

Pflanzenzüchtungen – ist das gegenwärtige
Schutzsystem für Pflanzenzüchtungen
reformbedürftig?

Plant varieties – does
the current system of
protection for plant
varieties have to be
reformed?

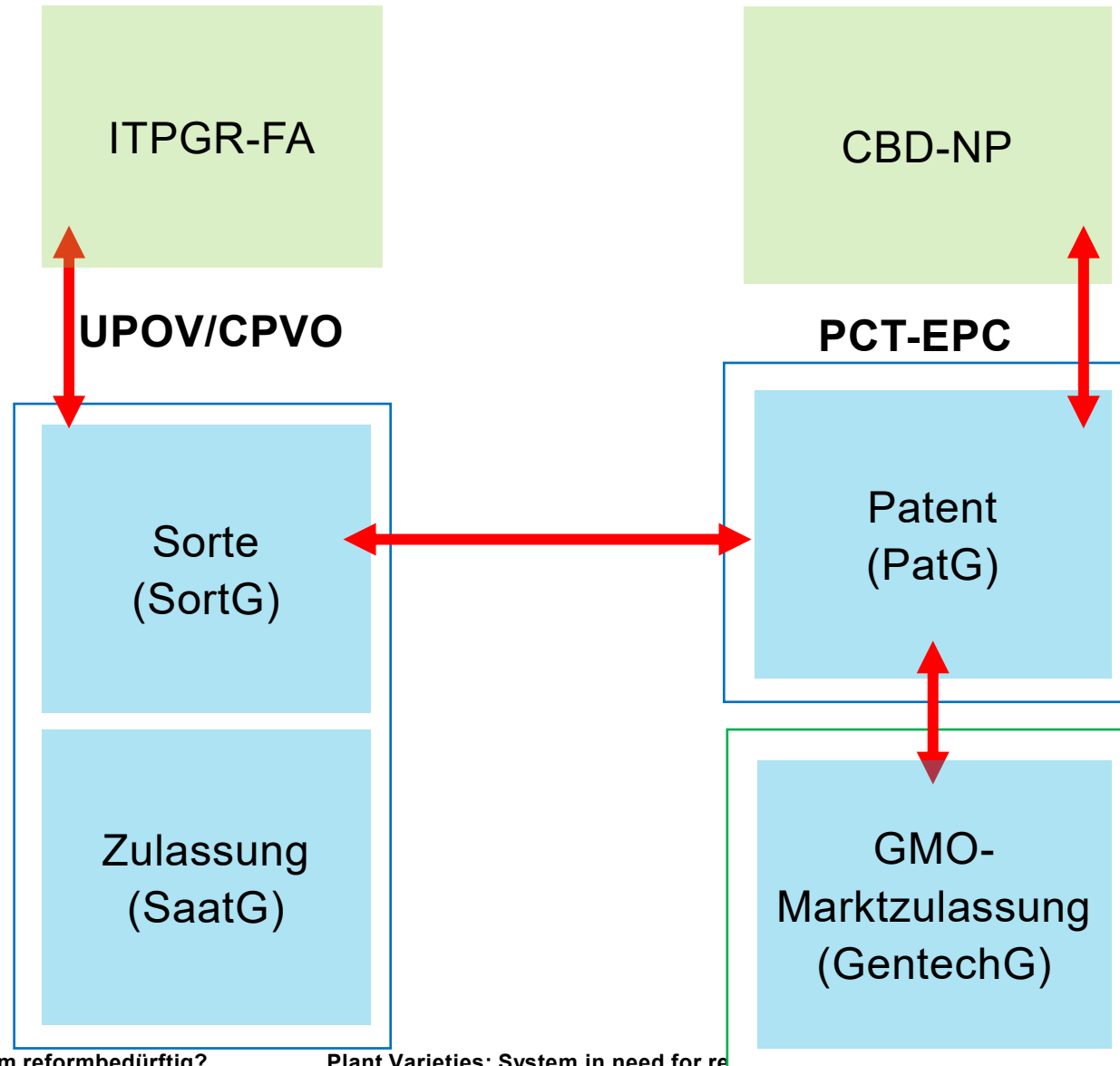
Überblick

- I. Konkretisierung der Fragestellung
- II. Bestandsaufnahme
- III. Ineffizienz oder gewollte Schutzgrenze?
- IV. Reformdiskussion
- V. Antwort

I. Konkretisierung der Fragestellung

- **Fokus** auf „**Genom-editing**“ (auch „traits“)
 - Art. 53 lit b EPÜ „im wesentlichen biologisches Verfahren“
 - Digital Sequence Information (DSI) in CBD-NP und ITPGR-FA

Reformbedarf?



