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**D E C I S I O N**  
**of 10 May 2005**

**Case Number:** T 0931/02 - 3.2.4

**Application Number:** 94103393.8

**Publication Number:** 0608915

**IPC:** A01C 1/00

**Language of the proceedings:** EN

**Title of invention:**

Priming seeds

**Patentee:**

BTG INTERNATIONAL LIMITED

**Opponents:**

Incotec B.V.  
Syngenta Participations AG

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54, 56, 76(1), 83, 100(a)(b)(c), 123

**Keyword:**

"Extension of subject-matter - main and first auxiliary request - yes"  
"Admissibility of auxiliary requests - yes"  
"Reformatio in peius - exception to the prohibition"  
"Disclosure of invention - second auxiliary request - yes"  
"Novelty and inventive step - second auxiliary request - yes"

**Decisions cited:**

G 0001/99, T 0305/91

**Catchword:**

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Case Number: T 0931/02 - 3.2.4

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.4**  
**of 10 May 2005**

**Appellant I:** Incotec B.V.  
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**Representative:** Dolan, Anthony Patrick  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
27 June 2002 concerning maintenance of European  
patent No. 0608915 in amended form.

**Composition of the Board:**

**Chairman:** M. Ceyte  
**Members:** M. Hatherly  
H. Preglau

## Summary of Facts and Submissions

- I. The opposition division's interlocutory decision to maintain the European patent No. 0 608 915 in amended form was posted on 27 June 2002.

Appellant I (opponent I) filed an appeal and paid the appeal fee on 27 August 2002, filing the statement of grounds on 25 October 2002.

Appellant II (opponent II) filed an appeal and paid the appeal fee on 23 August 2002, filing the statement of grounds on 28 October 2002.

- II. Claim 1 of the main request (i.e. claim 1 according to the interlocutory decision of the opposition division) reads:

"A method of priming seeds comprising contacting the seeds with a quantity of water sufficient to raise the water content thereof to a desired level, the desired level being that required to prime the seeds but not sufficient to allow them to germinate, allowing the seed to imbibe the required amount of water, and, after the required amount of water has been imbibed and the hydration process has ceased, maintaining the seeds free flowing in stirring motion for a period of one or more days."

Claim 1 of the first auxiliary request reads:

"A method of priming seeds comprising contacting the seeds with a quantity of water sufficient to raise the content thereof to a desired level, the desired level

being that required to prime the seeds but not sufficient to allow them to germinate, allowing the seed to imbibe the required amount of water, and, after the required amount of water has been imbibed and the hydration process has ceased, maintaining the seeds in stirring motion to keep the seeds in relative motion for a period of one or more days."

Claim 1 of the second auxiliary request reads:

"A method of priming seeds comprising contacting the seeds with a quantity of water sufficient to raise the content thereof to a desired level, the desired level being that required to prime the seeds but not sufficient to allow them to germinate, allowing the seed to imbibe the required amount of water, and, after the required amount of water has been imbibed and the hydration process has ceased, maintaining the seeds in stirring motion by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis for a period of one or more days."

III. The present patent resulted from a divisional application filed on 23 July 1987 with the priority date 24 July 1986. Page and line numbers cited in this decision refer to:

- EP-B-0 608 915 (the present patent as granted in the published version),
- the originally filed divisional application (not the published version EP-A-0 608 915), and

- the originally filed parent application (not the published version EP-A-0 254 569).

IV. The following documents were referred to in the appeal proceedings, with attention drawn to non-prior art documents by using **bold** type:

- D1: "Seed treatments for improved performance - survey and attempted prognosis", W. Heydecker and P. Coolbear, Seed Science and Technology, 5, pages 353 to 425 (1977)
- D2: GB-B-1 382 262
- D4: "Manipulation of seed water relations via osmotic priming to improve germination under stress conditions", Kent J. Bradford, Horticultural Science, Vol. 21(5), pages 1105 to 1112, **October 1986**
- D5: "Germination of lettuce seeds at high temperature after seed priming", A.C. Guedes and D.J. Cantliffe, Journal of American Horticultural Science, 105(6), pages 777 to 781, 1980
- D7: WO-A-85/05535
- D9: GB-A-2 163 634
- D17: "Membrane priming - a method for small samples of high value seeds", H.R. Rowse, J.M.T. McKee and W.E. Finch-Savage, Seed Science & Technology, 29, pages 587 to 597 (accepted December **2000**);

