding opinion.
- VII. Appellants I and II sent further submissions in answer to the board's communication.
- VIII. In their letters dated 13 April 2005 and 22 April 2005 respectively, Opponent 2 and appellant III informed the board that they did not intend to attend oral proceedings.
- IX. Oral proceedings took place on 18 May 2005. Appellant I requested that paragraph [0027] of the granted patent be corrected under Rule 88 EPC to:

"After bombardment the embryos are grown for several days in the dark on growth medium with auxin. Typically the embryos are grown for **about 1 to about 10 weeks, more specifically from about 1 to about 7 weeks**, before being subjected to selection pressure."

A new main request was filed in place of all earlier claim requests.

Claim 1 of the **new main request** read as follows:

"1. A method for producing stably transformed fertile wheat plants, said method comprising:

- (a) **excising** an immature embryo from a wheat plant;
- (b) plating said immature embryo on growth medium;
- (c) bombarding said **excised and plated** immature embryo with a DNA sequence of interest 0 to 10 days post **excision**;
- (d) maintaining the embryo or developing callus **for 1 to 10 weeks in the dark on growth medium with auxin without selection pressure**; and,
- (e) regenerating **therefrom** fertile transformed plants **in the presence of selection**."

(the differences compared to the wording of granted claim 1 are highlighted by the board).

Claims 2 to 13 corresponded to granted claims 2 to 11, 15 and 16 and related to further features of the method of claim 1.

X. The following documents are mentioned in the present decision:

- (A27): Vasil, V. et al., Bio/Technology, Vol. 10, pages 667 to 674, June 1992;
- (A37): Troy Weeks, J. et al., Plant Physiol., Vol.102, pages 1077 to 1084, July 1993;
- (A40): Vasil, V. et al., Bio/Technology, Vol.11, pages 1553 to 1558, December 1993;
- (A50): WO 93/07256.

XI. Appellant I's arguments in writing and during oral proceedings insofar as relevant to the present decision may be summarised as follows:

Allowability of the requested correction

The expression "for about 5 to about 10 weeks" now found in paragraph [0027] of the patent in suit would commonly be understood as meaning "for about five weeks to about 10 weeks". It was clear, however, that this interpretation was not the correct one when reading the sentence as a whole, since, although said to be more specific, the second period of time (about 1 to about 7 weeks) was in fact larger than the first one. Thus, it was requested that the expression be corrected under Rule 88 EPC to "about 1 to about 10 weeks" (section IX supra) as it was a simple correction which made the paragraph not only internally consistent but also coherent with the rest of the specification including the examples. The alternative corrections suggested by Appellant II were either less plausible or not plausible at all.

Article 123(2) EPC, added subject-matter; claim 1

Claim 1 reproduced the wording in lines 32 to 36 on page 7 of the application as filed together with the further information in the last paragraph of page 5 - after the paragraph was corrected under Rule 88 EPC like the equivalent paragraph [0027] in the granted patent - that after bombardment the cells were grown in the dark on growth medium with auxin for about 1 to about 10 weeks. Thus, there was a basis in the application as filed for the claimed subject-matter.

None of appellant II's arguments were relevant. In particular,

- The combination of the information given on pages 5 and 7 was disclosed in the application as filed in relation to immature embryos because the term "cells" (page 5) comprised immature embryos. Indeed, in the description (pages 4 to 6), it was interchangeably used with the term "tissue" and immature embryos undoubtedly were tissues. This was confirmed on page 7, lines 34 to 36 where the embryo and the developing callus were both regrouped under the term "tissue", as well as in the examples.
- It was true that the term "tissue" found on page 7, line 35 did not appear in claim 1 yet the expression "therefrom" (step (e)) left no doubt that the fertile transformed plants were regenerated from the bombarded embryo.

- Whether or not an intermediate step could be envisaged between step (d) and (e) had no bearing on the assessment of the claimed subject-matter pursuant to Article 123(2) EPC since the issue under this article was not what the claim covered but what it disclosed.

The requirements of Article 123(2) EPC were fulfilled.

