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D E C I S I O N
of 29 September 1994

Case Number: T 0430/92 - 3.3.4

Application Number: 85402386.8

Publication Number: 0188933

IPC: A01N 43/653

Language of the proceedings: EN

Title of invention:

Method for regulating the growth of tulip

Patentee:

SUMITOMO CHEMICAL COMPANY, LIMITED

Opponent:

Imperial Chemical Industries PLC Legal Department Patents

Headword:

Growth of Tulips/SUMITOMO

Relevant legal provisions:

EPC Art. 54, 56, 83 and 84

Keyword:

"Novelty - (yes) "

"Inventive step - (yes) - prejudice"

Decisions cited:

T 0068/85, T 0361/88

Catchword:

-



Case Number: T 0430/92 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 29 September 1994

Appellant:
(Opponent)
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Representative: -

Respondent:
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Decision under appeal: Interlocutory decision of the Opposition Division of the European Patent Office dispatched 13 March 1992 concerning maintenance of European patent No. 0 188 933 in amended form.

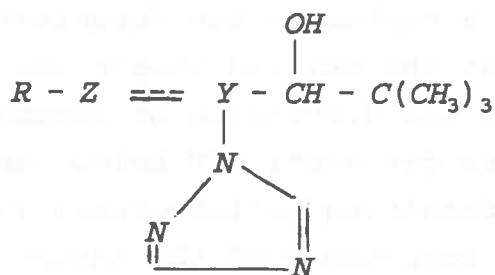
Composition of the Board:

Chairwoman: U. M. Kinkeldey
Members: D. D. Harkness
J.-C. Saisset

Summary of Facts and Submissions

- I. European patent No. 0 188 933 relating to a method for regulating the growth of tulips by treating the bulbs with a plant growth regulator (PGR) was granted on the basis of 4 claims contained in European patent application No. 85 402 386.8.
- II. The Appellant filed an opposition against the granted patent raising objections under Article 100 (a) EPC on the grounds that its subject-matter was not novel and inventive as required by Articles 54 and 56 EPC
- III. The patent was maintained in amended form by the Opposition Division after oral proceedings which took place on 11 December 1992. The amended Claim 1 reads as follows:

"1. A method for regulating the growth of tulip by using at least one of the triazole derivatives or optical isomers thereof having the following formula:



wherein Z---Y is a - CH = C - or - CH₂ - CH - group and R is a p-chlorophenyl or cyclohexyl group, and when Z --- Y is a -CH₂ - CH - group, R is a p-chlorophenyl group, which comprises immersing the bulb of tulip into a solution of said at least one of the triazole derivatives, characterized in that said solution is an

aqueous solution containing said at least one of the triazole derivatives in an amount appropriate for preventing the over-growth of tulip or for regulating the dwarfing of tulip, and the immersion is carried out for one min. - 24 hours."

Claims 2 to 4 are appendant thereto and relate to methods in which individual PGRs are employed in specified amounts.

In its decision the Opposition Division agreed to the amendments as they were supported by the description on page 2 lines 32 to 33 and 58 to 62, thus Article 123(2) EPC was considered to be met. The requirement of Article 123(3) EPC was met because the use of more than one PGR derivative in the aqueous media was specified in the granted Claim 1 which referred to "using at least one of the triazole derivatives or optical isomers thereof." The Opposition Division concluded that the amended Claim 1 did not represent any unallowable extension of the scope of protection.

Novelty was accepted as the Opposition Division was of the view that the skilled person would be rather disturbed by the disclosure of document (11) (list of all documents see section V below) and would not use bulb dips containing paclobutrazol (a triazol derivative, compound C of the invention) to control the growth of tulips. The patent in suit concerned commercially acceptable plants whereas document (11) did not.

With regard to inventive step it referred to documents (5), (11), (13), (14) and (15) in concluding, (a) that bulb dips were considered to be a promising development in the treatment of tulips with PGRs other than the presently used PGRs (document (15)), and (b)

that tulip drenches (documents (5), (11) and (13)) using paclobutrazol had been successful in dwarfing tulips. Therefore in consideration of (a) and (b) the person skilled in the art would be inclined to apply paclobutrazol in tulip bulb dips in order to reduce tulip plant growth. However the technical disclosure of the nearest document (11) led away from the general teaching of the prior art document (15) which recommended bulb dipping because the results of document (11) indicated that all bulb dip rates of EP-500 and of paclobutrazol severely stunted the treated plants causing them to be commercially unacceptable.