- D18: "Induction of longevity in primed seeds", G.T. Bruggink, J.J.J. Ooms and P. van der Toom, *Seed Science Research* (1999) 9, pages 49 to 53
- D19: "Drum priming - A non-osmotic method of priming seeds", H.R. Rowse, *Seed Science & Technology*, 24, pages 281 to 294 (accepted November 1995)
- D24: "Drum priming of seeds", BTG, Ref: 130546, **undated**
- D25: "Drum priming of pansy", experimental report by Dr Roelf Weges, dated 19 November 2004
- D26: "Invigoration of seeds?", W. Heydecker, J. Higgins and Yvonne J. Turner, *Seed Science & Technology*, 3, pages 881 to 888, 1975
- D27: "Microbial population dynamics on seeds during drum and steeping priming", B. Wright, H. Rowse and J.M. Whipps, *Plant and Soil*, 255, pages 631 to 640, 2003
- D28: "Report of the Germination Committee Working Group on germination methods of *Beta vulgaris*", K. Klitgard, Eighteenth International Seed Testing Congress, pages 215 to 224, **undated**
- D29: "Declaration of Dr Tonko Bruggink, 17 December 2004
- D30: "Priming improves high-temperature germination of pansy seed", William J. Carpenter and Joseph F. Boucher, *HortScience*, Vol. 26(5) pages 541 to 544, 1991

D30a: "A technique for osmotically pre-treating and germinating quantities of small seeds", R.J. Darby and P.J. Salter, Ann. appl. Biol, 83, pages 313 to 315, 1976

D31: Declaration by Prof. C.M. Karssen, dated 20 December **2004**

V. Oral proceedings took place on 21 January 2005 with the appellants and the respondent (proprietor).

VI. During the appeal proceedings the appellants objected

- that the subject-matter of the patent both as granted and as maintained was extended compared with both the originally filed divisional application and the originally filed parent application;
- that the respondent's auxiliary requests were inadmissible and unallowable;
- that the invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art; and
- that the claimed invention was neither new nor inventive.

The respondent countered the appellants' arguments.

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

The respondent requested that the appeals be dismissed (main request) or in the alternative that the decision under appeal be set aside and the patent be maintained on the basis of auxiliary request 1 or 2, filed with the letter dated 20 December 2004.

## **Reasons for the Decision**

1. The appeal is admissible.
2. *Amendments - claim 1 of the main request (i.e. claim 1 according to the interlocutory decision of the opposition division)*
  - 2.1 Claim 1 of the main request adds to the granted claim 1 the words "free flowing" to describe the state of the seeds during stirring motion after they have been primed by imbibing the required amount of water and the hydration process has ceased.

It is clear from the claim that the free flowing is to occur after the contacting of the seeds with a quantity of water, after the imbibition step and after the hydration process has ceased.

- 2.2 The words "free flowing" (with or without a hyphen) appear at only four places in the originally filed divisional application, namely page 3, lines 29 and 30; page 4, lines 2 and 8; and page 5, line 15. Each of these places concerns when the moisture is still being added to the seeds, rather than when the hydration process has ceased.



Lines 19 to 31 on page 10 of the originally filed divisional application concern what happens after the seeds have been hydrated but do not include the words "free flowing". Lines 16 and 17 on page 2 of the originally filed divisional application concern stirring preventing sticking but this is not an unambiguous disclosure of free flow.

Lines 13 to 17 on page 7 of the originally filed parent application refer to imbibed seed being "sufficiently dry to be free-flowing" but this wording is not present in the corresponding passage in lines 11 to 13 on page 2 of the originally filed divisional application.

- 2.3 The respondent argued that in all the examples in the originally filed divisional application the seed is rolled after the water has been imbibed and thus must be free flowing. However the board points out that what is in claim 1 of the main request is not "rolling" but "free flowing in stirring motion".
- 2.4 The board finds that the wording "free flowing", when used to describe the state of the seeds during stirring motion after the hydration process has ceased, is not directly and unambiguously derivable from the originally filed divisional application.
- 2.5 Accordingly claim 1 of the main request contravenes Article 123(2) EPC and so is unallowable. Therefore the respondent's main request cannot be allowed.

3. *Admissibility of the respondent's auxiliary requests*

3.1 The Order of G 1/99 (OJ EPO 2001, 381) lays down that "In principle, an amended claim, which would put the opponent and sole appellant in a worse situation than if it had not appealed, must be rejected." The Order then gives an exception to this principle of reformatio in peius and sets out three types of amendment that the proprietor/respondent may be allowed to file in such circumstances.

