

no patents on seeds



FACTSHEET

prepared for the

Public debate at the European Parliament

Brussels, 8 February 2012

How big companies and patents are hampering plant breeding

Large international companies like Monsanto, Dupont/Pioneer HiBred, Syngenta and Bayer are filing more and more patents on conventional plant breeding, covering plants, seeds, harvests and food.

The EU Directive for the protection of biotechnological inventions 98/44/EC prohibits the patenting of plant varieties and “essentially biological” methods for plant and animal breeding:

Article 4

1. The following shall not be patentable:

- (a) plant and animal varieties;**
- (b) essentially biological processes for the production of plants or animals.**

However, the reality is different:

Plant varieties as well as conventional breeding methods are increasingly subjected to patents. In addition, industry is even trying to change legislation on plant variety protection (PVP) and to eliminate the rights and privileges accorded to breeders and farmers.

This current development is a major threat to farmers, breeders and food producers in Europe. Patent law is being abused in an attempt to take control of genetic resources and the process of food production.

In this paper, we present an overview of recent research on patents granted at the EPO covering conventional breeding, as well as case studies:

1. Patents on conventional breeding granted in Europe
2. Patents on food products already marketed in Europe
3. Patents on plant varieties derived from conventional breeding granted in Europe
4. Case studies on how proprietary claims are used to hamper breeding
5. Examples of how industry tries to revamp plant variety protection.