Pflanzenzüchtungen: Schutzsystem reformbedürftig?

Plant Varieties: System in need for re

II. Bestandsaufnahme



Variety filing, based on UPOV
(total) 941.178



PCT-patent filings selected for
IPC classification C12N15/82 und A01H only
(total) filings: 134.901; grants: 41.840

Zahlen aus M. Kock, IP Protection for Plant Related Innovations, Springer, 2022 (Stand Sept. 2021)

Chapter II – Inventions

1. General remarks

The EPC does not define what is meant by "invention", but Art. 52(2) contains a non-exhaustive list of "non-inventions", i.e. subject-matter which is not to be regarded as an invention within the meaning of Art. 52(1). ~~Things which are not regarded as inventions, it will be noted that the~~ The items on this list are all either abstract (e.g. discoveries or scientific theories) and/or non-technical (e.g. aesthetic creations or presentations of information). In contrast to this, an "invention" within the meaning of Art. 52(1) must ~~be of both a concrete and have~~ a technical character (see G-1, 2(ii)). It may be in any field of technology.

2. Examination practice

~~In considering whether the subject-matter of an application is an invention within the meaning of Art. 52(1), there are two general points the examiner must bear in mind. Firstly, any exclusion from patentability under Art. 52(2) applies only to the extent to which the application relates to the excluded subject-matter as such (Art. 52(3)). Secondly, the subject-matter of the claim is to be considered as a whole, in order to decide whether the claimed subject-matter has a technical character. If it does not, there is no invention within the meaning of Art. 52(1).~~

~~It must also be borne in mind that the basic test of whether there is an invention within the meaning of Art. 52(1) is separate and distinct from the questions whether the subject-matter is susceptible of industrial application, is new and involves an inventive step. Technical character is assessed without regard to the prior art (see T 1173/97, confirmed by G 3/08).~~

~~It is to be noted that the assessment of technical character does not stop as soon as it has been established that the claim as a whole is not excluded from patentability under Art. 52(2) and (3). In claims comprising technical and non-technical features, each feature has to be evaluated to see if, in the context of the invention, it contributes to the technical character of the claimed subject-matter, since this is relevant for assessing inventive step (see G-VII, 5.4).~~

The question of whether there is an invention within the meaning of Art. 52(1) is separate and distinct from the questions of whether it is susceptible of industrial application, is new and involves an inventive step.

The exclusions from patentability under Art. 52(2) play a role in assessing both patent eligibility and inventive step because patent protection is reserved for inventions involving a "technical teaching", i.e. an instruction addressed to a skilled person as to how to solve a particular technical problem using particular technical means. This twofold assessment is referred to as the "two-hurdle approach" (G 1/19).

The first hurdle, also referred to as the patent eligibility hurdle, requires that the claimed subject-matter as a whole must not fall under the "non-inventions" defined in Art. 52(2) and (3). The exclusion from

Art. 52(2) and (3).

patentability of the subject-matters and activities referred to in Art. 52(2) is limited by Art. 52(3) to such subject-matters or activities that are claimed "as such". This limitation is a bar to a broad interpretation of the non-inventions. It implies that one technical feature is sufficient for eligibility: If the claimed subject-matter is directed to or uses technical means, it is an invention within the meaning of Art. 52(1). This assessment is made without reference to the prior art.

The second hurdle is where inventive step is assessed. In addition to technical features, claims may also comprise non-technical features. In this context, the term "non-technical features" refers to features which, on their own, would be considered "non-inventions" under Art. 52(2). Inventive step of claims comprising such a mix of technical and non-technical features is assessed using the COMVIK approach (G-VII, 5.4). This approach is a special application of the problem-solution approach that involves establishing which features of the invention contribute to its technical character (i.e. contribute to the technical solution of a technical problem by providing a technical effect). A feature may support the presence of an inventive step if and to the extent that it contributes to the technical character of the invention. Whether any feature contributes to the technical character of the invention has to be assessed in the context of the invention as a whole.