3.2 Appellant I maintained that, in the present case, the proprietor/respondent could have appealed the opposition division's decision but chose not to, and that neither new grounds for opposition nor new facts relating to the objectionable feature "free flowing" had been introduced during the appeal proceedings. Thus, referring to sections 9.1 and 12 of G 1/99, appellant I argued that the exceptional circumstances in which the proprietor/respondent would be allowed to file the types of request listed in the Order, did not exist. Accordingly appellant I argued that the two auxiliary requests of the proprietor/respondent were inadmissible.

3.3 Page 2 of the minutes of the oral proceedings of 11 July 2002 states that after deliberation of the opposition division, the chairman announced the following decision:

"Account being taken of the amendments made by the patent proprietor during the opposition proceedings, the patent and the invention to which it relates are found to meet the requirements of the European Patent

Convention. The currently valid documents are those according to the amended main request."

Moreover section III of the opposition division's decision sets out the "independent claims of the main request" and these claims are the same as the independent claims in the "Druckexemplar" attached to the decision.

Since his main request was found allowable, the proprietor could not appeal the opposition division's decision because the first sentence of Article 107 EPC states that "Any party to proceedings adversely affected by a decision may appeal."

3.4 Thus appellant I's argument that, because the proprietor was able to appeal but did not do so, the exceptional circumstances referred to in the Order of G 1/99 did not exist, is based on a false premise.

3.5 Moreover the exceptional circumstances referred to in the Order of G 1/99 would have applied even if the proprietor could have appealed but had chosen not to. No distinction is drawn in sections 14 and 15 of G 1/99 (which set out how a board has to deal with an amendment introduced in opposition proceedings and held allowable by the opposition division but which does not comply with the requirements of the EPC) between a proprietor who could have appealed but chose not to and a proprietor who did not appeal because he could not do so. Further, the board cannot see that sections 9.1 and 12 relied upon by appellant I (or indeed any other passage in G 1/99) suggest that the exceptional circumstances and the types of amendments referred to

in section 15 and in the Order of G 1/99 should not apply even if the proprietor could have appealed but chose not to.

- 3.6 Accordingly, as provided for in section 15 of G 1/99, the proprietor/respondent can file amendments of the specified types to attempt to overcome the deficiency due to the term "free flowing" introduced into claim 1 of the patent as maintained by the opposition division but which does not comply with the requirements of the EPC.

The two auxiliary requests of the respondent are appropriate and necessary and, therefore, admissible. They however now need to be examined to see if they are allowable.

4. *First auxiliary request*

- 4.1 The words "free flowing" in claim 1 of the main request are amended to "to keep the seeds in relative motion" in claim 1 of the first auxiliary request.

- 4.2 Since free flowing is a specific type of relative motion, the wording "to keep the seeds in relative motion" replacing the wording "free flowing" moves the claimed motion from the specific to the generic. While the wording "relative motion" is taken from line 26 of page 10 of the originally filed divisional application, the claim makes no mention of the circumstances in which there is relative motion, see lines 19 to 31 of the same page. There is no basis in the originally filed divisional application for the very general wording "to keep the seeds in relative motion".

4.3 Accordingly claim 1 of the first auxiliary request contravenes Article 123(2) EPC and so is unallowable. Therefore the respondent's first auxiliary request cannot be allowed. It would be superfluous to examine the amendment to see if it complied with G 1/99.

5. *The claims of the second auxiliary request*

5.1 The second auxiliary request contains only claims 1 to 6. Claim 7 according to the interlocutory decision (directed to a method for producing plants or plant material) has been deleted, see page 6, lines 8 and 9 of the respondent's letter of 20 December 2004.

5.2 Claim 1 of the main request adds to the granted claim 1 the words "free flowing". In claim 1 of the second auxiliary request the words "free flowing" have been deleted and the words "by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis" added.

The added wording is taken from page 2, lines 5 to 8 of the originally filed divisional application and page 3, line 28 to page 4, line 1 of the originally filed parent application.

5.3 The originally filed divisional application does not use the term "free flowing" to describe the state of the seeds during stirring motion after the hydration process has ceased. The board does not consider that it would be possible to leave the term in claim 1 and add wording to explain or restrict the term in order to arrive at a claim that did not contravene Article 123(2)

EPC. Therefore neither of the two first amendment possibilities set out in the Order of G 1/99 would remove the Article 123(2) EPC objection to the added term "free flowing".

To merely delete the term "free flowing" from claim 1 would be to make use of the third amendment possibility set out in the Order of G 1/99. While the protection conferred by the resulting claim would be extended over that of claim 1 as maintained by the opposition division, it would not be extended over that of claim 1 as granted (since the term "free flowing" had been added to the granted claim 1). Thus Article 123(3) EPC and the conditions of the third amendment in G 1/99 would not be contravened.