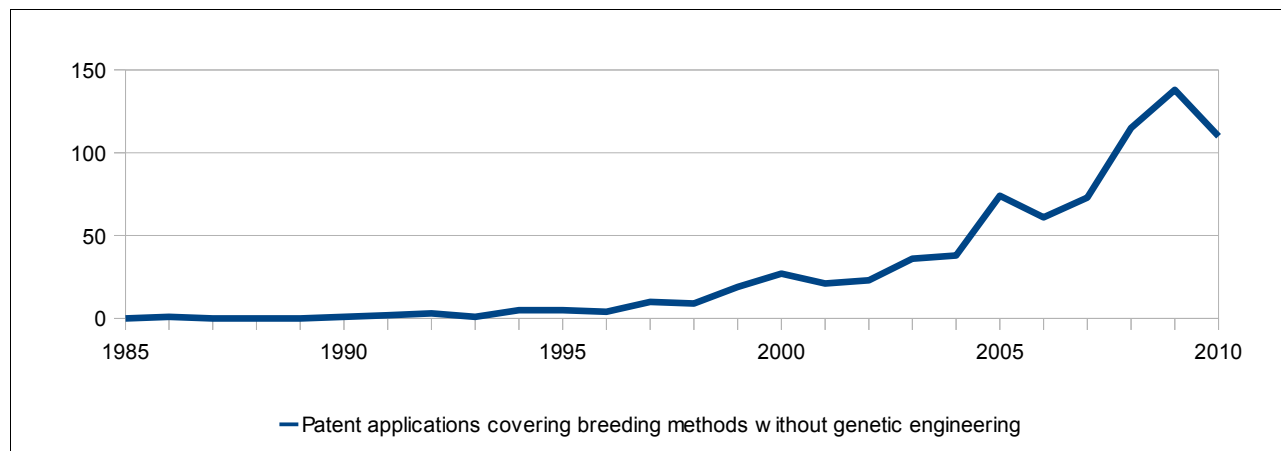


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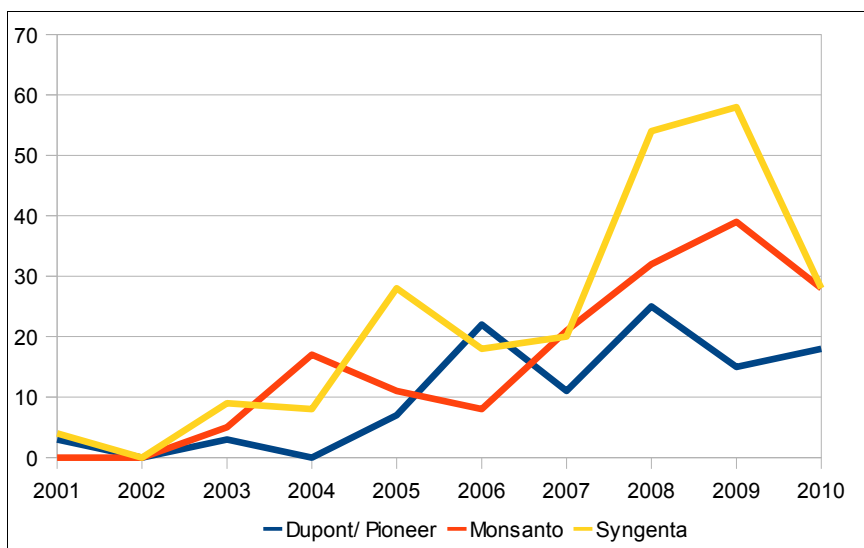
1. Patents on conventional breeding granted in Europe

Recent patent research conducted by “No patents on seeds” at the EPO shows an increasing number of patent applications, which claim conventional breeding:

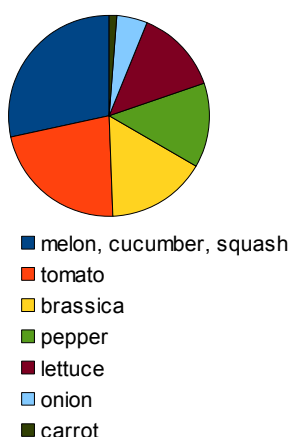


Many of these patent applications are filed by the same companies, which are also active in genetic engineering. However, already **some 25 % of patent applications on plant breeding** made by companies such as Monsanto, Dupont and Syngenta cover **conventional breeding**.

This graph shows patent applications covering breeding methods without genetic engineering; by company.



By the end of 2010, the EPO had already granted about 100 patents in the field of conventional breeding. While the process of crossing and selection is regarded as not patentable by the EPO (decision G1/08 of the EPO), it is still unclear if products derived from conventional breeding (plants, animals, seed, harvest) can be patented. There are many more open questions, for example, whether or not breeding based on mutations or breeding material, such as parts or cells from plants and animals that inherit native genetic traits, can be patented.



This third figure shows the proportion of patent applications divided into different kinds of plants.

Most patents applied for so far have been in the cucumber, melons and pumpkins sections, with 23 applications recorded. 18 patent applications have been filed for tomatoes and 13 for brassica.

It is very likely that these patents will become relevant for food producers and consumers.

2. Patents on food products already marketed in Europe:

Patented food products that are already on the market in Europe include **melons** from Syngenta and the patented **broccoli**, being sold as “Beneforté” in license with Monsanto (EP 1069819). (pictured right)



Another patented food is a **cress** variety being produced in the Netherlands (EP 1 290 938 B1). This patent was just recently revoked in a court case in the Netherlands (February 2012): breeders had challenged the patent because it blocked further breeding efforts with cress. (below)

Sakura Cress®

Flavour: black radish, radish
Use: appetizers, salads
Culture: socially responsible culture with biological crop protection
Availability: year-round / Temporarily not available
Shelf Life: up to ten days at 2-4 °C

Download Product Leaflet

Taste and usage

The taste is similar to normal radish sprouts. It suits very well in a mixture with salads, but it also fits nicely as a decoration next to fish and meat.

Origin

Sakura Cress® is the dark purple version of our Daikon Cress®. In the last 10 years, we have carefully developed this variety under own supervision*. The unique red/purple colour is caused by increased Anthocyanin levels, a very healthy product. Up to 100% more than in normal radish.

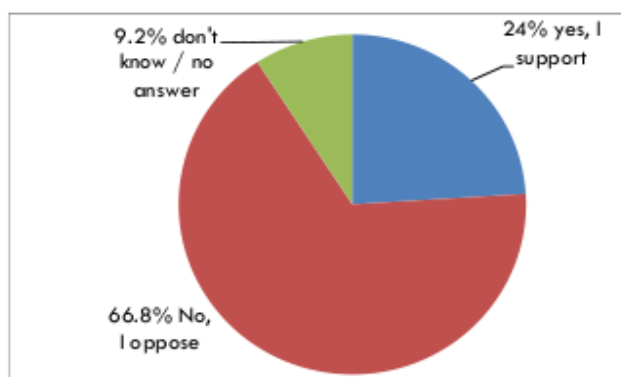
* patent nr EP 1290938.