~~Where it is found that the claims relate in part to excluded subject-matter, this may have led to the issuing of a partial European or supplementary European search report under Rule 63 (see B-VIII, 1, 3.1 and 3.2). In such cases, in the absence of appropriate amendment and/or convincing arguments provided by the applicant in response to the invitation under Rule 63(1) (see B-VIII, 3.2) or to the search opinion under Rule 70a (see B-XI, 8), an objection under Rule 63(3) will also arise (see H-II, 5).~~

3. List of exclusions

The items on the list in Art. 52(2) will now be dealt with in turn, and further examples will be given in order better to clarify the distinction between what is patentable in the sense of not being excluded from patentability under Art. 52(2) and (3) and what is not.

3.1 Discoveries

If a new property of a known material or article is found, that is mere discovery and unpatentable because discovery as such has no technical effect and is therefore not an invention within the meaning of Art. 52(1). If, however, that property is put to practical use, then this constitutes an invention which may be patentable. For example, the discovery that a particular known material is able to withstand mechanical shock would not be patentable, but a railway sleeper made from that material could well be patentable. To find a previously unrecognised substance occurring in nature is also mere discovery and therefore unpatentable. However, if a substance found in nature can be shown to produce a technical effect, it may be patentable. An example of such a case is that of a substance occurring in nature which is found to have an antibiotic effect. In addition, if a microorganism is discovered to exist in nature and to produce an antibiotic, the microorganism itself may also be patentable as one aspect of

Art. 52(2)(a)

is not exclusively essentially biological, is not a *priori* excluded from patentability merely because the resulting product constitutes or may constitute a plant variety.

Controlled hybrids with inbred parents are excluded from patentability under Article 53(b), as they define either a seed or a plant which necessarily belongs to a particular plant grouping within the meaning of plant variety pursuant to Rule 26(4).

A claim cannot escape the exclusion of plant varieties under Article 53(b) by consisting of a large number of varieties, not even if there are hundreds of them. Only if the subject-matter of the claim comprises at least one embodiment which does not constitute a variety is the claim allowable under Art. 53(b) (see T.1208/12). For instance, a claim directed to a hybrid of a specific deposited Brassica variety with any high-yielding Brassica variety results in a Brassica hybrid variety, which is not patentable.

5.4.2 Essentially biological processes for the production of plants or animals

Rule 26(5)

A process for the production of plants or animals which is based on the sexual crossing of whole genomes and on the subsequent selection of plants or animals is excluded from patentability as being essentially biological. This applies even if the process comprises human intervention, including the provision of technical means, serving to enable or assist the performance of the process steps or if other technical steps relating to the preparation of the plant or animal or its further treatment are present in the claim before or after the crossing and selection steps (see G.1/08 and G.2/07).

To take some examples, a method of crossing, interbreeding, or selectively breeding, say, horses involving merely selecting for breeding and bringing together those animals (or their gametes) having certain characteristics would be essentially biological and therefore excluded from patentability. Also selling of a transgenic plant is excluded from patentability, as selling, like crossing, is the mixing of entire genomes. These methods remain essentially biological and thus excluded from patentability even if they contain an additional feature of a technical nature, for example the use of genetic molecular markers to select either parent or progeny. Patent protection is available for any such additional technical steps *per se* which are performed either before or after the process of crossing and selection. However, such steps are ignored when determining whether or not the process as a whole is excluded from patentability under Article 53(b) EPC (see G.1/08, G.2/07).

However, if a process of sexual crossing and selection includes within it 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 such a process is not excluded from patentability under Art. 53(b) but qualifies as a potentially patentable technical teaching (see G.1/08, G.2/07).

Genetic engineering techniques applied to plants which techniques differ profoundly from conventional breeding techniques as they work primarily through the purposeful insertion and/or modification of one or more genes in a plant are patentable (see T.356/93). However, in such cases the claims must not, explicitly or implicitly, include the sexual crossing and selection process.

Processes for selecting plants or animals using genetic molecular markers without crossing the plants or animals are not excluded from patentability. Technical means, such as genetic molecular markers, used in such processes are not excluded, either.