Articles 87 and 88 EPC, Article 54 EPC; priority rights, novelty of claim 1

The second priority document (page 7) taught a time period for the maintenance of the bombarded embryos in the dark on growth medium with auxin of "for about 5 days to about 10 weeks, more specifically about 1 week to about 7 weeks". The first time period covered the now claimed time period (step (d): "about 1 to about 10 weeks"). There was, thus, no doubt that the same subject-matter was disclosed in the said priority document and in the patent in suit. Thus, the claimed subject-matter was entitled to priority as from the filing date of the second priority document, ie. 1 November 1993. For this reason, document (A40) which was published in December 1993 was not state of the art for the purpose of assessing novelty. The claimed subject-matter was novel.

Article 56 EPC, inventive step; claim 1

The closest prior art was document (A37) which disclosed a method for obtaining transgenic wheat starting with immature embryos involving no delay

between the time the embryos were bombarded and the time the transformed embryos were selected.

The problem to be solved could be defined as setting up an improved method for the same purpose.

The provided solution was to delay the selection of the transformed immature embryos after they had been bombarded with DNA.

As the authors of document (A37) defined their work as "circumventing the limitations" of the previous method described in Vasil et al. (document (A27) on file), it must be that their purpose was already the same as the present one starting from the teaching of this earlier piece of prior art. In document (A27), the starting material was embryogenic calluses and delayed selection was applied. On page 673, ways of increasing the recovery of transgenic plants were discussed, amongst them the use of immature embryos whereby DNA bombardment would be *"followed by rapid regeneration and selection of transformants as has recently been demonstrated in rice"*. The authors of document (A37) had, in fact, followed this advice and never came to the idea that immature embryos could be used as starting material in a method where the selection step was delayed. For this reason alone, the claimed subject-matter was not obvious.

Furthermore, the experimental report submitted on 14 May 2004 unambiguously showed that by proceeding in the claimed way, an unexpected increase in the yield of transgenic plants was observed. The experiment was suited to demonstrate this improvement over the prior

art (without delayed selection, document (A37)) since it was internally controlled: delayed selection and selection just after transformation had been carried out side by side in otherwise exactly identical protocols. These protocols admittedly differed from the one carried out in 1993 (document (A37)) as they incorporated the advances in the technology which had occurred in the 11 years which had elapsed. Yet, this did not change the fact that, all things being otherwise equal, the efficiency of producing transgenic wheat by delaying the selection pressure was at least 30% and up to 50% higher than without delay. This advantage was unexpected and contributed to inventive step.

- XII. Appellant II's arguments in writing and during oral proceedings insofar as relevant to the present decision may be summarised as follows:

Allowability of the requested correction

It was not immediately obvious that an error had occurred in the sentence "*Typically the embryos are grown for about 5 to about 10 weeks, more specifically about 1 to about 7 weeks, before being subjected to selection pressure.*" (par.[0027] of the patent in suit) as the two time periods were not incompatible with each other, giving rise to a period of about 1 week to about 10 weeks. This period of time was in keeping with those disclosed in the Examples XIII and XIV, respectively, a month and six weeks.

Furthermore, even if it was assumed that the sentence contained an obvious error, it was not immediately

evident that nothing else than the requested correction to "about 1 week to about 10 weeks" could have been intended. Other possibilities existed which were equally likely: "about 5 days to about 10 weeks", "about 6 to about 7 weeks" (in the second part of the sentence), "about 1 to about 10 weeks, more specifically about 5 to about 7 weeks" as well as the replacement of the word "specifically" by the word "expediently". Thus, in accordance with the findings reached in the Enlarged Board decision G 3/89 (OJ EPO 1993, 117), the correction under Rule 88 EPC should be refused.

Article 123(2) EPC, added subject-matter; claim 1

According to appellant I, there was a basis in the application as filed for the claimed subject-matter in the combination of the information given in lines 32 to 36 on page 7 and in the last paragraph on page 5 (when corrected as the equivalent paragraph [0027] in the granted patent). However,

- These passages could not be combined as that on page 7 was clearly concerned with immature embryos while that on page 5 was part of the general description relating to the use of any type of target tissue. Thus whilst indicating a precise time interval with respect to the duration of the period without selection pressure, the passage on page 5 did not concern embryos. This could be seen from the fact that it did not provide for the regeneration of plants without selection, whereas the specific teaching for embryos on page 7 did.

- The claim did not reproduce the exact wording on page 7 as it did not mention transformed "tissue".

- The claim covered the possibility of an intermediate step between steps (d) and (e) where selection would be carried out in maintenance medium.