Related recipes

Cauliflower curry

Source: <http://benelux.koppertcress.com/en/content/sakura-cress%C2%AE-0> (4.2.2012)

Without such patents other breeders could further improve plants like the broccoli and consumers would have a much wider choice between several producers. Since these kind of patents will stifle further breeding developments, prices of foods are likely to increase, choice will be restricted and further improvements in making even better food crops is hampered. Consumers seem to be aware of these problems: in first opinion polls in Switzerland and Norway, a clear majority of consumers rejected patents on food plants.



Do you support patents on food crops or do you oppose them?

Source: ISOPUBLIC 2011 http://www.evb.ch/cm_data/Survey_result_patents_on_food_crops.pdf

Foods derived from animals will also be affected if this development is not halted.

For example, a Monsanto patent application (WO 2009097403) claims:

- “a pork product for human consumption ...” (claim 1),
- “(...) consisting of bacon, ham, pork loin, pork ribs, pork steaks (...)” (claim 18),
- “A method of producing pigs comprising: a) providing a nutritious composition (...), b) feeding said nutritious composition to at least one pig; and c) producing progeny from said at least one pig ...” (claim 34).

In times when nearly a billion people are starving, it is simply immoral to artificially increase prices of foods through patent monopolies. Effectively, companies such as Monsanto are abusing patent laws to turn food resources into financial ventures.

Should healthy food only be available for rich people?

3. Patents on plant varieties derived from conventional breeding

Syngenta recently started a campaign which claims to provide more transparency about patents being attached to their plant material.

Vegetable Crop	Technology	Syngenta Variety	Patent Number	Standard Terms
Brassica	TopRes® clubroot resistance	Clarify and Clapton (Cauliflower), Tekila, Kilazol, Kilaton and Kilaxy (White cabbage), Crispus (Brussels sprout)	EP1525317	Cauliflower € 2.20 / ks
				Cabbage € 2.60 / ks
				Brussels sprout € 1.70 / ks
Cucurbits	Fusarium resistant melon	Godiva, Pendragon, Ectorius	EP2164970	5%
Cucurbits	CMV resistant Cucurbita plant	Topazio, Pascola	EP1973397	5%
Solanaceae	Pepper having extended storability on plant	Rapido	EP1553817	5%

The result is surprising: The list as published on-line (and pictured here) not only shows that several food plants are affected by patents, but also plant varieties.

These patents are clearly in conflict with both prohibitions in Article 4 of Directive 98/44/EC, since **they cover plant varieties and conventional breeding**.

These examples show that current EPO practise is not compliant with the intention of the provisions in the European Directive.

Obviously, such patents cannot be justified by simply offering more “transparency”.

Source:

<http://www.sg-vegetables.com/licensing/about/3-overview-of-technologies> (24 Jan 2012)

4. Case study: How proprietary claims are hampering further breeding

Our case study tells of some of the problems a German breeder encountered with plant patents. It shows how proprietary claims can be used to hamper further breeding and highlights just how alarming the situation has become.

Upon request, this breeder received sunflower seeds from Syngenta and from Pioneer, which he needed to develop his own, new varieties. Contrary to plant variety protection, where unrestricted use of genetic material is provided to enable further breeding, he found that in this case the usage of the material was greatly restricted. The result is that innovation in plant breeding is greatly hampered or impossible.

