

## **Overview: Third parties observations concerning the broccoli case (G2/07)**

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### **Introduction**

The so called >broccoli case< is a precedent case (G2/07) pending before the Enlarged Board of Appeal of the European Patent Office (EPO). In the first step of the procedure the EPO asked the interested public to send third parties' observations (amicus curiae letter) on two questions which are on file at the board:

- The first question asks if the exclusion from patentability in Art 53 b (essentially biological processes for the production of plant and animals) can simply be avoided by introducing a technical step into the procedure – no matter how important this step is for the final outcome of the process.
- The second question asks (if the first question is answered with a No), how a technical step has to be defined as being patentable in the context of animal and plant breeding.

In this analysis an overview is given of the stakeholders, their position and their key arguments. Further some lines of argumentations are explored concerning their legal relevance and political impact.

### **Overview**

There were 24 letters sent to the EPO, including 7000 signatures. Those sending them can be classified as:

- classical seed companies and their representatives (BDP, CIOPORA, ISF, Plantum NL, ESA)
- farmer organisations (about 50 organisations named as >Global Appeal<, DBV)
- agrochemical seed industry and related organisations (Crop Life International)
- representatives of legal institutions such as patent lawyers (CIPA, Deutsche Vereinigung gewerblicher Rechtsschutz, professor Fritz Dolder, epi)
- NGOs (such as Berne Declaration, Greenpeace, Misereor, No Patents On Life!, SWISSAID, most of them related to the so called >Global Appeal<)
- interested persons.

The patentholder (Plant Bioscience Limited), the opponents (Limagrain and Syngenta) and the President of the EPO (Alison Brimelow) also filed observations. Directly or indirectly these stakeholders all answered the two questions raised at the Enlarged Board of Appeal as given in table 1.

table 1: overview of letters filed by senders

name (language)	context	question 1	question 2
Brimelow, Alison	President of EPO	No	only if technical input is essential
Bund Deutscher Pflanzenzüchter, BDP (de)	German breeders association, many industry members	No	depends on technical input, not further definition
Communauté Internationale des Obtenteurs des Plantes Ornementales et Fruitières de Reproduction Asexuée, CIOPORA (de)	ornamental and fruit plant breeders which use asexual reproduction	No	depends on technical input but MAB is not sufficient to escape the prohibition. It is only a further descriptive procedure like using a magnifier.
CIPA Chartered Institute of Patent Attorney.	patent attorneys	Yes	depends on technical input, which can be low, no specific requirements
CropLife International	representing plant science industry, such as Syngenta	Yes	exceptions from patentability have to be construed, MAB is patentable
Deutscher Bauernverband, DBV (de)	German Farmers Organisation	No	crossing and selection should be generally excepted from patentability even if it comprises technical steps
Deutsche Vereinigung für den gewerblichen Rechtsschutz (de)	scientific and practicing experts in the field of IP law	No	some technical contribution is necessary, MAB is patentable
Dolder, Fritz (de)	Patent attorney on behalf of Declaration of Berne / no patents on seeds	No	only procedures which are not based on natural crossing and selection can be patented
European Seed Association, ESA	European Plant Breeders	No	depends on the technical quality, MAB is in principle not different from other descriptive methods such as phenotyping (like size, colour), and therefore not patentable
Institute of professional representatives to the European Patent Office, epi	patent lawyers. remarkably epi filed nearly same position as Syngenta	Yes	any technical impact is sufficient to overcome exception from exclusion
Global Appeal	about 50 farmer organisations and other supporters (8 additional letter of support) and 7000	No	seeds and farm animals, especially those derived from

	signatures		normal breeding, can not be covered by patents
International Seed Federation, ISF	breeders' association	No	only essential technical input is patentable
Limagrain	seed company, opponent	No	breeding in which biological procedures are essential part of, can not be patented
Plantum NL	Dutch Breeders	No	a process such as MAB which is only helping to select plants can not be patented
Plant Bioscience Limited	Patent holder	yes	any technical impact is enough to overcome the exclusion
Syngenta	Seed company opponent	? very similar paper as epi	even if a process consists completely of biological steps it can be patented if it is reproducible

### Stakeholders differing in their positions

By further categorising stakeholders and opinions one can divide them in three major blocks:

- One group is headed by the patent holder, Plant Bioscience Limited and Crop Life, and assisted by some of the patent lawyers' associations (which seem to assist their industrial mandates /partners). The position of these stakeholders (which is also more or less shared by Syngenta - as one of the opponents!) can be described as answering both questions with “Yes”. Any technical input (as long as it fulfils the general requirements of patentability such as novelty) can be sufficient to overcome the exclusion from patentability under Art 53b, EPC and therefore makes it possible to grant patents on processes of breeding normal plants and animals. This is a minority position which is only shared by 4-5 stakeholders. These stakeholders can also be seen as being in favour of granting the broccoli patent. The members of this group can be summarized as being the 'agrochemical group'. They are in favour of the broadest patent protection in plant and animal breeding as possible, on much the same lines that patent protection is used in the context of chemical compounds.
- The second block is described as giving the answer “No” to the first question and a “Maybe; it depends” – to the second question. Stakeholders in this category are the President of the EPO, the German Plant Breeders Association (BDP), ISF and Deutsche Vereinigung gewerblicher Rechtsschutz. This block can not be separated completely from the third block which gives a more outspoken negative answer to the second question and the patentability of biological processes in plant breeding. In the actual case at hand (broccoli) these stakeholders are not in favour of granting the patent, because the technical input is so remarkably low in this patent. This second group is also represented by 4-5 stakeholders.
- The third block is more outspoken against patents in the context of animal and plant

