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Forests, forest genetic resources and Intellectual Property Rights

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My Background: *Law and Genetic Resources*

Forest Trees and Law:

- Ongoing project: Nordic Council of Ministers: How to ensure an open-access model for Forest Trees?
- A Nordic Approach to Access and Rights to Genetic Resources

Bioprospecting and the Convention on Biological Diversity:

- Starting project in co-operation with Africa
- Beyond Access – Options for implementing CBD in User Countries (2007 with Tomme R. Young)
- Elements for Legislation in User Countries to Meet the Fair and Equitable Benefit-Sharing Commitment (The Journal of World Intellectual Property (2006) Vol. 9, no. 2, pp. 189–212)

Marine and Fish Genetic Resource:

- Ongoing projects on Aquatic Genetic Resources (Marine Biobank, Norway and India)
- Access to and Property Rights of Aquaculture Genetic Resources – Norwegian Perspectives (The Journal of World Intellectual Property (2006) Vol. 9, no. 4, pp. 392–412)

Animal Genetic Resources:

- Process Patent Protection in the Field of Animal Breeding and Farm Animal Genetic Resources (In co-operation with Magnus Finckenhagen)
- FAO project about AnGR: Animal Genetic Resources – Exchange, Conservation and Sustainable Use – Policy and Regulatory Options (January 2007);
- Patenting in the Field of Animal Breeding and Animal Genetic Resources

International Patent Law and Genetic Resources:

- A Path to One Universal Patent (Journal of Environmental Policy and Law)
- How will the new WIPO draft Substantive Patent Law Treaty affect Genetic Resources? (Journal of World Intellectual Property 2005 no 3 May)



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When is IPR a relevant tool?

1. Capturing economic values from products which are extracted from forests
 - Finding a DNA sequence which can be used in genetically modification (gene technology)
 - Finding a biological extract or active compound (pharmaceutical and chemical industry)
2. Patent law and Plant Variety Protection Law (sui generis or upov-based systems) make a product exclusive and therefore more valuable (and less accessible)
 - Uses scarcity and exclusivity to increase economic value
 - However, needs a market with ability to pay a monopoly prices for the product
 - No co-ownership recognised (first to file or first to invent)



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Patents: TK and forest-related genetic resources:

The grant of a patent

- Novel
- Inventiveness
- Industrial application
- Not excluded from patentability

Enforcing the patent

- Only in the country where granted (and valid)
- Interpretation of the patent claims
- Coupled with the actions



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Patents: TK and forest-related genetic resources:

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- **Novel (absolutely new)**
Compared to Prior Art
Written sources
IDENTITY: claim-each item
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- Not GR as existing in nature,
but in identified form
- Not TK as such,
but described in technical terms



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Patents: TK and forest-related genetic resources:

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- Novel
- **Inventiveness**
Also compared to Prior Art
claim- items+skilled person
No: **Substantially different**
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claim- items+skilled person
No: Substantially different
Involve inventive step
Not be obvious
- Industrial application
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“Men substitute words for reality and then fight over words”

Edwin Armstrong, radio pioneer

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Patents: TK and forest-related genetic resources:

The grant of a patent

- Novel
- Inventiveness
- Industrial application
- Not excluded from patentability
Not excluded per se
even though the TK is owned or the GR exist
Why?

Enforcing the patent

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Patentability and forest trees:

What does the TRIPS agreement say?

- Main rule: “patents shall be available for any inventions, whether products or processes, in all fields of technology” (27.1) (unless one of the severe exemptions apply)
- may exempt “plants and animals other than micro-organisms” (27.3)
- may exempt “essentially biological processes for the production of plants or animals” (27.3)
- But must provide for patents to “other than non-biological and microbiological processes” (27.3)

However: Much more narrow exclusions in Europe, USA and Japan



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The Broccoli-breeding method patent:

1. A method for the production of Brassica oleracea [Broccoli] with elevated levels [...] or [...], or both, which comprises
 - a) Crossing wild Brassica oleracea species with Brassica oleracea breeding lines; and
 - b) Selecting hybrids with level of 4'methylsulfinylbutyl glucosinolates, or 3'methylsulfinylbutyl glucosinolates, or both, elevated above that initially found in Brassica oleracea breeding lines.



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The Broccoli patent:

Claim no. 2

A method for the production of Brassica oleracea with elevated levels of 4'methylsulfinylbutyl glucosinolates, or 3'methylsulfinylbutyl glucosinolates, or both, which comprises

- a) Crossing wild Brassica oleracea species with Brassica oleracea breeding lines; and
- b) Selecting hybrids with level of 4'methylsulfinylbutyl glucosinolates, or 3'methylsulfinylbutyl glucosinolates, or both, elevated above that initially found in Brassica oleracea breeding lines.

c) backcrossing to broccoli breeding lines; and

d) Selecting plants with elevated levels of 4'methylsulfinylbutyl glucosinolates, or 3'methylsulfinylbutyl glucosinolates, or both.