Example 1: Syngenta proprietary claims, as stated on seeds package

“You have purchased an Oleic Sunflower variety:

Important notice:

The use of this product is restricted. [...] By opening and using this bag of seed, you confirm your commitment to comply with these use restrictions. This product [...] is proprietary to Syngenta Crop Protection AG or its licensors and is protected by intellectual property rights. Use of the seed in this package is limited to production of a single commercial crop of forage, fiber or grain for food or feed. Unless expressly permitted by law, use of the seed for producing seed for re-planting, research, breeding, molecular or genetic characterization or genetic makeup is strictly prohibited.“

Example 2: Pioneer Hi Bred proprietary claims, as stated on seeds package

“By opening this bag [...] you agree with the terms set hereafter:

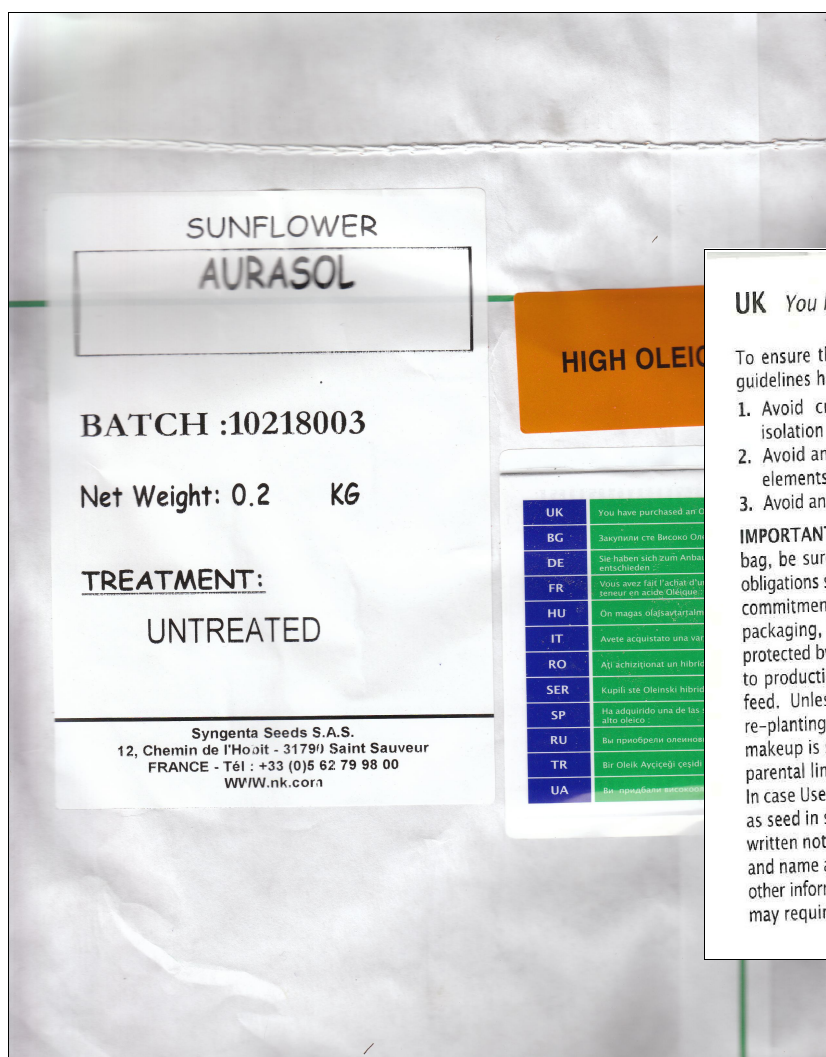
The material contained in this [...] seed sample is proprietary and owned by or licensed to Pioneer Overseas Corporation (“Pioneer”) [...]

The Recipient acknowledges that he does not acquire ownership of this material,

The Recipient expressly undertakes:

- ▶ To sow all the seed supplied by Pioneer exclusively on Recipient's own farmland.
- ▶ Not to sell, transfer or use the seeds, plants, pollen of plants or grain for breeding, research and unauthorised reproduction, or otherwise assign or distribute to any third party. However, the harvested grain may be fed to livestock on the Recipient's farm or sold as grain in accordance with applicable rules and regulations.
- ▶ Not to use, nor allow any third party to use the seeds, plants, parts of plants, pollen or seed produced from these seeds for the purpose of plant breeding.
- ▶ Not to apply, nor allow any third party to apply, any biotechnological process(es) to the seeds, plants, parts of plants, pollen or grains produced from these seeds. “Biotechnological process” includes, but is not limited to, the isolation of genes, genetic or protein fingerprinting techniques, tissue culture, mutagenesis or transformation. [...]