A process for producing triploid seedless melon fruit which involves the pollination of sterile female flowers of a triploid plant, unable to carry out successful meiosis, with pollen of the diploid polliniser plant and which therefore does not concern sexually crossing two whole genomes of plants (implying meiosis and fertilisation) and the subsequent selection of plants is not an essentially biological process and is hence not excluded from patentability (T.1729/09).

A process of treating a plant or animal to improve its properties or yield or to promote or suppress its growth, e.g. a method of pruning a tree, would not be an essentially biological process for the production of plants or animals since it is not based on the sexual crossing of whole genomes and subsequent selection of plants or animals; the same applies to a method of treating a plant characterised by the application of a growth-stimulating substance or radiation. The treatment of soil by technical means to suppress or promote the growth of plants is also not excluded from patentability (see also G-II, 4.2.1).

Claims to breeding methods leaving out an explicit reference to either a crossing or selection step, but where such a step is an essential feature, lack clarity and support (Art. 84).

The abbreviation NBT stands for "new breeding techniques". This is not a technical term, but a general one which is used for a variety of methods, some clearly technical but others either comprising or consisting of essentially biological processes. Therefore it is not suitable to differentiate whether claimed subject-matter is allowable under Article 53(b) and has no relevance in terms of patentability.

5.4.2.1 Examples

The following subject-matter relates to essentially biological processes excluded from patentability:

- Method for the production of plants having trait X comprising crossing plants A and B and selecting progeny having marker X.
- Use of a (transgenic) plant for generating further plants by crossing and selection.
- Use of a (transgenic) animal for breeding.

- Introgression of a (transgenic) gene X into a plant, i.e. introducing it into the genome by crossing and selection.

(1)

- Methods for plant breeding by crossing of whole genomes and selection of plants comprising the step of embryo rescue.

The following subject-matter relates to products exclusively obtained by means of an essentially biological process excluded from patentability and having a filing date or priority date after 1 July 2017 (see G.3/19):

- A plant produced by introgression of gene A, i.e. by introducing it into the genome by crossing and selection.

- A plant produced exclusively by crossing and selection, wherein molecular markers are used to assist the selection process.

- A plant part obtained exclusively by means of an essentially biological process which is propagation material, e.g. a seed or plant embryo.

(2)

- A cultivated pepper plant expressing a mutant AHAS enzyme

The following subject-matter is not excluded from patentability under Art. 53(b):

- Method of producing a (transgenic) plant having trait X comprising introducing by transformation a vector comprising the sequence of SEQ ID NO: 1.

- Method for selecting animals having phenotype Y by screening for the presence of a marker having the sequence shown in SEQ ID NO: 1.

- Use of the nucleic acid of SEQ ID NO: 1 to select a plant having trait X.

- A mutant of a plant carrying a heritable exchange in a nucleotide sequence effected by technical means, e.g. UV mutagenesis or CRISPR/Cas with the proviso that the plant is not exclusively obtained by means of an essentially biological process (EBP).

- A transgenic plant carrying transgene X.

- Progeny of a mutant (wherein the mutant is not exclusively produced by EBP) or a transgenic plant which carries the mutation/the transgene.

- A seed of a wild-type plant covered with a chemical which inhibits fungal growth.

- Flour or oil produced from plant X (even if it is apparent from the description that said plant was exclusively obtained by means of an essentially biological method).

5.5 Microbiological processes

5.5.1 General remarks

As expressly stated in Art. 53(b), second half-sentence, the exception referred to in the first half-sentence does not apply to microbiological processes or the products thereof. Art. 53(b)
Rule 26(6)

"Microbiological process" means any process involving or performed upon or resulting in microbiological material. Hence, the term "microbiological process" is to be interpreted as covering not only processes performed upon microbiological material or resulting in such, e.g. by genetic engineering, but also processes which as claimed include both microbiological and non-microbiological steps.