Accordingly, the requirements of Article 123(2) EPC were not fulfilled.

Articles 87 and 88 EPC, Article 54 EPC; priority rights, novelty of claim 1

Claim 1, step (d) was a maintenance step of the bombarded embryo or developing callus for 1 to 10 weeks in the dark on growth medium with auxin, without selection pressure. In contrast, the second priority document (page 7) taught that the bombarded cells should be maintained under the above mentioned conditions for about 5 days to 10 weeks, more specifically for about 1 week to about 7 weeks ie. did not disclose the claimed subject-matter. Accordingly, the claims only enjoyed priority from the filing date of the patent in suit. For this reason, document (A40) published in December 1993 was state of the art and its teachings destroyed the novelty of claim 1.

Article 56 EPC, inventive step; claim 1

The closest prior art was document (A37) which described a rapid method for obtaining transgenic wheat and the problem to be solved could be defined as finding an alternative to said method.

The solution given in claim 1 was a method which differed from the method disclosed in document (A37) only in that the selection of the transformed embryos after bombardment was delayed.

The measure of delaying selection was already known from the prior art, in particular document (A27). This document described the production of fertile transgenic plants starting with embryogenic callus which had been bombarded with DNA, the bombarded callus pieces being grown in a non-selective medium for one to two weeks before applying selection. On page 673, the suggestion was made to use immature embryos as starting material. The combination of the teachings of documents (A37) and (A27) rendered the claimed subject-matter obvious.

Appellant I argued that the claimed method was unexpectedly advantageous insofar as the yield of transgenic plants which were recovered was unexpectedly high, but failed to substantiate this allegation. In accordance with the case law the observed improvement would have to be demonstrated in comparison to the results obtained in the prior art (document (A37)). This had not been done since the method used was not the same as in the prior art: the media were different and a plasmolysis step had been included. Furthermore, although the yield of transgenic plants was higher when carrying out the selection of the transformed bombarded immature embryos after some time (experiment) than when selection pressure was applied without delay (control of the experiment), one could not be sure that the observed increase in transformation efficiency was due

to the delay. Thus, the unexpected advantage had not been proved.

Inventive step had to be denied.

XIII. The submissions which Appellant III, who did not attend the oral proceedings, made in its statement of grounds of appeal concerned the claim request accepted by the opposition division. Those arguments which would equally apply to the request now on file are summarised below.

Article 123(2) EPC; added subject-matter

The claimed invention was different from the one which had originally been filed in that appellant I now relied on the delayed selection step as the feature which imparted inventive step to the claimed subject-matter. It was only by referring to the prosecution history that the reader would discover this technical teaching. The context of the specification and claims having been changed, the specification effectively contained subject-matter (the new teaching, crucial to justifying inventiveness) which extended beyond the content of the application as filed.

Articles 87 and 88 EPC; priority rights

Document (A50) filed on 5 October 1992 had one inventor in common with the patent in suit and disclosed subject-matter falling within the scope of the main claim as originally filed. It was, thus, a first filing of the claimed subject-matter and, consequently, priority was not valid. It was accepted that document

(A50) did not provide the specific disclosure of bombarding embryos as was the subject-matter of amended claim 1. Yet, the fact that the claim had been amended could not rescue an earlier invalid claim to priority. The valid priority date was the filing date of the patent in suit.

Articles 54 and 56 EPC; novelty, inventive step; claim 1

If priority was considered to be valid as from the filing date of the patent in suit, document (A40) was state of the art and its disclosure destroyed both the novelty and inventive step of the subject-matter of claim 1.

If priority was acknowledged as from the filing date of the second priority document, document (A37) became the closest prior art, the only feature distinguishing the claimed method from that disclosed in that document being the delay in applying selective pressure. This measure was already disclosed and recommended in document (A27) and, therefore, it was obvious to apply it when using immature embryos as starting material. No significant advantage was attached to it. If inventive step was to be acknowledged on the basis of an unexpected advantage, this advantage should be disclosed in the application as filed. Finally, as no search had been made with regard to delaying the selection pressure, the board should send the case back to the first instance for further search before any decision be taken.

XIV. Appellant I requested that the decision under appeal be set aside, that paragraph [0027] of the decision be corrected under Rule 88 EPC and that the patent be maintained on the basis of the main request and description filed during the oral proceedings.