Syngenta oleic sunflower
seeds package, with
restrictive text (in 12 languages)



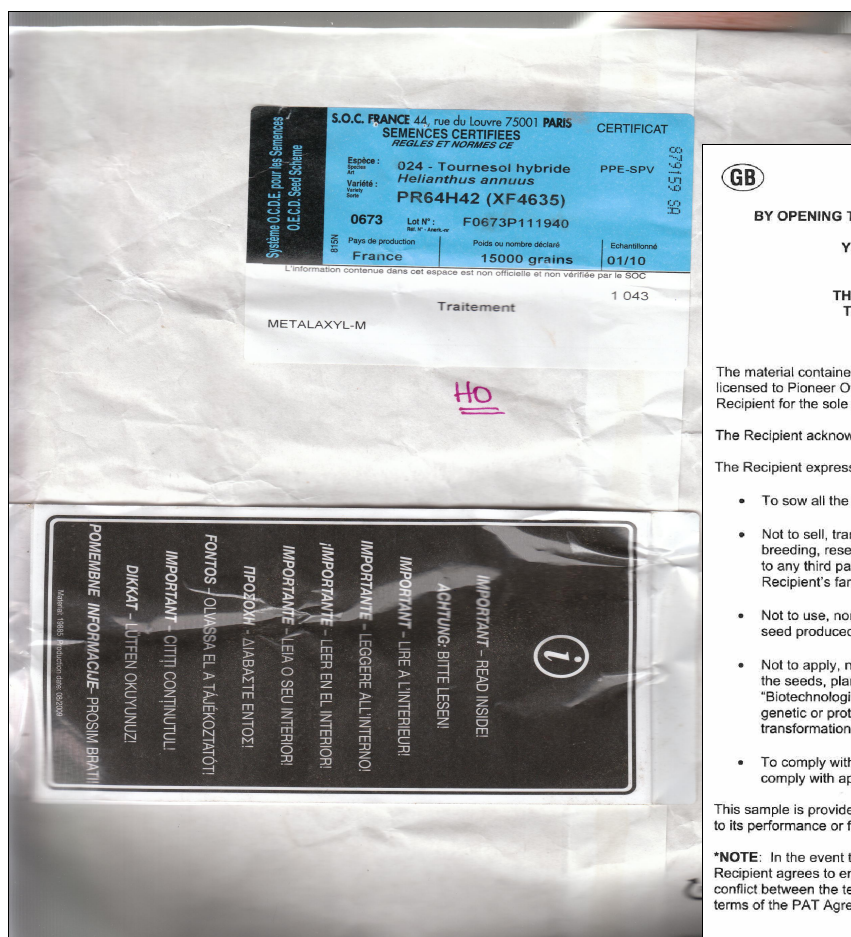
UK You have purchased an Oleic Sunflower variety :



To ensure that the variety exhibit full potential of oleic acid content, certain guidelines have to be followed :

1. Avoid cross pollination that would reduce oleic content: Respect an isolation distance of a minimum 150 m with any other Sunflower field.
2. Avoid any risk of pollution with other sources of seeds: Empty all planters elements that could contain remaining sunflower seeds, prior sowing.
3. Avoid any risk of blending at harvesting time: Start in priority with High Oleic varieties.

IMPORTANT NOTICE : The use of this product is restricted. Before opening this bag, be sure you read, understand and accept the related license provisions and obligations stated below. By opening and using this bag of seed, you confirm your commitment to comply with these use restrictions. This product, including the packaging, is proprietary to Syngenta Crop Protection AG or its licensors and is protected by intellectual property rights. Use of the seed in this package is limited to production of a single commercial crop of forage, fiber or grain for food or feed. Unless expressly permitted by law, use of the seed for producing seed for re-planting, research, breeding, molecular or genetic characterization or genetic makeup is strictly prohibited. User has and shall acquire no rights in relation to parental lines that may be unintentionally contained herein. In case User intends under an explicit legal privilege to re-use harvested material as seed in subsequent generations, by opening the bag User agrees to give prior written notice to Syngenta about the amount of re-used seed, location of the use and name and address of User. Furthermore, User agrees to provide Syngenta with all other information Syngenta reasonably requires. Please note that re-use of seed may require payment of royalties under applicable laws.