The product of a microbiological process may also be patentable *per se* (product claim). Propagation of the microorganism itself is to be construed as a microbiological process for the purposes of Art. 53(b). Consequently, the microorganism can be protected *per se* as it is a product obtained by a microbiological process (see G-II, 3.1). The term "microorganism" includes bacteria and other generally unicellular organisms with dimensions beneath the limits of vision which can be propagated and manipulated in a laboratory (see T.356/93), including plasmids and viruses and unicellular fungi (including yeasts), algae, protozoa and, moreover, human, animal and plant cells. Isolated plant or animal cells or in vitro plant or animal cell cultures are treated as microorganisms, since cells are comparable to unicellular organisms (G.1/98, 5.2). Rule 27(c)

(3)

On the other hand, product claims for plant or animal varieties cannot be allowed even if the variety is produced by means of a microbiological process (Rule 27(c)). The exception to patentability in Art. 53(b), first half-sentence, applies to plant varieties irrespective of the way in which they are produced.

However, plant cells or tissues are usually totipotent and are able to regenerate the full plant. Therefore, even if plant cells or cell cultures may be regarded as the product of a microbiological process, plant material which is able to propagate the full plant is excluded from patentability if the plant from which the material originates has been exclusively produced by an essentially biological process (G.3/19) (for the meaning of the term "exclusively" in relation, for example, to offspring of transgenic organisms or mutants, see G-II, 5.4). Said exclusion does not apply to patents granted before 1 July 2017 nor to pending patent applications with a filing date and/or a priority date before 1 July 2017 (see G.3/19, XXIX).

(4)

5.5.2 Repeatability of results of microbiological processes
In the case of microbiological processes, particular regard has to be had to the requirement of repeatability referred to in F-II, 3. As for biological material deposited under the terms of Rule 31, repeatability is assured by Rule 33(1)

(Vor-)letzte Novelle: März 2021

Wichtige Klarstellungen: (1) „embryo rescue Verfahren“, (2) Mutiertes AHAS-Enzym, (3) totipotent plant cells (2021), (4) „exclusively“ → in case of doubt (2021): disclaimer

A parthenote is neither a human body at a stage of its formation and development nor one of its elements (i.e. human germ cell); thus a parthenote or cells derived therefrom are in principle not excluded from patentability under [Rule 29\(1\)](#).

Also excluded from patentability under [Art. 53\(a\)](#) are processes to produce chimeras from germ cells or totipotent cells of humans and animals (EU Dir. 98/44/EC, rec. 38).

5.4 Plant and animal varieties or essentially biological processes for the production of plants or animals

The list of exceptions to patentability under [Art. 53\(b\)](#) also includes "plant or animal varieties or essentially biological processes for the production of plants or animals".

[Art. 53\(b\)](#)

[Rule 28\(2\)](#) excludes products (plants/animals and plant/animal parts) exclusively obtained by non-technical, i.e. essentially biological, processes. This exclusion regarding plants and animals exclusively obtained by means of an essentially biological process applies to patent applications with a filing date and/or a priority date after 1 July 2017. It does not apply to patents granted before that date or to pending patent applications with a filing date and/or a priority date before 1 July 2017 (see [G 3/19](#), [OJ EPO 2020, A119](#)).

[Rule 28\(2\)](#)

The exclusion extends to plants and animals exclusively obtained by means of an essentially biological process where no direct technical intervention in the genome of the plants or animals takes place, as the relevant parental plants or animals are merely crossed and the desired offspring is selected for. This is the case even if technical means are provided serving to enable or assist the performance of the essentially biological steps. In contrast, plants or animals produced by a technical process which modifies the genetic characteristics of the plant or animal are patentable.

The term **exclusively** is used here to mean that a plant or animal originating from a technical process or characterised by a technical intervention in the genome is not covered by the exclusion from patentability even if in addition a non-technical method (crossing and selection) is applied in its production.

Determining whether a plant or animal is obtained by exclusively biological means entails examining whether there is a change in a heritable characteristic of the claimed organism which is the result of a technical process exceeding mere crossing and selection, i.e. not merely serving to enable or assist the performance of the essentially biological process steps.

Thus transgenic plants and technically induced mutants are patentable, while the products of conventional breeding are not.

Both targeted mutation, e.g. with CRISPR/Cas, and random mutagenesis such as UV-induced mutation are such technical processes. When looking at the offspring of transgenic organisms or mutants, if the mutation or

transgene is present in said offspring it is not produced exclusively by an essentially biological method and is thus patentable.

Furthermore, for living matter to be patentable, it must be possible to reproduce it in a way that has exactly the same technical features. Reproducibility can be assured for example:

- (1) By a deposit of the living matter (seeds, microbiological strains). The deposited material must be publicly available and such that the invention can actually be reproduced starting from it. If, for example, a novel and inventive trait is due to a single transgene, a skilled person can reproduce the invention from a living sample. If, instead, the claimed trait is dependent on a large number of structurally undefined loci in the genome, these will segregate in subsequent generations and it will be an undue burden to reproduce the invention from the deposited sample ([T 1957/14](#)).
- (2) By disclosing in the application as filed the gene sequence responsible for the claimed trait together with instructions on how to reproducibly introduce by technical means such an altered sequence in a target organism (e.g. by CRISPR-Cas).

If a technical feature of a claimed plant or animal, e.g. a single nucleotide exchange in the genome, might be the result of either a technical intervention (e.g. directed mutagenesis) or an essentially biological process (a natural allele), a disclaimer is necessary to delimit the claimed subject-matter to the technically produced product in order to comply with the requirements of [Art. 53\(b\)](#) and [Rule 28\(2\)](#). Otherwise the application subject-matter is considered to relate directed to excluded subject-matter and is to be refused on the basis of [Art. 53\(b\)](#) in conjunction with [Rule 28\(2\)](#). A disclaimer is required in all cases and, in particular, even if the description only mentions a technical method of production and is silent on the use of an essentially biological process. If, on the other hand, the feature in question can unambiguously be obtained by technical intervention only, e.g. a transgene, no disclaimer is necessary.

This should apply also if such a disclaimer relates to subject-matter that was not disclosed in the application as filed. In such a case the disclaimer fulfils the requirements laid down in [G 1/03](#), [G 2/03](#) and [G 1/16](#) because it is introduced to exclude subject-matter not eligible for patent protection (for the general principles governing disclaimers see also [H-V, 3-6](#), and [H-V, 4](#)).

Such a disclaimer will only be necessary for patent applications with a filing date and/or a priority date after 1 July 2017. A disclaimer will not be required for patents granted before that date or for pending patent applications with a filing date and/or a priority date before 1 July 2017 (see [G 3/19](#), [OJ EPO 2020, A119](#)).

The technicality of a claimed plant or animal product may lie in a non-heritable physical feature imparted directly to the claimed organism, e.g. a seed coated with a beneficial chemical.

(5)

The technical method of production of the plant or animal may be included in the claims, in the form of product-by-process claims (see [F-IV, 4.12](#)).

Plant products that are not propagation material, such as flour, sugars or fatty acids, have to be considered on the basis of their chemical properties only. Thus provided the general patentability requirements are fulfilled, it will not be relevant whether the subject-matter (e.g. a sugar molecule) is isolated from a product (e.g. a living plant) of an essentially biological process or is produced in a laboratory.

Examples are provided below under [G-II, 5.4.2.1](#).

This exclusion regarding plants and animals exclusively obtained by means of an essentially biological process does not apply to patents granted before 1 July 2017 or to pending patent applications with a filing date and/or a priority date before 1 July 2017 (see [G 3/19](#), [OJ EPO 2020, A119](#)).

For these applications and these granted patents, the exclusion from patentability of essentially biological processes for the production of plants does not have a negative effect on the allowability of a product claim directed to plants or plant material such as seeds or other plant propagation material. This applies even if the only method available at the filing date for generating the claimed plants or plant material is an essentially biological process for the production of plants, and also if the claimed product is defined in terms of such a process (product-by-process claim, see [F-IV, 4.12](#)). In this context it is of no relevance that the protection conferred by the product claim encompasses the generation of the claimed product by means of an essentially biological process for the production of plants (see [G 2/12](#) and [G 2/13](#)). The same principle applies *mutatis mutandis* with regard to animals produced by means of essentially biological processes (see also [F-IV, 4.12](#)).

5.4.1 Plant varieties

The term "plant variety" is defined in [Rule 26\(4\)](#). A patent is not to be granted if the claimed subject-matter is directed to a specific plant variety or specific plant varieties. The method for the plant's production, be it by recombinant gene technology or by a classical plant breeding process, is irrelevant for considering this issue (see [T 1954/07](#)). Therefore, plant varieties containing genes introduced into an ancestral plant by recombinant gene technology are excluded from patentability ([G 1/98](#)). However, if the invention concerns plants or animals, which are not exclusively obtained by means of an essentially biological process (see [G-II, 5.4](#), above and [G 3/19](#)), and if the technical feasibility of the invention is not confined to a particular plant or animal variety, the invention is patentable (see [G-II, 5.2](#)).

[Rule 26\(4\)](#)
[Rule 27\(b\)](#)
[Rule 28\(2\)](#)

A claimed plant grouping is not excluded from patentability under [Art. 53\(b\)](#) if it does not meet the definition of a plant variety set out in [Rule 26\(4\)](#).

When a claim to a process for the production of a plant variety is examined, [Art. 64\(2\)](#) is not to be taken into consideration (see [G 1/98](#)). Hence, a process claim for the production of a plant variety (or plant varieties), which

(5) Konsequenz aus nicht beseitigbarer Unklarheit (2022): Patentausschluss.

III. Gewollte Schutzgrenze oder Ineffizienz?

Kritik an den Guidelines

- (1) Offene Türen für Wortspitzfindigkeit; Unüberwindbare Darlegungslast bei Prüfer:in
 - *Stand der Dinge*: „If, on the other hand, the feature in question can unambiguously be obtained by technical intervention only, e.g. a transgene, no disclaimer is necessary.“ → Nichtwissen des Prüfers
 - *M. Kock's Vorschlag (30.9.2021)*: “with the proviso that the plant is not exclusively obtained by means of an “essentially biological process.” (Umkehr der Darlegungslast)
- (2) Einordnung der „ungerichteten Mutagenese“ als „technisches Verfahren“
- (3) Disclaimer als Problem für Züchter und Bauern im Verletzungsstreit

Kernprobleme: Zugang und Konsolidierung

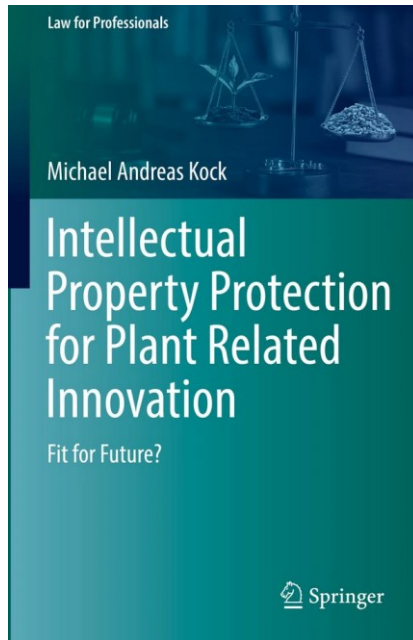
- „patent thickets“ (zu viele, sich überlappende Rechte)
- Verhältnis CBD/ITPGR-FA und Immaterialgüterrechte
(Kock: „Territorialrechte aus CBD und ITPGR-FA wirken *wie* IP-Rechte“)
- Verhältnis Immaterialgüterrechte und Genehmigungsrecht

Miguel Angel Rapela
**Fostering
Innovation for
Agriculture 4.0**
A Comprehensive Plant Germplasm
System

Springer

2019

2020



2022

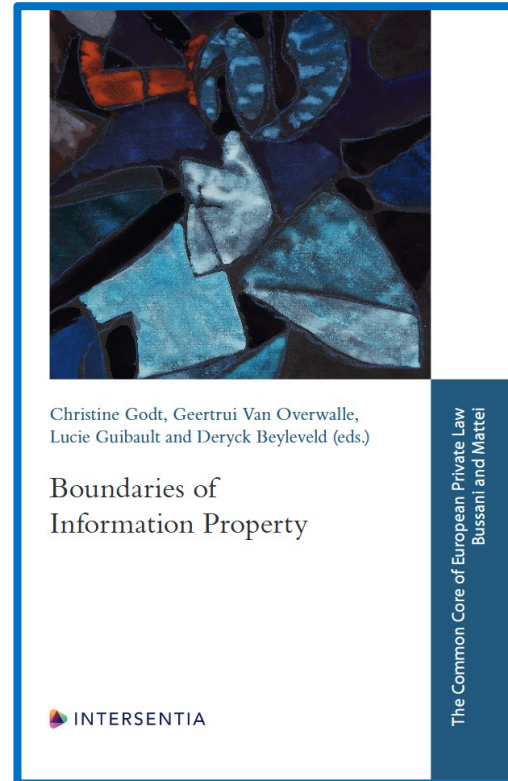
„Holistic System“

A Comprehensive Approach to Plant Variety Rights and Patents in the Field of Innovative Plants
Axel Metzger and Herbert Zech, Berlin***

forthcoming in Christina Godt/Matthias Lamping (eds), In Honour of Hans-Ulrich Gbureck, Springer 2021

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August 2022

reformbedürftig?

