

Broccoli and tomatoes

EPO Enlarged Board of Appeal defines the extent to which plant crossing and selection processes are excluded from patentability as essentially biological processes under Article 53(b) EPC.

Summary

In its decision of 9th December 2010 in the combined “broccoli” (G 2/07) and “tomato” (G 1/08) cases, the Enlarged Board of Appeal held that processes for the production of plants based on steps of sexually crossing the whole genomes of plants and of subsequently selecting plants are in principle excluded from patentability under Article 53(b) EPC.

Processes cannot escape this exclusion merely by the inclusion of a technical step that enables or assists the process of crossing the genomes. Rather, [a process of sexual crossing and selection may be patentable only if it includes a technical step that introduces a trait into the genome that is not the result of the mixing of the genes of the plants chosen for sexual crossing.](#)

However, the patentability of plants, fruits and seeds that are the product of a crossing and selection process is still unclear. When both the “broccoli” (G 2/07) and “tomato” (G 1/08) cases were returned to the Technical Boards of Appeal, the Proprietors deleted the method claims that had been held to be excluded from patentability, but maintained product claims directed to broccoli plants and tomato fruits produced by the methods. Both Technical Boards of Appeal have referred further questions back to the Enlarged Board of Appeal asking for clarification on whether such product claims are also excluded from patentability. These further questions are the subject of new Enlarged Board of Appeal cases G 2/12 and G 2/13.

Therefore, although the Enlarged Board of Appeal has defined the extent that plant crossing and selection processes are excluded from patentability in G 2/07 and G 1/08, the patentability of the products of such processes is still unclear, and we must wait for decisions in G 2/12 and G 2/13 for clarification.

Article 53(b) and Rule 26(5) EPC

Article 53 EPC provides subject-matter that is excluded from patentability and paragraph (b) recites:

plant or animal varieties or essentially biological processes for the production of plants or animals; this provision shall not apply to microbiological processes or the products thereof;

Rule 26(5) EPC provides a definition of “essentially biological process for the production of plants or animals”:

A process for the production of plants or animals is essentially biological if it consists entirely of natural phenomena such as crossing or selection.

Questions referred to the Enlarged Board

The questions referred to the Enlarged Board in the two cases were:

G2/07

1. Does a non-microbiological process for the production of plants which contains the steps of crossing and selecting plants escape the exclusion of Article 53(b) EPC merely because

it contains, as a further step or as part of any of the steps of crossing and selection, an additional feature of a technical nature?

2. If question 1 is answered in the negative, what are the relevant criteria for distinguishing non-microbiological plant production processes excluded from patent protection under Article 53(b) EPC from non-excluded ones? In particular, is it relevant where the essence of the claimed invention lies and/or whether the additional feature of a technical nature contributes something to the claimed invention beyond a trivial level?

G1/08

1. Does a non-microbiological process for the production of plants consisting of steps of crossing and selecting plants fall under the exclusion of Article 53(b) EPC only if these steps reflect and correspond to phenomena which could occur in nature without human intervention?
2. If question 1 is answered in the negative, does a non-microbiological process for the production of plants consisting of steps of crossing and selecting plants escape the exclusion of Article 53(b) EPC merely because it contains, as part of any of the steps of crossing and selection, an additional feature of a technical nature?

The application underlying G 1/08 concerned a method for selecting tomato plants that produce tomatoes with reduced water content by allowing fruit to remain on the vine past the point of normal ripening, and weighing the fruit.

The application underlying G 2/07 concerned a method for the production of Brassica oleracea with elevated levels of glucosinolates comprising crossing a non-natural double haploid strain with geographically remote strains and selecting molecular markers.

The decision

The Board first considered the extent to which the exclusion under Article 53(b) EPC is defined by Rule 26(5) EPC. However, the Board noted that this rule contains an apparent contradiction because crossing and selection are provided as examples of natural phenomena. The Board considered the legislative history of the rule and the Biotech Directive from which it is derived, but the Board found that:

“Rule 26(5) EPC does not give any useful guidance on how to interpret the term “essentially biological process for the production of plants” in Article 53(b) EPC and therefore that term must be interpreted on its own authority. This is for the Enlarged Board to do.”

In interpreting Article 53(b) EPC, the Board rejected certain approaches that have been followed for other exclusions under the EPC. In particular, the Board rejected using an approach analogous to that used in relation to methods of treatment by surgery and therapy, wherein a single surgical step will exclude a method from patentability. The Board also rejected using an approach analogous to that used in relation to computer implemented inventions, wherein a single technical feature can take a claim outside the relevant exclusion. Finally, the Board rejected the approach adopted in the prevailing case on this matter, T 320/87, wherein several criteria were used for assessing whether the claimed invention is essentially biological or not. The Board held that this approach:

“conflates the considerations which are relevant for patentability with those relevant for novelty and inventive step”

Therefore, the Board considered the legislator’s intention of the exclusion of Article 53(b) EPC and found that:

“It must be concluded that the legislator’s intention was to exclude from patentability the kind of plant breeding processes which were the conventional methods for the breeding of plant varieties of that time.”

The Board also considered the use of the word “essentially” in the article to be significant:

“The exchange of the word “purely” for “essentially” was deliberate and reflects the legislative intention that the mere fact of using a technical device in a breeding process should not be sufficient to give the process as such a technical character and should not have the effect that such process is no longer excluded from patentability.”

The Board answered the questions referred to it as follows:

1. A non-microbiological process for the production of plants which contains or consists of the steps of sexually crossing the whole genomes of plants and of subsequently selecting plants is in principle excluded from patentability as being “essentially biological” within the meaning of Article 53(b) EPC.
2. Such a process does not escape the exclusion of Article 53(b) EPC merely because it contains, as a further step or as part of any of the steps of crossing and selection, a step of a technical nature which serves to enable or assist the performance of the steps of sexually crossing the whole genomes of plants or of subsequently selecting plants.
3. If, however, such a process contains within the steps of sexually crossing and selecting an additional step of a technical nature, which step by itself introduces a trait into the genome or modifies a trait in the genome of the plant produced, so that the introduction or modification of that trait is not the result of the mixing of the genes of the plants chosen for sexual crossing, then the process is not excluded from patentability under Article 53(b) EPC.

4. In the context of examining whether such a process is excluded from patentability as being “essentially biological” within the meaning of Article 53(b) EPC, it is not relevant whether a step of a technical nature is a new or known measure, whether it is trivial or a fundamental alteration of a known process, whether it does or could occur in nature or whether the essence of the invention lies in it.

Practice points

The Enlarged Board has interpreted the exclusion under Article 53(b) EPC broadly and it is likely to prove challenging to obtain the grant of claims to any crossing and selection methods for the production of plants. Also, the addition of a technical step to such a method is unlikely to help unless the technical step itself introduces a trait into the genome. Whilst it is difficult to generalize, in practice this means that technology relating to the production of plants is best claimed as of itself, rather than as part of a crossing and selection process.

We will have to wait for further clarification from the Enlarged Board in the new referrals for clarification on whether, and to what extent, products of essentially biological processes are patentable.

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