breeding. The stakeholders in this group are requiring high technical hurdles before granting a patent on breeding processes and generally deny patents on normal crossing and selecting. Some of them even reject patents on seeds and farm animals completely. This group, which is joined by breeders, farmers, NGOs, lawyers and some single interested persons is the biggest group, is also supported by 7000 signatures.

### **Some key legal arguments**

In the group around the patent holder, the “agrochemical industry group”, a lot of attention is given to the history of patent law. Many documents are cited to show that the exclusion from patentability is a historical burden which should be abandoned in the times of modern biotechnology. This argument is contradicted to some extent by the letter from the acting EPO President, Alison Brimelow. Her historical overview shows that most recently in the history of patent law, the European Parliament (while discussing and voting on the “Legal Protection of Biotechnological Inventions” Directive, 98/44 EC), was in favour of exempting the breeding normal plants and animals from patent law completely. According to the European Parliament, processes which are based on the crossing of the whole genome or chromosome should be excluded from patentability entirely. Given the history of the recent piece of legislation in this field, the meaning of essentially biological processes for the breeding of plant and animals can be defined easily and patents such as the broccoli case can not be granted.

As already mentioned above, the “agrochemical industry group” tries to establish a general argument in order to define the border between an essentially biological process and a technical process in plant breeding: As soon any technical quality comes into play, the rest of the process should be neglected completely. So the questions of the Enlarged Board of Appeal would be simply decided by some kind of *quality* check on the process: Even if only a small technical input is there, it is enough to render the quality of the whole process as being technical and thus patentable. But this argument is counterbalanced by the majority of stakeholders, which are of the opinion that one has to examine precisely how important the technical step is in relationship to the final outcome of the procedure. Therefore a more *quantitative* approach should be taken. Some of the stakeholders in this group (for example Prof. Dolder) try to use this approach in the context of marker assisted breeding (MAB) and come to a very negative result, thus excluding MAB completely from patentability, because it is only of minor relevance for the result of the whole process. In this context some stakeholders are trying to draw a clear line by asking if the technical input is only related to describing and selecting of plants or if the technical process is directly interfering with the genome. Plant breeders such as CIOPORA, ESA and Plantum NL, particularly, state that procedures which only deal with describing and selecting plants by pheno- or genotyping cannot be seen as making a significant technical impact in relationship to the overall process of plant breeding. In their statements these companies use examples such as using a magnifier, a microscope or the selection of plants just by colour and size. The use of these tools seems to be hardly suitable to claim any patents on processes in plant breeding.

Another very general question behind the broccoli patent is the one of how to apply exclusions from patentability in general. Again one can separate the opinion of the “agrochemical industry group” from some of the other stakeholders: The >agrochemical industry group< is of the opinion that the prohibition of patents on processes for diagnostical and therapeutical methods (which are applied on the human or animal body) might be applied broadly. They explain this might be necessary in some cases in order to make sure that medical supplies can given to all patients as needed without patent restrictions. On the other hand, however, exclusion concerning plants and animals should (in their

opinion) be regarded as being only of historical relevance and thus should to be construed narrowly. This opinion is in complete contrast with some the main arguments of the “Global Appeal” group which insists that exclusion in plant and animal breeding has to be interpreted as broad as possible because they are related to most basic resources needed by mankind to ensure world food security. Therefore access to genetic resources needed in plant and animal breeding should not be restricted by patents – a principle which is also acknowledged by FAO’s International Treaty on Plant Genetic Resources (<http://www.fao.org/AG/cgrfa/itpgr.htm>), which aims to facilitate access to plant genetic resources.

### **A turning point in modern patent law?**

The dispute about the broccoli patent is highly relevant for the future of patent law in general. In the last few decades the borders of patent law have always been adopted and widened to spread IPRs in all possible areas (and especially the biotechnology sector). The experience derived from this development is pretty ambiguous and in some cases even negative such as in the use of diagnostic methods and the patenting of gene sequences.

Further patents on software and business methods are disputed highly controversial even inside patent offices. The overall problem, recognised by many patent experts and to some extent even by industry, is the so called >patent inflation< : More and more patents are filed, but fewer and fewer real inventions are provided (not 'provided'; but I don't know what you mean). By this development, research and innovation is not supported, it is indeed hampered by >over patenting<. As many contributions in the broccoli case show, specific concern is given to any possible blockage or restriction of access to biological resources needed to secure sustainable world food security.

Anyway, it looks like patent law has to develop a long way further if it is to meet finally the needs of modern civil society. The broccoli case could be become a turning point, reflecting the need for a new balance in European patent law between the specific interests of IP holders and the overwhelming majority of society.