Moreover the respondent has not merely deleted the term "free flowing" but has replaced it with the wording "by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis" which explains how the seeds are to be kept in stirring motion after the hydration process has ceased. Both claim 1 of the main request (i.e. as maintained by the opposition division) and claim 1 of the second auxiliary request restrict claim 1 as granted. However whereas the restriction in the main request was the seed motion that the respondent considered was achieved, the restriction is now the cause of the seed motion that is achieved.

5.4 Thus the board finds that the above change to claim 1 removes the Article 123(2) EPC objection to the term "free flowing" in the claim maintained by the

opposition division, in a way that is consistent with the principles of G 1/99.

5.5 The board will now move on to examine whether the remainder of claim 1 of the second auxiliary request and the dependent claims are fairly based on the originally filed divisional application (Article 123(2) EPC) and on the originally filed parent application (Article 76(1) EPC).

5.6 The granted claim 1 is identical to claim 1 of the originally filed divisional application and to independent claim 9 of the originally filed parent application.

5.7 The features added to the granted claim 1 by claim 1 of the second auxiliary request are:

5.7.1 "the desired level being that required to prime the seeds"

It is clear from the originally filed parent and divisional applications, and in particular from claim 9 of the parent application and claim 1 of the divisional application which commence with the words "A method of priming seeds") that the desired level (i.e. the desired water content level) is that required to prime the seeds.

5.7.2 the desired water content level being "not sufficient to allow them to germinate"

Page 5, lines 2 to 4 of the originally filed parent application contain the statement to "terminate hydration at a moisture level which prevents premature germination." Page 7, lines 14 to 16 refer to "seed which has imbibed to a point at which if given further water it would germinate rapidly ...". Page 14, line 25 to page 15, line 1 states that "the seed is loaded with as much water as possible without causing subsequent germination ...".

The above passages are a basis for the statement on page 2, lines 9 and 10 and in claim 2 of the originally filed divisional application that the "quantity of water does not cause the seeds to germinate." While this passage is not in the patent as granted, Article 123(2) EPC refers to the "application as filed" and so is not a bar to the feature being taken from the divisional application and used to amend the granted patent.

5.7.3 "allowing the seed to imbibe the required amount of water"

This is a self evident (and indeed necessary) step when one reads the wording "after the required amount of water has been imbibed" in claim 1 of the originally filed divisional application and claim 9 of the originally filed parent application.

Appellant I argued that, while it may be a self evident step, it is not directly and unambiguously derivable from the original application in which the amount of water could be higher i.e. sufficient for germination.



This feature and the feature discussed in section 5.7.2 above plainly exclude such a situation and thus restrict the subject-matter of the original application in a way that has a basis in the original divisional and parent applications. Restriction of original subject-matter is of course a customary and permissible practice in opposition proceedings.

- 5.7.4 maintaining the seeds in stirring motion after "the hydration process has ceased"

This addition is allowable in view of page 3, lines 25 to 27 of the originally filed parent application and page 1, lines 31 and 32 of the originally filed divisional application.

- 5.7.5 "by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis"

This addition is allowable for the reasons given in sections 5.2 to 5.4 above.

- 5.8 Appellant I argued that, while the feature of free flowing during hydration was presented in the originally filed parent application as being essential, this feature is absent from claim 1 of the second auxiliary request.

However, while both claim 1 of the originally filed divisional application and the independent claim 9 of the originally filed parent application deal with hydration, they do not specify free flowing. Thus the feature of free flowing during hydration was not

considered as essential and was not presented as essential when the parent and divisional applications were filed.

5.9 Accordingly claim 1 of the second auxiliary request contravenes neither Article 123(2) EPC nor Article 76(1) EPC.

5.10 Claim 2 of the second auxiliary request is based on page 2, lines 16 and 17 of the originally filed divisional application; page 4, lines 7 to 11 of the originally filed parent application (since if fungal hyphae growth is inhibited then sticking together of seeds by fungal hyphae will not occur); and page 41, lines 8 to 16 of the originally filed parent application.

5.11 Claim 3 to 6 of the second auxiliary request correspond to claims 6 to 9 of the originally filed divisional application and are based on page 4, lines 2 to 6; and page 5, lines 10 to 13 or page 9, lines 10 to 13 of the originally filed parent application.

5.12 Accordingly the dependent claims 2 to 6 of the second auxiliary request contravene neither Article 123(2) EPC nor Article 76(1) EPC.

6. *Sufficiency of disclosure - second auxiliary request*

6.1 The appellants argued that the invention is not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Articles 83 and 100(b) EPC).