Appellants II and III requested that the decision under appeal be set aside and that the patent be revoked.

Reasons for the decision

Admissibility of the correction requested under Rule 88 EPC in paragraph [0027] of the granted patent

1. Pursuant to Rule 88 EPC.

"Linguistic errors, errors of transcription and mistakes in any document filed with the European Patent Office may be corrected on request. However, if the request for such correction concerns a description, claims or drawings, the correction must be obvious in the sense that it is immediately evident that nothing else would have been intended than what is offered as the correction".

Furthermore, in accordance with the Enlarged Board of Appeal decision G 3/89 (OJ EPO 1993, page 117, point 2 of the decision), *"The requirement laid down in Rule 88, second sentence, EPC that a correction must be obvious further implies that the incorrect information is objectively recognisable too. The skilled person must thus be in a position objectively and*

unambiguously to recognise the incorrect information using common general knowledge."

2. The passage in paragraph [0027] reads as follows:

*"After bombardment the embryos are grown for several days in the dark on growth medium with auxin. Typically, the embryos are grown for **about 5 to about 10 weeks**, more specifically about 1 to about 7 weeks, before being subject to selection pressure." (emphasis added by the board).*

and it is requested that the expression "for about 5 to about 10 weeks" be replaced by "for about 1 to about 10 weeks).

3. In the board's judgment, even the shortest period of time mentioned in the first range ie 5 weeks cannot be regarded as several days. As for the second range, it is intended to be more specific than the first one - shorter and comprised within it - yet it is in fact longer (a total of 7 weeks instead of 5) and overlapping. Thus, the information contained in paragraph [0027] can objectively and unambiguously be considered incorrect.

4. In the same manner, the proposed correction is considered to be obvious for the following reasons:

- it requires a minimal change (that of a 5 into a 1);
- it renders the full paragraph internally consistent: the minimum period of 1 week may be

considered as several days and the first range is wider than the more specific second range;

- it is in keeping with the common practice in the English language to designate ranges by use of two figures, only the last one having a unit of measurement which is valid for both of them (as is done in the patent itself eg the second half of the sentence in par.[0027], par.[0030] or par.[0034]).
5. The time interval of "for about 1 to about 10 weeks" is also consistent with the delays in applying selection pressure in Example XIII (one month) and XIV (six weeks), both dealing with producing fertile transgenic plants from immature embryos. This, of course, could also be said of the other possible corrections argued by appellant II as equally plausible (section XII, supra). However, because none of them fulfil at the same time the three criteria mentioned above, the board is unable to consider any of them to be as likely as the requested correction which, in turn, makes this correction obvious in the sense that nothing else would have been intended.
6. For these reasons, the requested correction of the expression "for about 5 to about 10 weeks" to "for about 1 to about 10 weeks" is accepted pursuant to Rule 88 EPC. In the same manner and for the same reasons, the same expression found in the last paragraph on page 5 of the application as filed is equally to be read as "for about 1 to about 10 weeks".

Article 123(2)EPC, added subject-matter; claim 1

7. The passages on page 7, lines 29 to 30 and 32 to 36 of the application as filed read as follows:

"In another embodiment, the method can be used to transform embryos, mature or immature... Embryos are then excised and plated on growth medium. 0 to 10 days post excision, DNA is delivered to the embryo using a particle bombardment device. After DNA delivery the embryo or developing callus can be maintained without selection pressure and then the tissue can be regenerated in the presence or absence of selection."

The paragraph on page 5 (having incorporated the correction allowed by the board under Rule 88 EPC) reads as follows:

"After bombardment the cells are grown for several days in the dark on growth medium with auxin. Typically the cells are grown for about 1 to about 10 weeks, more specifically about 1 to about 7 weeks, before being subjected to selection pressure."

8. By comparing these two teachings with the wording of claim 1 (section IX, supra), it becomes evident that the claimed method combines features disclosed in either of these passages. The assessment under Article 123(2) EPC thus requires consideration whether or not the skilled person would understand on the basis of the further information given in the application as filed that the generic term "cells" (page 5) covers immature embryos.