Pioneer Overseas Corp.
seeds package, with
restrictive text (in 19 languages)



BY OPENING THIS BAG, OR NOT RETURNING THIS UNOPENED BAG FOR A REFUND WITHIN SIX MONTHS OF RECEIPT, YOU AGREE WITH THE TERMS SET HEREAFTER*

IF YOU DO NOT AGREE WITH ANY OF THESE TERMS AND CONDITIONS, PLEASE RETURN THIS UNOPENED BAG OF SEED TO PIONEER OR ITS LOCAL REPRESENTATIVE

The material contained in this non-commercial seed sample is proprietary and owned by or licensed to Pioneer Overseas Corporation ("Pioneer"). It is not being sold, but provided to Recipient for the sole purpose of testing its agronomic performances.

The Recipient acknowledges that he does not acquire ownership of this material.

The Recipient expressly undertakes:

- To sow all the seeds supplied by Pioneer exclusively on Recipient's own farmland.
- Not to sell, transfer or use the seed, plants, pollen, parts of plants or grain for breeding, research and unauthorized reproduction, or otherwise assign or distribute to any third party. However, the harvested grain may be fed to livestock on the Recipient's farm or sold as grain in accordance with applicable rules and regulations.
- Not to use, nor allow any third party to use the seed, plants, parts of plants, pollen or seed produced from these seeds for the purposes of plant breeding.
- Not to apply, nor allow any third party to apply, any biotechnological process(es) to the seeds, plants, parts of plants, pollen or grains produced from these seeds. "Biotechnological process" includes, but is not limited to, the isolation of genes, genetic or protein fingerprinting techniques, tissue culture, mutagenesis or transformation.
- To comply with any request made by Pioneer in order for Pioneer and/or Recipient to comply with applicable regulations or third party's conditions.

This sample is provided by Pioneer to the Recipient free of charge without any guarantee as to its performance or fitness for any purpose whatsoever.

*NOTE: In the event these seeds are to be used in Product Advancement Trials (PATs), Recipient agrees to enter into a separate PAT Agreement with Pioneer. In case of any conflict between the terms as shown on this bag and the terms of the PAT Agreement, the terms of the PAT Agreement, when executed control.

5. Examples of how industry tries to revamp plant variety protection


Rights of farmers and exemptions for breeders coming under pressure

Current developments pushed by the European Patent Office are impacting plant variety protection. The more patents overlap with PVP, the more legal uncertainties arise for breeders and farmers. They might find themselves trapped by patents because they believe that plant varieties and conventional breeding cannot be patented in the EU.


In parallel, international companies such as Pioneer are even lobbying to eliminate the rights of farmers and exemptions for breeders from PVP law. The slide shown below was presented during an international conference in December 2011, in Amsterdam. Ultimately, companies like Monsanto, Syngenta and Dupont/ Pioneer HiBred abuse patent law to misappropriate genetic resources and systematically establish corporate control on all levels of seed, farm and food production.

Conclusion

- 1) When faced with new issues do not first advocate for changes of the patent system
 - Use the legal tools which provide balanced solutions
- 2) The patent system is intended to equally protect all inventions in all fields of technology
 - Do not champion niche exclusions or exemptions
- 3) The plant-related innovation industry cannot succeed with a weak IP environment
 - Advocating for new exclusions and exemptions is a major mistake
- 4) The best way to balance Plant breeders and patent rights and boost innovation is by deeply revamping the PVP system to cope with our challenges for the 21st century
 - stronger by reducing or eliminating exemptions (breeder's + farmer's) and making the protection much shorter

**PIONEER**
A DUPONT COMPANY

Envision with Science
Delivering Success™

**DU PONT**
The methods of science

[illegible]

The organisations behind “No patents on seeds” demand:

No patents on

- plants and animals
- breeding material
- processes for breeding of plants and animals
- food derived from such plants and animals

More information and contact:

www.no-patents-on-seeds.org
e-mail: info@no-patents-on-seeds.org