6.2 While claim 1 of the second auxiliary request sets out a method starting with dry seed and running through hydration to post-hydration, the emphasis is on the post-hydration treatment. The hydration method is not restricted to taking place in a drum and it is clear that hydration methods were known from the prior art. While the appellants argued against claim 1 of the main request that the application does not disclose how the seeds are to be free flowing following cessation of the hydration process, this free flowing feature is not present in claim 1 of the second auxiliary request.

6.3 The appellants doubted that the difference indicated in Example 1 in the description over untreated seeds and seeds primed by other methods was statistically relevant and considered that if any of germination uniformity, speed or percentage was worse than with untreated seeds or seeds primed by other methods then the invention did not solve a problem.

This view is not shared by the board. The industry chooses a method from those on offer for various commercial (e.g. cost) and technical (e.g. repeatability) reasons and after weighing up the advantages and disadvantages of each method.

6.4 The appellants argued that Example 6 in the description did not indicate the desired water level to prime without germination because the Example yielded high levels of pre-germination.

However even this unsuccessful Example teaches the skilled person, when he is carrying out routine experiments, to reduce the water content below the

quoted percentages in order to reduce the pre-germination.

- 6.5 Concerning Example 7, appellant I argued that he tried to repeat the invention with carrot and pansy seeds but the results, submitted in the form of a declaration and a video cassette, were unsuccessful.

Appellant I argued that that it was doubtful whether the priming of pansy seeds in the paragraph bridging pages 49 and 50 of D18 was performed according to a method of the patent in suit but if it had it would have resulted in clumping as evidenced by appellant I's own experiments shown in the aforementioned video cassette.

The video cassette does not show how the carrot and pansy seeds were hydrated, proceeding in each case from a view of dry seed free flowing in a drum to a view the next day after water has been added but without a view of the water actually being added. The declaration was not commented upon in the appeal proceedings.

- 6.6 Appellant I argued based on experiments set out in D25 that the size of droplets was essential for successful priming and that this feature was missing from the claims. The objective of the experiment set out in D25 was "to investigate the effect of hydration by using drops of various sizes on the tendency of seeds to remain "free flowing" or to clump together."

These experiments were on pansy seeds and apparently priming was unsuccessful with one droplet size but successful with the other. Thus the skilled person

apparently succeeded in hydrating pansy seeds so that they remained free flowing.

- 6.7 The appellants argued that various aspects are critical for priming as evidenced by D1, D26 and D28 as well as the post-published D17, D19, D24 and D27 but that the present claims lack features directed to these essential requirements and that moreover the description does not provide any guidance in these matters.

The patent application sets out different ways of hydrating seed and it can be expected of the skilled person wishing to make use of the teachings of the patent application that he carries out routine experiments (e.g. of the type set out in D25) to find what is successful and what is not. In doing this he has the help in particular of the handbook D1 which presents the common knowledge of the skilled person concerning seed treatments. While determining the correct hydration methods and moisture levels for all seed lots of all seed varieties might seem an undue burden for the skilled person, it would not be an undue burden for him to carry out experiments for whichever particular seed type or seed types he wished to process.

- 6.8 Appellant I argued on page 14 of the letter of 21 December 2004 that "large-scale priming must be followed by a drying step, otherwise no reproducible product will be obtained."

Claim 1 of the second auxiliary request is directed to a method of priming seeds. The steps in the claim produce primed seed, there is no necessity to specify

steps that may or may not follow the steps of the claim. As appellant II stated in the last paragraph on page 5 of the letter of 21 December 2004, "the priming process is essentially a two-phase process, which may be followed by an optional 3rd step where the primed seeds are dried back to a low water content to improve storability of the primed seeds."

- 6.9 Appellant I argued that because D27 (post-published) states that fungal growth results with drum priming according to the method of the patent in suit, the problem underlying claim 2 has not been solved and claim 2 is not enabled by the patent in suit.

Claim 2, which is a dependent claim setting out a preferable feature, however states not that there are no fungal hyphae but that the stirring motion prevents the seeds from becoming stuck together by them. It is credible that rotation of the container will help to keep the seeds separate.

- 6.10 Appellant I argued based on D5 that if priming involved water and PEG then the PEG would need subsequently to be washed away and so the seeds would at the end have been contacted with more water than necessary to prime but not germinate.

The board considers that while the method in D5 indeed includes rinsing after soaking, the document does not specify that this step is essential. Moreover claim 1 of the second auxiliary request refers to the quantity of water and the desired level of water content prior to cessation of hydration not simply during contact with water and PEG. Thus if this second supply of water

proved to have a significant effect i.e. if pre-germination resulted, then the skilled person could compensate by adjusting the preceding water-PEG amount.