- IV. The Appellant filed an appeal against the decision of the Opposition Division, paid the appeal fees and submitted a Statement of Grounds together with a statutory declaration from Dr G. J. Flint.
- V. Of the documents cited during the opposition procedure the following are relevant to the present decision:
- (5) Plant Growth Regulation (1982/83) vol. 1 part 3 pages 173-181.
 - (11) HortScience (1984) vol. 19 (part 3, section 2) page 587, Abstract 490.
 - (13) Grower, 20 May 1982, vol. 97(20) pages 17, 19 and 20.
 - (14) Sci-Hortic 6(1) 1977 pages 71-81.
 - (15) Recent Developments in the Use of Plant Growth Retardants, edited by D. R. Clifford and J. R. Lennon, Monograph No. 4 pages 35-36.

VI. Oral proceedings took place on 29 September 1994.

VII. The arguments of the Appellant, both in the written procedure and at oral proceedings may be summarised as follows:

- (a) With regard to the use of a functional feature in the main claim it was inappropriate in the definition of that subject-matter which related to the inventive step, and the Respondent was in fact trying to claim all solutions to the problem.
- (b) He did not accept that the teaching of document (11) was contrary to that of the disputed patent and in his view a document might be novelty destroying independently of any consideration of alleged contrary teaching.
- (c) The Appellant relied on document (11) and the statutory declaration of Dr Flint to try to establish that the subject-matter of the claims was not inventive. In his view document (11) did not lead away from the invention but was on the contrary encouraging in that paclobutrazol had been used with the result that severely stunted plants had been obtained and this indicated that it was only necessary to determine by conventional methods what rate of PGR should be applied in order to achieve the correct retardation of tulip growth. Document (11) represented a standard experimental method by which the amount of PGR was determined in the same way as a cup of tea was sweetened by the addition of 1, 2, or 3 spoons of sugar, i.e., it was not inventive to add successive amounts of PGR to water and determine the results of the tulip dipping process.

VIII. In reply the Respondent was of the opinion that the basic concept of the invention was the realisation as such that the given PGR compounds may contrary to the teaching of document (11) be used successfully and that thereafter the determination of the amounts was a routine exercise using normal experimental methods which justifies the broadest protection as no undue burden was placed upon the skilled person in their determination. Therefore the use of a functional feature was allowable.

With regard to novelty and inventive step the Respondent stated that document (11) did not relate to a process in which tulip growth was successfully retarded, rather tulips were treated in such a way that a commercially unacceptable plant was obtained and this disclosure did not in any way indicate the subject-matter of the invention, which was the basic novel and inventive concept that the PGR compounds as defined could be successfully employed for the retardation of tulips.

IX. The Appellant requested that the decision under appeal be set aside and the patent be revoked. The Respondent requested that the appeal be dismissed and the patent be maintained.

Reasons for the Decision

1. The appeal is admissible.

2. *Admissibility of amendments (Article 123(2) and (3) EPC)*

2.1 At oral proceedings before the Board the Appellant no longer contested the allowability of the amendments made to the claims in the sense that they comprised subject-matter not based upon the disclosure as originally filed. The Board agrees with the Opposition Division that no added subject-matter has been allowed nor any

previously undisclosed technical feature included in the claims which were originally not limited in terms of the time of immersion or the amount of PGR used. Thus the amendments may be seen as a limitation based upon the original disclosure. With regard to the use of one or more PGR compounds the Board again agrees with the Opposition Division as the claims as granted referred to using "at least one of the triazole derivatives" thus it cannot be said that the claims have been amended during the opposition in such a way as to extend the scope of protection.

3. *Functional feature (Article 84 EPC)*

3.1 The Appellant objected to the use of a functional feature in the main claim namely, "in an amount appropriate for preventing the overgrowth of tulip or for regulating the dwarfing of the tulip.", this represented in his view all solutions to the problem without specifying the means of attaining said solution. On the other hand the Respondent was of the opinion that this form of claim was allowable as any other narrower definition would be too restrictive especially as the specification gives ample teaching in the description how to determine the required amount in a simple way, i.e., application in aqueous media which is conventional. In the present case this feature forms part of the characterising portion of the claim which relates to the inventive activity, however, in his view this did not preclude the use of the functional feature.

3.2 In an early Appeal Board Decision T 68/85 (EPO OJ 1987, page 228) the Board had the opportunity to provide guidance in respect of the allowability of functional features. There the phrase "in an amount producing a synergistic herbicidal effect" was considered to be acceptable as a technical feature within the meaning of

Rule 29(1) and (3) EPC, (point 8.4 of the decision), as it was one which could be read by a skilled person as an instruction how to proceed to achieve a given technical result. The instruction may be explicit or functional, the latter being used to couch the invention in the most general terms possible in order to secure adequate and reasonable protection. In the Board's opinion the functional feature of the present Claim 1 corresponds in form and motive with the phrase of the decision.