9. It is clear from the above mentioned passage on page 7 that the use of immature embryos as starting material is a specific embodiment of the invention and also that immature embryos are to be considered as a tissue (*...the tissue can be regenerated...*). Thus, the features generically described on pages 4 and 5 of the application as filed in relation to tissue equally apply to immature embryos, ie the teaching of how to bombard tissue with DNA (page 4, line 24 to page 5, last line). As already mentioned in point 7 supra, the last paragraph on page 5 gives instructions as to what should be done with the bombarded tissue. The term "cells" is being used but these cells are, of course, none other than the sub-parts of the bombarded tissue. Accordingly, in the board's judgment, the skilled person would understand these instructions as pertaining to (bombarded) tissue in general, to be followed, in particular in case the bombarded tissue happens to be an immature embryo. For these reasons, the board concludes that claim 1 which comprises at the same time features described on page 5 and page 7 of the application as filed is allowable under Article 123(2) EPC.
10. In the course of the discussion, appellant II pointed out that the term tissue used on page 7 to qualify the bombarded embryo or developing callus does not appear in claim 1. However, even if the exact wording is not present, there remains no doubt that the steps which are described in the application as filed are the same as those of the claimed method. Finally, appellant II also observed that there could be an intermediary step between step (d) and (e) where selection pressure would be applied on maintenance medium. This may well be true,

yet Article 123(2) EPC requires that a basis should exist in the application as filed for the subject-matter which is claimed and not for that which may be covered by the claim. Consequently, neither of these two further arguments are relevant.

11. Appellant III argued in writing that the nature of the invention had changed in the course of time and that therefore, the requirements of Article 123(2) EPC were not met. The criteria for assessing whether the requirements of Article 123(2) are fulfilled do not comprise such considerations. It is simply required that the claimed subject-matter is already disclosed as such in the application as filed which, as discussed above, is the case.

Articles 123(3) and 84 EPC; scope of the claims, clarity

12. The claimed subject-matter is of a narrower scope than that of granted claim 1 (section I and IX supra) if only because the conditions of maintenance of the bombarded embryo are specified in the claim as well as those in which the regeneration is to take place. The amendments introduced in the claim help identify the conditions in which the successive steps are to be carried out, they do not bring any uncertainty. The requirements of Articles 123(3) EPC and 84 EPC are fulfilled.

Articles 87 and 88 EPC; priority rights

13. In accordance with the Enlarged Board decision G 2/98 (OJ EPO 2001, 413, Order of the decision), "*the requirement for claiming priority of "the same*

invention", referred to in Article 87(1) EPC, means that priority of a previous application in respect of a claim in a European patent application in accordance with Article 88 EPC is to be acknowledged only if the skilled person can derive the subject-matter of the claim directly and unambiguously, using common general knowledge, from the previous application as a whole."

14. The second priority document, page 9 provides the same disclosure as the patent in suit in paragraphs [0010] and [0011]. Furthermore, it is mentioned on page 7 that *"Typically the cells are grown for about 5 days to about 10 weeks, more specifically about 1 week to about 7 weeks, before being subjected to selection pressure"*. This last statement corresponds to the corrected disclosure in paragraph [0027] of the patent in suit, of time ranges of *"about 1 to about 10 weeks, more specifically about 1 to about 7 weeks"*. In the board's judgment, both statements, in fact, identify the same subject-matter as no evidence is on file that the difference between 5 days (priority document) and one week (patent in suit) is of significance for the claimed method and the ranges are otherwise identical.
15. The claimed subject-matter enjoys priority rights from the date of filing of the second priority document.
16. Appellant III was of the opinion that document (A50) was a first filing which deprived the second priority document of its status as priority document. The argument ran that although document (A50) described an invention which was different from the invention now claimed and from the invention described in the second priority document - more specifically it did not

disclose the bombardment of embryos - it was nonetheless to be regarded as a first filing because it disclosed subject-matter within the scope of the originally filed main claim and an applicant should not be allowed to escape the requirements for claiming priority by changing the claimed subject-matter. However, appellant III did not provide any legal basis for such a view. Nor does the board see any. Thus, it is considered of no relevance.

Article 54 EPC; novelty of the subject-matter of claim 1

17. Document (A40) published on 11 December 1993 was argued to be novelty destroying for the subject-matter of claim 1 in case priority rights would not be acknowledged as from the filing date of the second priority document (1 November 1993). Since that was acknowledged and there are no other documents on file disclosing subject-matter falling within the scope of the claim, novelty is acknowledged.