6.11 Accordingly the claimed invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person (Articles 83 and 100(b) EPC.

7. *Novelty - claim 1 of the second auxiliary request*

7.1 Appellant I argued on pages 10 and 11 of the statement of grounds of appeal that the subject-matter of claim 1 of the main request was not novel since it was implicitly disclosed on various pages of D1.

He added on page 3 of the letter of 21 December 2004 that "As D1 is a handbook in respect of presowing seed treatments, D1 represents the common general knowledge of the skilled person in the field of pre-sowing seed treatments. Because D1 is common general knowledge the question whether parts of D1 may be combined is no longer an issue."

The board cannot accept this blanket assertion. In line with the principle set out in T 305/91 (OJ 1991, 429) concerning a catalogue of shears, it is not sufficient in the present case to limit oneself to the contents of D1 taken as a whole but rather it is necessary to consider each entity described in D1. It is impermissible to combine parts of separate research works reported in D1 merely because they are described in the single document D1, unless the combination is specifically suggested in D1.

The fact that D1 is a handbook and not simply a catalogue does not change this principle. D1 provides some basic information on seed treatments but also reports on the work of many researchers (as evidenced by the list on pages 408 to 425 of several hundred references). To combine parts of the work of one researcher with those of another is impermissible in a novelty objection unless there is a clear reference from one to the other.

- 7.2 The section entitled "The supply of a limited quantity of water to seeds" starting on page 397 of D1 states that

"As long as the quantity of water required to get the seeds to the desired water potential is ascertained, exactly metered, evenly distributed and accurately maintained there is no theoretical reason why this simplest of methods of advancing germination (Austin et al. 1969) should not be used. This might be achieved by applying an excess of water, e.g. to seeds in a rotating drum, until the seeds are almost fully imbibed and then reaching the required water content by alternating mixing and spin-drying operations or by incorporating in the bulk of seeds water vapour generated by steaming. However, because of hysteresis during wetting and drying a precise levelling out of the seed moisture percentage is not easily achieved.

On completion of any imbibition treatment, the use of a warm-dry air blower might permit partial or complete drying of the treated seeds while still in the treatment drum. They might then be bagged and sealed



automatically when partially dry and either drilled immediately or stored for a short period. Alternatively, where little of the benefit is lost, they could be dried back and stored for sowing in the future."

- 7.2.1 One alternative is to regard the hydration process on page 397 of D1 as ceasing once "the seeds are almost fully imbibed". The next step would then be "reaching the required water content by alternating mixing and spin-drying operations". This does not mean that one mixing operation is followed by one spin-drying operation but that there is a series of cycles of mixing and spin-drying. As spin-drying is not mixing, there is no "maintaining the seeds in stirring motion" after the hydration process has ceased. Moreover there is no disclosure of how long each mixing step or how long the whole mixing and spin-drying operation lasts.
- 7.2.2 It would be illogical to regard the hydration process on page 397 of D1 as ceasing once "the seeds are almost fully imbibed" but then to take the next step of "incorporating in the bulk of seeds water vapour generated by steaming" since plainly the incorporation of water vapour indicates that the hydration process had not in fact previously ceased.
- 7.2.3 One might regard the hydration process on page 397 of D1 as ceasing once the alternating mixing and spin-drying operations had ceased or once the water vapour generated by steaming had been incorporated in the bulk of seeds. Then the next step might be "the use of a warm-dry air blower" for "partial or complete drying of the treated seeds while still in the treatment drum."

During hydration the seeds are "in a rotating drum" but it is not stated whether the drum is rotated during "the use of a warm-dry air blower". Thus there is no explicit disclosure of "maintaining the seeds in stirring motion" as specified in claim 1 of the second auxiliary request. Moreover it is not stated for how long the blower is used. Thus there is no explicit disclosure of stirring being maintained "for a period of one or more days" as specified in claim 1 of the second auxiliary request.

- 7.2.4 Appellant I argued on page 10 of the statement of grounds of appeal that "It is clear from page 385, fourth paragraph that ideally imbibition will be completed somewhere in between 24 and 72 hours (this is confirmed by figure 1 of D4). Hence, the required amount of water has been imbibed somewhere between 24 and 72 hours."

Even if this statement were accepted (and moreover accepted as forming part of a novelty attack rather than an inventive step attack), it would not change the finding in the above section 7.2.3 regarding page 397 of D1. Further, "in between 24 and 72 hours" is not clearly derivable from the cited paragraph in D1 (which states that 72 hours is unsuccessful, that 17 hours is advantageous and that three to six days are effective).