The Broccoli patent:

Claim no. 9.

An edible Brassica plant produced according to the method of one claims 1 to 6.

The Broccoli patent in the Technical Board of Appeal:

Premiss 22:

The decisive question is thus whether starting from this closest prior art, it would have been obvious for a skilled person to select the wild Brassia species *B. villosa* or *B. drepanensis* for crosses with a broccloi line in order to considerably increase its 4'MSB GSL level.



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Practical examples on the exclusion from patentability

One specific forest tree variety,

Process patents in plant breeding???

Selection *per se* as a natural phenomenon



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Scope of protection:

A patent shall confer on its owner the following exclusive rights:

- where the subject matter of a patent is a product, to prevent third parties not having the owner's consent from the acts of: **making, using, offering for sale, selling, or importing** for these purposes that product;
- where the subject matter of a patent is a process, to prevent third parties not having the owner's consent from the act of using the process, and from the acts of: using, offering for sale, selling, or importing for these purposes **at least the product obtained directly** by that process.



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Scope of protection

What is covered by a process patent relevant for FGR?

The relevant articles in the EU Pat.Dir:

Article 8:

" 2. The protection conferred by a patent on a process that enables a biological material to be produced possessing specific characteristics as a result of the invention shall extend to biological material directly obtained through that process and to any other biological material derived from the directly obtained biological material through propagation or multiplication in an identical or divergent form and possessing those same characteristics. "

This implies that the use of the process in a commercial setting is under the patent right.

This also implies that the direct result by applying the patented process is covered by a process patent.

WIPO patent law:

Three processes in the WIPO

1. **Standing Committee on Patent Law – not in action**
2. **Development agenda – large number of topics and open ended approach**
3. **Intergovernmental Commission on Traditional Knowledge, Genetic Resources and Folklore**
 - Looking at unfair competition 12bis.

ABS:

One major challenge is extra-territoriality: trying to achieve something in another country (under the sovereignty of another country); one main reason for ABS being difficult to make work globally

What needs to be done in the User Countries?

- Clear obligations upon users
- Enforcement
- Compliance

(A)BS Building blocks on the user-side:

Three triggers for (A)BS – Benefit-sharing:

- The basic term “genetic resources”;
- **The actual trigger of the obligation: “the commercial and other utilization” of GR;**
- The time for the sharing: “benefits arising” from the utilization of genetic resources

The consequence of the three triggers of the obligation:

- *“sharing in a fair and equitable way the results of research and development and the benefits arising”*

How can benefits be shared:

- *Each Contracting Party shall take legislative, administrative or policy measures, [...] with the aim*

The practical way to carry out the sharing of the benefits:

- *Such sharing shall be upon mutually agreed terms.*

The second trigger – “the commercial and other utilization”

The B-Sh obligation applies only when genetic resources (not biological resources) are being used (utilised):

There is a need to develop and specify the concept of “utilisation” to be applicable by courts

- Develop categories of utilization of genetic resources
- Develop descriptive criteria for identifying utilization of genetic resources
- Particular ways to define types of utilisation for either specific species and/or groups of organisms (plant genetic resources, IT-PGRFA).

Which points of utilisation are relevant for triggering a benefit sharing obligation for forest trees?



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Implementation in Norway: Nature Diversity Act (i)

§ 60 (*genetic **material** from other countries*)

1. **Import of genetic material for exploiting of genetic material to Norway, from a state which requires prior informed consent to use or export, can only happen in compliance with such consent.**

The one having genetic material in hand is bound by the conditions and limitations for the consent.

The **State/government can enforce** the conditions and limitations, including by court-cases, pro-bono of the other country having established those criteria.

2. When genetic material from another country is used in Norway for research purposes or from a commercial purpose, the material shall be accompanied with information about from which country the genetic material is received or collected (providing country). In the case that the providing country requires prior informed consent, also information about such consent shall follow the material.
3. (... and there is more)



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New development: The Commission on Genetic Resources FAO

The FAO has, in the Commission taken an emerging active role for FGR (last meeting)

On the agenda for the October meeting

Usually agencies for food in the FAO

Are there any topics/issues in the FAO documents that might suggest problematic changes in the future?

(Is there a forest tree treaty in the blocks?)



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Thank you for your attention!

Regine, Kristin, Tone, Peter Johan and Morten are looking forward to work together with you on ABS

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