This position was inter alia confirmed later in a decision of an Appeal Board (T 361/88 not published in the EPO OJ, at point 2.2.1.) in that a functional feature which consisted of process steps defined by the result which was aimed at was declared allowable as long as the man skilled in the art knew, without exceeding his normal skills and knowledge, what he had to do in order to obtain the said result. Since the Appellant agreed at oral proceedings that the means of attaining the result in this case are conventional, namely a dip in aqueous medium containing the PGR, the amended form of claim complies with the requirements of Article 84 EPC.

4. *Sufficiency of disclosure (Article 83 EPC)*

- 4.1 According to Appeal Board Decision T 68/85, point 8.1 (loc. cit.) the question of adequate disclosure may not be adjudged solely on the basis of the claims. In the present case clear methods and examples thereof have been provided in the description which enable the problem to be solved without undue burden being placed on the skilled person. Therefore the Board considers that the requirements of Article 83 EPC have been met.

5. *Novelty (Article 54 EPC)*

5.1 The Opposition Division accepted that the subject-matter of the claims was novel and the Appellant did not pursue this objection during the oral proceedings before the Board.

5.2 Prior art document (11) disclosed the treatment of tulip bulbs with three PGRs at three experimental rates by soil drench, soil surface granular and bulb dip methods and was considered to be the nearest prior art. The results showed that all applications and rates of BAS-106 were ineffective in controlling the height of tulip plants and all bulb dip rates of EL-500 and paclobutrazol led to plants which were severely stunted and commercially unacceptable. There was no disclosure of a process in which the growth of tulip plants was successfully regulated nor does it refer to any time period for treatment with the PGR compound and in these circumstances the Board agrees that the subject-matter of all claims is novel.

6. *Inventive step (Article 56 EPC)*

6.1 As already stated above in point 5.2 document (11) represents the nearest prior art and in view of this disclosure the objective problem to be solved was to produce a commercially acceptable tulip with retarded growth. This problem is solved by the method according to Claim 1.

The Board is satisfied by the results of Example 1 that the problem has indeed been solved by the method using the triazole compounds specified under the conditions stipulated in the claims.

6.2 If the skilled person were faced with the problem of determining whether the compounds of the claim are suitable at all for application by a bulb dip method and of finding the correct rate of application of the compounds, he would consider the teaching of document (11) and what was stated to be common general knowledge before the priority date of the patent in suit in Dr Flint's affidavit. It is to be noted that not only did the co-authors of document (11) not provide evidence leading to a successful bulb dip method for regulation of tulip growth, but also Dr Flint in his affidavit did not come to the correct conclusion by the "best guess" method, even though he described the "best guess" method as the conventional way of proceeding when investigating PGR compounds. In the Statement of Grounds the Appellant agreed that the results were not predictable: "Of course, until the experiment has been done, the researcher does not know what is the correct rate to obtain a desired level of retardation.". Therefore whatever the desired result may be the means of attaining it were not evident to the skilled worker on the basis of the nearest prior art document (11) of which the teaching was that proper growth regulation by the bulb-dip method using three separate PGR compounds did not work at all. Thus it was not obvious from this starting point to try to regulate the growth of tulips with any reasonable expectation of success. A combination of document (11) with the evidence of the affidavit for the above reasons also does not lead to the claimed solution to the problem.

6.3 The unpredictability of results in this field is also signalled by document (13) page 20 last column: "Our results with Trance, however, were disappointing and indicate that it is essential to test each variety/retardant combination." This serves in the Board's view to confirm the above conclusion. The fact

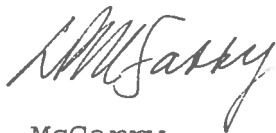
that the determination as such of the correct quantities of PGR to be used for regulating the growth of tulip is performed by a conventional method does not make the results of this work evident in the light of the prior art. The subject-matter of the claims is therefore inventive (Article 56 EPC).

Order

For these reasons it is decided that:

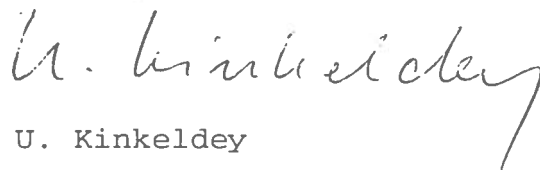
The appeal is dismissed.

The Registrar:



L. McGarry

The Chairwoman:



U. Kinkeldey

DJA.