The board points out that D4 is not part of the prior art.

- 7.3 Appellant I continues on page 10 of the statement of grounds of appeal by referring to points on page 401 concerning requirements for successful priming. The

board accepts that this sort of general information would be considered by the skilled person when reading the more specific information on page 397.

- 7.4 However there is no justification in this argument of lack of novelty for then referring to the specific process in point 2 on page 403 and thus combining this osmotic bubbling process with the excess water drum process on page 397. The two processes on pages 397 and 403 are two separate entities forming two independent bases for comparison which should be considered in isolation when assessing novelty. It is not admissible to piece together artificially a more relevant state of the art from features belonging to both of these entities, even though they are both disclosed in one and the same document.
- 7.5 Point 2 on page 403 of D1 specifically describes "cylinders in which an aerated solution and seeds are placed" and refers to D30a whose Figure 1(a) shows such a cylinder. Thus these sources have nothing to do with "maintaining the seeds in stirring motion by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis" as specified in claim 1 of the second auxiliary request.
- 7.6 The paragraph starting four lines from the bottom of page 403 of D1 stating that "One might use a perforated drum in which the seeds are reasonably loosely loaded between radial walls and which dips, paddle-like, into a tank of solution" is not part of, and plainly is incompatible with, the above-mentioned point 2 on the same page dealing with a cylinder containing an aerated solution. Moreover since the drum "dips ... into a tank

of solution", hydration is being described with no information as to what happens when hydration ceases.

7.7 Further, there are no unambiguous links between page 397 and other parts of D1 which might be used to argue that page 397 of D1 implicitly discloses those steps of claim of the second auxiliary request which it does not explicitly disclose. However the board will return to D1 when analysing inventive step.

7.8 Accordingly D1 does not disclose all the steps of claim 1 of the second auxiliary request. Moreover the board cannot see that any of the other documents cited during the appeal proceedings discloses these steps.

The board thus finds the subject-matter of claim 1 of the second auxiliary request novel (Articles 52(1) and 54 EPC).

8. *Inventive step - claim 1 of the second auxiliary request*

8.1 Various lack-of-inventive-step arguments were advanced during the appeal proceedings initially against the subject-matter of claim 1 of the main request. The main and first auxiliary requests fall for other reasons and so it only needs to be considered whether these and other arguments are successful against claim 1 of the second auxiliary request.

8.2 During the oral proceedings, the respondent stated that if claim 2 of the second auxiliary request had been in the Rule 29(1) EPC two-part form then everything up to and including the words "the hydration process has

ceased" would be able to be done by the skilled person. This view was apparently supported by appellant II's statements in lines 15 to 19 on page 5 and in lines 11 to 15 on page 15 of his letter of 21 December 2004.

- 8.3 The problem to be solved by the present invention is to incubate hydrated seed in bulk such that it becomes primed in a controllable, reproducible and efficacious manner, see page 1, lines 21 to 24 of the originally filed divisional application.

This problem is solved by the steps of maintaining the hydrated seeds in stirring motion by keeping the seeds part-filling a storage container and rotating said container about a substantially horizontal axis for a period of one or more days.

- 8.4 Appellant I argued on page 9 of the statement of grounds of appeal that D1, page 403, point 2 provides a solution to the problem of ensuring adequate oxygen supply, namely to keep the seeds in motion which is exemplified by aeration; that D1 therefore provides a pointer to maintain the seeds in stirring motion; and that hence D1 is inventive step destroying.

However, as set out in section 7.5 above, the way in which the seeds are kept in motion in point 2 on page 403 of D1 is totally different to the way set out in claim 1 of the second auxiliary request.

- 8.5 Page 397 of D1 was discussed in section 7.2 above concerning novelty. The board concluded that there was no explicit disclosure whether the drum was rotated

during "the use of a warm-dry air blower" and for how long the blower was used.

- 8.5.1 Appellant II argued on page 12 of the letter of 21 December 2004 that "The person skilled in the art would have no reason to assume that the rotation of the drum has to be discontinued at any point during the drying phase." This is an ex post facto argument because equally he would have no reason to assume that rotation and stirring should be continuous, **unless** he had the teaching of the present patent to tell him so.

Appellant II argued on page 15 of the letter of 21 December 2004 that from page 401 of D1 the skilled person would know that an adequate oxygen supply was necessary for each seed and cited the passage "... use a perforated drum in which the seeds are reasonably loosely loaded... near the bottom of page 403 to explain how this could be achieved.