Article 56 EPC; inventive step

18. The closest prior art is document (A37) which describes a method for the rapid production of multiple independent lines of fertile transgenic wheat. The starting material is immature embryos which are bombarded 5 days after excising and plating (page 1079, left-hand column, results). **Immediately** after bombardment with a gene encoding the protein responsible for resistance to the herbicide bialaphos, the transformed cells are selected on a medium containing said herbicide (page 1078). 1 or 2 transgenic cell lines are obtained per 1000 embryos

- bombarded, which exhibit a range of fertility (page 1083). In the passage bridging page 1082 and 1083, the advantages of the method are emphasized and it is mentioned on page 1083, right-hand column that "*Several features of the transformation procedure described in this report will facilitate its adoption by other laboratories.*" The document does not contain any reference to the necessity for further improvements, a fortiori it does not suggest any.
19. Starting from the closest prior art, the problem to be solved can be defined as developing a further method for producing transgenic fertile plants.
 20. The solution provided in claim 1 is a method which comprises the same steps as in the closest prior art but for the fact that some time is left to elapse between bombardment and the selection of the transformed clones.
 21. Document (A27), a piece of prior art older than document (A37), also describes a method for producing transgenic wheat but starting from embryogenic callus. There, the selection step is carried out one to two weeks after the bombardment step (page 669, right-hand column). Appellants II and III argued that it was obvious to combine the teachings of the two documents - the use of immature embryos as starting material and delayed selection - to arrive at the now claimed method.
 22. The board, however, is not convinced by this argument. Document (A27) demonstrates the use of **embryogenic calluses and delayed selection**, it also suggests (page 673) that an improvement to the method would be

- the use of immature embryos and rapid selection.** The authors of document (A37) chose to follow this last suggestion, while aiming at circumventing the limitations of the protocol described in document (A27) (see document (A37), page 1077, right-hand column). It must, thus, be that the alternative method involving **the use of immature embryos and delayed selection,** which in theory could just as well have been deduced from document, (A27) was nonetheless not obvious.
23. In the board's judgment, this alternative method (which is now claimed) is not rendered any more obvious by the fact that the suggestion made in document (A27) (**use of immature embryos and rapid selection**) was reduced to practice in document (A37) because, as already mentioned in point 18 supra, the authors of this last document (A37) do not at any time consider that it may be worth attempting to set up an alternative method to the one they disclose.
24. In addition, appellant I provided experimental evidence which showed that the yield of transgenic wheat obtained when applying delayed selection was surprisingly higher than the yield obtained without delayed selection. The experiment was internally controlled insofar as both yields were obtained by using the same protocol except for the delay in selection. Contrary to appellant II who presented the argument that this did not suffice for proving that the delay in selection was responsible for the increased yield - but did not give a scientific basis for this argument - the board does not see that any other conclusion could be drawn.

25. In the same manner, insofar as the experiment is internally controlled, it matters not at all that some technical advances which were made in the 11 years since the filing date of the patent were incorporated in the method - including the choice of a more efficient marker gene for the transformation.

26. Accordingly, the board concludes that the effect of obtaining an increase in the yield of transformed fertile plants when using the claimed method is unexpected and, therefore, imparts inventive step to the claimed subject-matter.

27. Appellant III presented the further argument that if an unexpected advantage was to be the reason for acknowledging inventive step, then it should be disclosed in the application as filed. The validity of this assertion need not be investigated in view of the above findings that inventive step does exist irrespective of the unexpected effect (points 18 to 23, supra). It was also argued that the case should be sent back to the first instance as delayed selection was a feature which would not have been searched when the search report was prepared. The board sees no point in this. The documentary search which can be assumed to have been directed to methods for obtaining transgenic wheat involving bombarding *inter alia* immature embryos, has already revealed a document (A27) involving delayed selection, albeit in relation to embryogenic calluses. No further search is therefore needed.

28. For the above reasons, inventive step is acknowledged.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. Paragraph [0027] of the patent is corrected as requested by appellant I.
3. The case is remitted to the first instance with the order to maintain the patent on the basis of the main request and pages 3, 4, 5, 6 and 9 of the description filed during the oral proceedings, and pages 7, 8, 10, 11, 12 and 13 of the description and figures as granted.

The Registrar:

The Chairman:

A. Wolinski

L. Galligani