BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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

Datasheet for the decision of 8 November 2011

Case Number: T 1185/09 - 3.3.01

Application Number: 99911223.8

Publication Number: 1061804

IPC: A01N 57/20

Language of the proceedings: EN

Title of invention:
Mixtures for weed control in glyphosate tolerant soybeans

Patentee:
Monsanto Technology LLC

Opponent:
Syngenta Limited, European Regional Centre

Headword:
Mixtures for weed control in glyphosate tolerant soy beans/MONSANTO COMPANY

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
-

Decisions cited:
T 0835/00

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1185/09 - 3.3.01

D E C I S I O N
of the Technical Board of Appeal 3.3.01
of 8 November 2011

Appellant: (Opponent)
Syngenta Limited, European Regional Centre
Priestley Road, Surrey Research Park, Guildford
Surrey GU2 7YH (GB)

Representative:
Andrews, Ch. J.
Southern, D.W.
Syngenta Limited
Intellectual Propery Department
Jealott's Hill International Research Station
P.O. Box 3538
Bracknell, Berkshire RG42 6YA (GB)

Respondent: (Patent Proprietor)
Monsanto Technology LLC
800 North Lindbergh Boulevard
St. Louis, Missouri 63167 (US)

Representative:
TER MEER - STEINMEISTER & PARTNER GbR
Patentanwälte
Mauerkircherstrasse 45
D-81679 München (DE)

Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 31 March 2009 concerning maintenance of European patent No. 1061804 in amended form.

Composition of the Board:

Chairman: P. Ranguis
Members: J.-B. Ousset
L. Bühler

Summary of Facts and Submissions

I. The opponent lodged an appeal against the decision of the opposition division that maintained European patent No. 1 061 804 on the basis of the first auxiliary request filed with letter dated 10 April 2007. The patentee had also filed with letter dated 9 January 2009 two further auxiliary requests (II and III).

Claim 1 of the first auxiliary request reads as follows:

"1. A method for controlling glyphosate-susceptible weeds and a glyphosate-tolerant first plant species growing in a crop of a glyphosate-tolerant second plant species, comprising:
first applying a non-glyphosate herbicide to the crop of the glyphosate-tolerant second plant species, the non-glyphosate herbicide being toxic to the first plant species and non-toxic to the second plant species, at a rate of application sufficient to control the first plant species, wherein the non-glyphosate herbicide is selected from the group consisting of quizalofop, clethodim, sethoxydim, fluazifop, imazamox and fenoxaprop; and,
second applying a glyphosate herbicide to the crop of the glyphosate-tolerant second plant species at a rate of application sufficient to control the glyphosate-susceptible weeds, wherein the first applying and the second applying steps can be performed in either order or simultaneously."

II. The opposition sought revocation of the patent in suit in its entirety under Article 100(a) EPC (lack of

novelty or inventive step). The following documents were *inter alia* cited in support thereof:

(1) Product Sheet (Green Book) 1996 for Poast Plus® Post Emergence Grass Herbicide, a product of BASF; active ingredient is sethoxydim; published 1996.

(6) Monsanto Petition 97-099-01p, APHIS, U.S. Department of Agriculture, 30 July 1997, for "Determination of Nonregulated Status of Roundup Ready Corn Line GA21", submitted by J-N. Mutz and T.M. Spencer; prepared by Mutz, Spencer, D.A. Dixon, R.S. Sidhu and D. Miller; contributors F. Behr, K.A. Croon, R.L. Fuchs, C. George, J. Gwyn, C.M. Hironaka, B.E. Ledesma, T.C. Lee, K.M. Magin, G.J. Rogan, P.R. Sanders, L. Turner; published 13 August 1997 (as evidenced by (7)).

(7) Notice published in the United States Federal Register volume 62 (1997); published 13 August 1997.

III. The opposition held, in particular, that the subject-matter of the first auxiliary request was novel in view of document (6), chapter "D" (cf. page 50). Although the "Roundup" technology was known, the specific claimed method was not explicitly disclosed.

Starting from document (6) as the closest state of the art, the technical problem to be solved was to provide a method for the control of glyphosate-susceptible weed and a glyphosate-tolerant first plant species growing in a crop of a glyphosate second plant species. The skilled person in the art would not have automatically

applied the well-known principle of controlling weeds and volunteers without any drawbacks since the technology of Roundup plants was very new at the priority date. Moreover it could be seen from the examples according to Tables 9 and 10 that the claimed method also provided a synergistic effect (cf. patent [0067]).

IV. The current decision is based on the first auxiliary request found patentable by the opposition division - now respondent's main request - and on auxiliary requests II and III, all filed before the department of first instance (see point I above) and maintained with the reply to the statement of grounds of appeal.

Claim 1 of auxiliary request II reads as follows:

"1. A method for controlling glyphosate-susceptible weeds and a glyphosate-tolerant first plant species growing in a crop of a glyphosate-tolerant second plant species, comprising:
first applying a non-glyphosate herbicide to the crop of the glyphosate-tolerant second plant species, the non-glyphosate herbicide being toxic to the first plant species and non-toxic to the second plant species, at a rate of application sufficient to control the first plant species, wherein the non-glyphosate herbicide is selected from the group consisting of quizalofop, clethodim, sethoxydim, fluazifop, imazamox and fenoxaprop; and,
second applying a glyphosate herbicide to the crop of the glyphosate-tolerant second plant species at a rate of application sufficient to control the

glyphosate-susceptible weeds, wherein the first applying and the second applying steps are performed simultaneously."

Claim 1 of auxiliary request III reads as follows:

"1. A method for controlling glyphosate-susceptible weeds and a glyphosate-tolerant first plant species growing in a crop of a glyphosate-tolerant second plant species, comprising:
first applying a non-glyphosate herbicide to the crop of the glyphosate-tolerant second plant species, the non-glyphosate herbicide being toxic to the first plant species and non-toxic to the second plant species, at a rate of application sufficient to control the first plant species, wherein the non-glyphosate herbicide is selected from the group consisting of quizalofop, clethodim, sethoxydim, fluazifop, imazamox and fenoxaprop; and,
second applying a glyphosate herbicide to the crop of the glyphosate-tolerant second plant species at a rate of application sufficient to control the glyphosate-susceptible weeds, wherein the non-glyphosate herbicide and the glyphosate herbicide are applied simultaneously as a mixture formed prior the applying step."

V. The appellant (opponent) argued as follows:

- Document (6) explicitly discloses a method for controlling a glyphosate-tolerant first plant species (the volunteer Roundup Ready™ corn) growing in a crop of a glyphosate-tolerant second plant species (the Roundup Ready™ soybean)

comprising the application of a non-glyphosate herbicide (fluazifop-p, clethodim, quizalofop-ethyl, sethoxydim). The elements of the claimed method not explicitly taught in this document are thus the control of glyphosate-susceptible weeds (growing in the Roundup Ready™ soybean crop) via the application of glyphosate herbicide.

- It is however axiomatic that glyphosate (Roundup™) would be applied to the Roundup Ready™ soybean explicitly mentioned in document (6) in order to control glyphosate-susceptible weeds for the simple reason that this is the very reason why Roundup Ready™ crops were developed. This element was one implicit feature of document (6).

- If novel, the claimed method would lack inventive step since the person skilled in the art would, in addition, administer glyphosate to the Roundup Ready™ soybean crop referred to in document (6) in order to control glyphosate-susceptible weeds in the crop. Moreover the use of mixtures of a non-glyphosate herbicide (sethoxydim) and glyphosate to control glyphosate-susceptible weeds and corn volunteers in glyphosate-tolerant crops had already been reported in document (1). It was to be concluded that the method of document (1) would also work in respect of control of glyphosate-tolerant volunteers especially given that the patentee had already reported this to be the case in document (6).

- Regarding the alleged synergistic effect, such an effect was not shown for glyphosate-susceptible

weed and a glyphosate-tolerant first plant species. Furthermore, it was not possible on the basis of the data presented in Tables 9 and 10 to determine whether it is fact indicative of any synergistic effect.

VI. The respondent (patentee) argued as follows in the written proceedings:

- The sequential or simultaneous application of a glyphosate herbicide and one of the non-glyphosate herbicides listed in claim 1 in order to efficiently control glyphosate-susceptible weeds and volunteer glyphosate-tolerant corn in a glyphosate-tolerant soybean crop was not disclosed in document (6).

- Since Roundup Ready™ corn was deregulated on November 1997 and not available before the 1998 growing season, volunteer corn plants which are the progeny of a crop of corn grown the previous season in the same field could not have occurred in a crop of a glyphosate-resistant plant until 1999 after the priority date of the patent in suit as shown by document (21), i.e. Monsanto Co. and Dekalb Genetics Corp.; Availability of Determination of Nonregulated Status for Genetically Engineered Corn Line; Federal Register, vol. 62, No. 234, (1997).

- The problem underlying the patent in suit was unknown at the priority date, since Roundup Ready™ corn (volunteer corn) was not available for use until 1998. The skilled person could not have been

faced with the problem of controlling glyphosate-susceptible weeds and glyphosate-resistant volunteers in a field of glyphosate-resistant crop. He could not have solved a problem that he could not determine even existed. Decision T 835/00 was cited in that respect.

- Some of the co-herbicide combinations provided synergy on difficult control plants. No herbicidal antagonism was found as shown by documents

  - D(23) Notarized declaration by S. Douglas Prosch dated December 7, 2009
  - Exhibit 1: Herbicide Handbook, Weed Science Society of America, 9th Edition (2007), pages 19-20, 32, 41, 43-44 and 344
  - Exhibit 2: Colby, S.R., "Calculating Synergistic and Antagonistic Responses of Herbicide Combinations", Weeds, 15, 20-22, 1967
  - Exhibit 3: Summary of Tables 9 and 10
  - Exhibit 4: Curriculum Vitae of S. Douglas Prosch

- The process of auxiliary request II was limited to a simultaneous application of the non-glyphosate and the glyphosate herbicides.

- The process of auxiliary request III was based on claims 2 and 16 as granted. It was further specified that the mixture of herbicides was formed before application.

VII. The respondent notified the board with its letter of 29 September 2011 that it would not attend the oral proceedings.

VIII. The appellant (opponent) requested that the decision under appeal be set aside and that European patent No. 1 061 804 be revoked.

IX. The respondent (patent proprietor) requested in writing that the appeal be dismissed or, alternatively, that the patent be maintained on the basis of one of auxiliary requests II or III filed with the reply dated 15 February 2010.

X. Oral proceedings took place on 8 November 2011 in the absence of the respondent in accordance with Article 15(3) RPBA, Supplement to OJ EPO 1/2011. At the end of the oral proceedings, the decision of the board was announced.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. Novelty

2.1 The last sentence of paragraph D on page 50 of document (6) reads as follows:

"*Even in the case of a rotation involving Roundup ready soybeans, it should be considered that a) no-till*

cultivation which is used on 35% of the soybean acreage, reduces dramatically the occurrence of the volunteers and b) control of Roundup Ready corn volunteers will remain possible with an application of grass-killer herbicides such as fluazifop-p, clethodim, quizalofop-ethyl, sethoxydim, currently used in soybean crops for volunteer corn control."

The use of Roundup™ (glyphosate) on Roundup Ready™ soybeans to control the Roundup Ready™ corn volunteers with application of clethodim and sethoxydim is, therefore, disclosed.

Furthermore, the process of claim 1 of the patent in suit mentions that not only glyphosate-tolerant plant species are controlled but also glyphosate-susceptible weeds. Although the passage cited above in point 2.1 does not refer to the control of weeds, Roundup (glyphosate herbicide) has been developed in order to spare the crop and to kill weeds. This point is confirmed by the disclosure of document (6) (see page 49, two first lines of the third paragraph), which mentions that weeds are not tolerant to glyphosate and up to now no resistance to glyphosate has been observed for weeds. Therefore, the treatment of Roundup Ready™ soybeans with a glyphosate herbicide will automatically control the glyphosate-susceptible weeds.

2.2 The respondent's argument based on the deregulation of Roundup Ready™ corn in November 1997 (see point VI above) did not convince the board.

2.2.1 Whether the disclosure of document (6) has been applied in a field before the priority date of the patent in

suit is irrelevant for assessing novelty, since the mere disclosure of a teaching, disregarding whether this teaching has actually been reduced into practice, is enough to make it available to the public as required by Article 54 EPC. That document (6) was available to the public at the priority date of the patent in suit is confirmed by document (7). This point was never disputed by the respondent and the board does not see any reason to contest this point.

2.3 The respondent also argued that the sequential or the simultaneous application was not mentioned in document (6).

2.3.1 However, document (6) recites that the grass-killer herbicides listed (see point 2.1) are applied. Since, Roundup (glyphosate herbicide) is also applied to the plants, it must thus be inferred therefrom that the application of the said glyphosate herbicide is performed either before or after or at the same time as the application of the grass-killer herbicide. Hence, the method of applying the herbicides mentioned in claim 1 cannot distinguish the claimed process from the disclosure of document (6), since it includes all the possible methods of applying the two herbicides.

2.4 Thus, claim 1 of the main request lacks novelty (Article 54 EPC).

Auxiliary request II

3. The board concurs with the parties that this request fulfils the requirements of Articles 123(3) and (2), 84 and 54 EPC.

4. Inventive step

4.1 The process disclosed in document (6) differs from the one of claim 1 of the patent in suit in that it does not specifically mention that the application steps of both herbicides are performed simultaneously.

4.2 Hence, the problem underlying the patent in suit can be seen in a further process for controlling glyphosate-susceptible weeds and glyphosate-tolerant first species growing in a crop of a glyphosate-tolerant second species in that this process allows convenient control, without injury to or yield loss in the second crop species.

4.2.1 The solution proposed by the respondent is represented by the process of claim 1.

4.2.2 In view of the results displayed in tables 9 to 12, the board is convinced that this problem was solved by the claimed process.

4.2.3 The closest state-of-the-art document (6) does not mention whether the grass-killer herbicide is applied together before or after treatment with Roundup. The person skilled in the art would therefrom infer that the method of application is not critical to obtain the desired effect, namely the control of Roundup Ready™ corn volunteers and weeds. Moreover, the person skilled in the art is aware that applying herbicides either simultaneously or in a different order is a standard agricultural practice. Furthermore, the person skilled in the art would notice that document (1) also

describes a process to treat Roundup Ready™ soybeans and to control post emergence of weeds in a field already containing volunteer corn (non glyphosate-tolerant) (see page 330, left-hand side column, starting below Table 9). This passage indicates that the application can either be a tank mix or a sequential one. Tank mix means that both herbicides are compatible with each other and that the said mixture can be applied (simultaneous application).

Therefore, trying to solve the problem mentioned in point 4.2, the person skilled in the art, starting from document (6), would try any of the methods of applying the herbicides mentioned in document (1) and thereby would arrive at the process of claim 1 of the patent in suit without any inventive skills.

4.3 In order to show the presence of an inventive step, the respondent relied on the results displayed in Tables 9 and 10 of the patent in suit and the declaration of Mr Prosch (document (23).

4.3.1 These results do not address the point at issue, which is to show that the specific application claimed provides an unexpected result vis-à-vis a sequential application (in any order). The alleged synergy is not the result of the method of applying the herbicides. It is also not related to the problem to be solved, which relates to an effect for glyphosate-susceptible weed **and** a glyphosate-tolerant first plant species. Furthermore, it appears that the alleged synergy is not present on the whole claimed scope (see Table 9, "AGRRE", Roundup Ultra® (0.75) and Raptor (0.032), the observed value (85) is lower than the value obtained

with Roundup Ultra® (0.75) used alone (98), similarly in the same Table 9, an antagonism is also observed when treating "SOHRA" (johnsongrass) with Roundup Ultra® (0.75) alone (see value 100) and when using a mixture of Roundup Ultra® (0.75) with either Select (0.094) or Assure (0.034) or Raptor (0.032) (respective values observed: 97, 80 and 88). Moreover, Table 10 indicates that the use of Roundup Ultra® (0.75) alone (see column SOHRA, observed value: 100) already removes glyphosate-susceptible weeds as well as glyphosate-tolerant first species weeds and the addition of Assure (0.034; observed value: 100) does not exhibit any synergistic effect for the said combination.

4.4 As concluded in point 4.2.3 above, the subject-matter of claim 1 of auxiliary request II lacks an inventive step (Article 56 EPC).

Auxiliary request III

5. Instead of being applied simultaneously (see claim 1 of auxiliary request II), the herbicides are first mixed together in a tank and then applied to the plant species. This difference is not responsible for any unexpected and/or improved effect compared to the closest prior art (see point 4.3.1). Moreover, as explained in point 4.2.3, the method of applying the herbicides is obvious for the person skilled in the art. An inventive step for this request is thus not acknowledged.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar The Chairman

M. Schalow P. Ranguis