However the whole of this passage near the bottom of page 403 reads "One might use a perforated drum in which the seeds are reasonably loosely loaded between radial walls and which dips, paddle-like, into a tank of solution". Since the drum "dips ... into a tank of solution" this passage does not describe what the skilled person is to do once hydration has stopped.

- 8.5.2 Regarding the time during which the warm-dry blower in D1 operates, the board cannot see that this would be of the order of "one or more days", the time set out in claim 1 of the second auxiliary request. Drying by blower would be accomplished in less than one day and

once it was finished the skilled person would have no reason to leave the seeds in the drum.

Appellant II argued on page 16 of the letter of 21 December 2004 that since hydration lasts at most 24 hours but priming lasts between 7 and 21 days, the skilled person would leave the seeds in the rotating drum for 6 to 20 days after hydration had finished.

This is however an ex post facto analysis since it is made knowing what is done in the method of the present invention but contradicts what page 397 of D1 discloses, see section 7.2 above.

- 8.6 The appellants argued that the skilled person would have combined the teachings of D1 and D2 e.g. because page 360 of D1 states that chitting and priming are both techniques to improve the germination of non-dormant seeds and so D1 provides a pointer for the combination.
- 8.6.1 Plainly chitting and priming are alternative techniques but page 360 of D1 provides no suggestion that they should be combined in some way. Therefore the board cannot see that D1 provides an incentive for the skilled person to utilise the drum seed chitter of D2 when carrying out a priming method. Even if he did use the drum of D2 he would be no nearer the present invention than he was after reading page 397 of D1. D2 does not teach him how to produce primed seed, it teaches him how to produce chitted seed.
- 8.6.2 Appellant I argues that it would be obvious to apply the stirring motion in D2 after the supply of water to

the seeds has been discontinued (page 2, lines 7 to 10 in D2) following the hydration step in a seed priming method. However the cited passage makes it clear that the seeds are to be agitated until chitting is completed. There would be no reason to add the second part of the D2 method requiring germination or sprouting to the first part of the D1 method which seeks to avoid germination or sprouting.

- 8.6.3 Appellant II argued on pages 18 and 19 of his letter of 21 December 2004 that "The process of D2 is also structurally very close to the claimed process and would only require minor, mostly functional, modifications. D2 would thus be a proper starting point for the assessment of inventive step."

Structural similarities and functional modifications concern apparatuses not processes, the present invention is a process not an apparatus.

Appellant II continues that "The problem to be solved on the basis of D2 is to modify the method for the processing of seeds (chitting) preparatory to their planting such that it can be used for priming of seeds as defined in claim 1."

The problem formulated in this way impermissibly contains a pointer to the solution. Moreover the board does not see that the skilled person would decide to present himself with this task of modifying the method of D2.



The argument then continues that, with the problem as formulated by appellant II in mind, the claimed method would have been obvious for a person skilled in the art because of what was known from D4.

This inventive step argument cannot be successful for the simple reason that D4 is not a prior art document.

- 8.7 Appellant II argued on pages 11 and 12 of the letter of 21 December 2004 that the present invention differs from the disclosure of D2 only in that the quantity of water used is different and that the problem starting from D2 is how to prevent chitting of seeds. He continued that D26 shows how to solve this problem using an aqueous solution of PEG and that the skilled person would combine the teachings of D2 and D26 because they both relate to seed treatment.

The board cannot see that it would be obvious to the skilled person to modify the teaching of D2 in order to not produce the very thing that D2 sets out to provide, namely chitted seeds. Moreover it seems impossible to meaningfully combine D2 (chitting treatment performed in a drum) with D26 (priming with PEG not using a drum).

- 8.8 It was argued that it would be obvious to combine the teachings of D1 and D7, and D1 and D9 respectively. However the board considers that D7 (disclosing intermittent rotation) and D9 (disclosing continuous wetting) are less relevant than D2.

8.9 The board thus cannot see that any of the prior art documents relied upon in the appeal proceedings (taken singly or in combination) would lead the skilled person in an obvious manner to the method of claim 1 of the second auxiliary request.

The board thus finds that the subject-matter of claim 1 of the second auxiliary request is not obvious (Articles 52(1) and 56 EPC).

9. Thus claim 1 of the second auxiliary request is patentable as are claims 2 to 6 which are dependent thereon. Accordingly the patent can be maintained amended on the basis of these claims.

The description according to the interlocutory decision needs, at least in line 24 on page 2, to be adapted to the claims of the second auxiliary request. No changes will be needed to the drawings which thus remain as granted.

**Order**

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

1. The decision under appeal is set aside.
  
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the claims of the second auxiliary request, a description to be adapted and the drawings as granted.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte