Patent s on life – update and next step

Impacts on organic breeding

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Introduction

Particularly in agriculture and plant breeding, patents can hamper and even partially block access to genetic resources.

Also, research and development can be impeded and disproportionate costs arise in the agricultural and plant breeding value chains.

Preservation initiatives and organic breeding organizations that aim to secure and make available GE-free seed into the future can also be affected by biopatent developments.

Patents on conventional breeding methods

According to the wording of the European Patent Directive and the European Patent Convention “essentially biological processes” are actually **not patentable**.

The decision by the Enlarged Board of Appeal of the European Patent Office in the so-called broccoli and tomato case of December 2010 has clarified, that essentially biological breeding methods which are exclusively based on selection or cross-breeding **are excluded from patentability**.

Apio, Monsanto partner to boost nutrients naturally

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Product-By-Process claims for biopatents in plant breeding

Product-by-Process patents are becoming increasingly significant in biopatenting.

To precisely demarcate the product, the *production conditions* (e.g. breeding process) are specified in the patent. Such claims are called product-by-process claims.

Broccoli example: In one of the claims, the plants are defined as products by taking recourse to the breeding method they have been obtained by (in the case of the broccoli, a so-called smart breeding process).

The Sunflower Patent (EP 1 185 161 B1): “Oil from seeds with a modified fatty acid composition”

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 185 161 B1**

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WO 2000/074469 (14.12.2000 Gazette 2000/50)

(54) **OIL FROM SEEDS WITH A MODIFIED FATTY ACID COMPOSITION**

AUS SAATEN GEWONNENES ÖL MIT MODIFIZIERTER FETTSÄUREZUSAMMENSETZUNG

HUILE PROVENANT DE GRAINES A TENEUR EN ACIDES GRAS MODIFIEE

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

(30) Priority: **04.06.1999 US 326500**

(43) Date of publication of application:
13.03.2002 Bulletin 2002/11

- **AGGARWAL M ET AL: "The effect of Cd-2+ on lipid components of sunflower (Helianthus annuus L.) seeds." PLANT FOODS FOR HUMAN NUTRITION (DORDRECHT), vol. 47, no. 2, 1995, pages 149-155, XP000952476 ISSN: 0921-9668**
- **OSORIO J ET AL: "MUTANT SUNFLOWERS WITH HIGH CONCENTRATION OF SATURATED FATTY ACIDS IN THE OIL" CROP SCIENCE.US.CROP SCIENCE SOCIETY OF**

Organic breeding programme of HighOleic-Sunflowers

How proprietary claims are hampering (organic) plant breeding

1. The scope of the sunflower patent is unclear. If the patent extends to all identical products, regardless of how they were produced, the biodynamic breeder will get into difficulties if his varieties will fit in with the plants described in the patent.

2. Upon request, the breeder received sunflower seeds from Syngenta and Pioneer, which he needed for testing and to develop his own, new varieties. Contrary to plant variety protection, he found that in this case the usage of the material was greatly restricted.

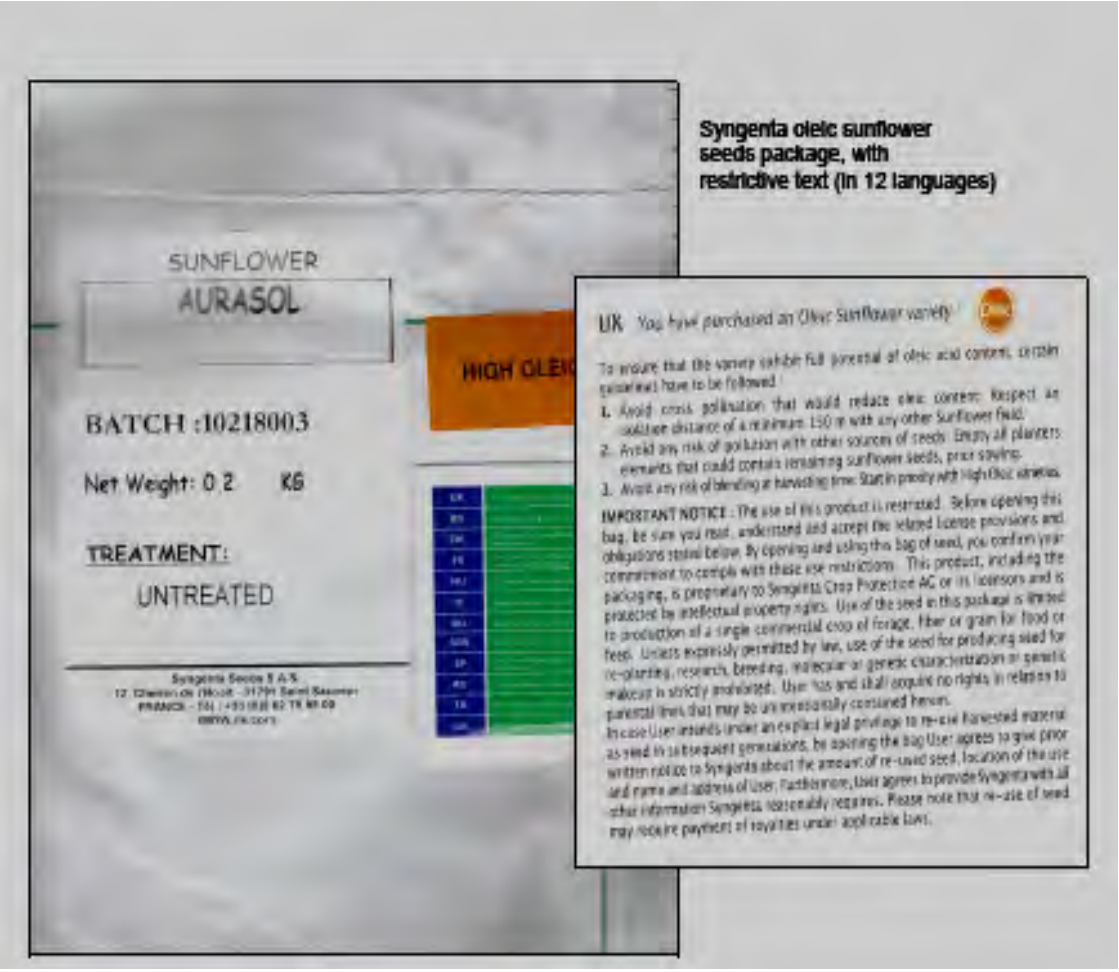
Syngenta proprietary claims, as stated on seeds package

"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**."

Syngenta proprietary claims, as stated on seeds package



Summary

1. The **control of plant genetic resources** is becoming **concentrated in the hands of a small number of companies** with considerable patenting expertise and capacity plus the financial staying power for complicated and long-lasting patent disputes.

2. The consequences are **heightened legal and economic risk** for and greater **economic pressure on small breeding operations**.

3. As economic concentration processes typically go hand in hand with **increased standardisation** in production, it is to be feared that biopatents will lead to a **narrowing of the pool of plant genetic resources** actively used in breeding.

Conclusion and recommendations

A revision of European patent law in biotechnology and plant breeding is urgent.

Clear regulations are needed that exclude from patentability: plants, genetic material and processes for breeding of plants and products derived thereof.

What is needed is a public and political debate about biopatenting from the standpoint of genetic resources as common property.

Thank you for your attention!