Plant Varieties: System in need for reform?

„Gewollte Schutzgrenzen“

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Miguel Angel Rapela

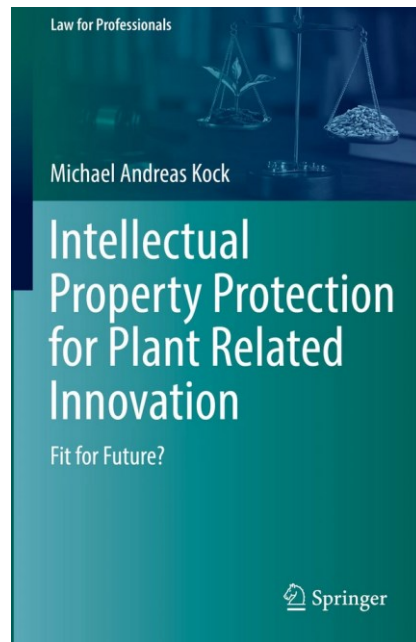
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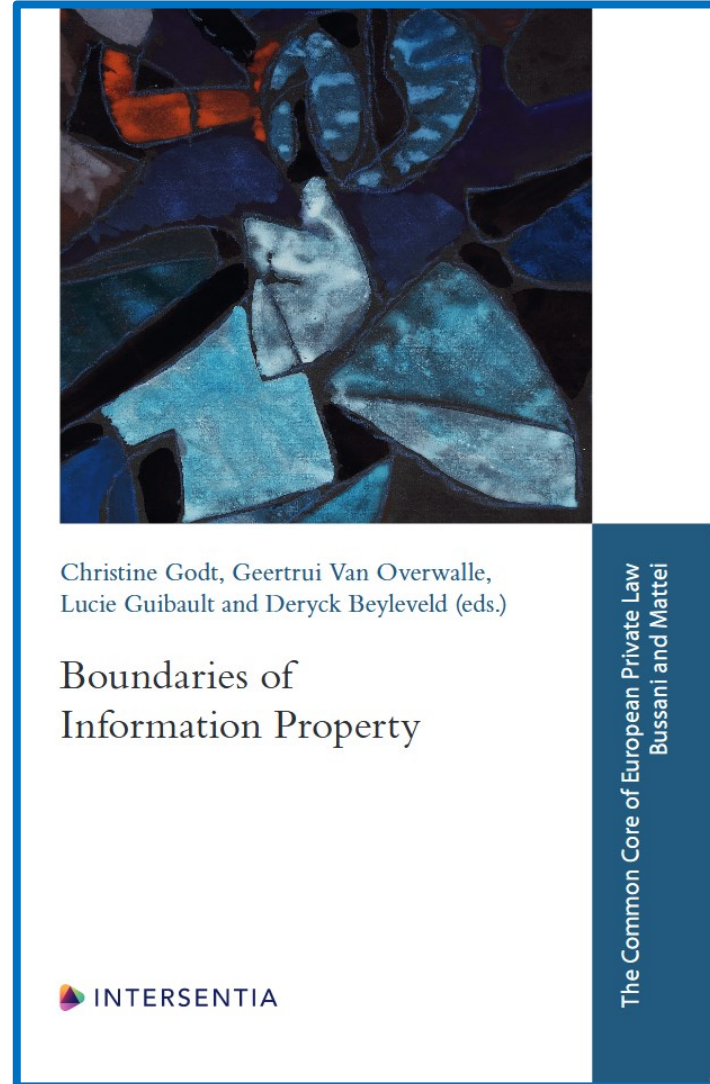
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reformbedürftig?

Plant Varieties: System in need for reform?

System verschlanken

- Zusammengeführte Schutzrechts-Prüfung „Pflanzeninnovation“ (Sortenschutz und Patent)
Modus str.:
 - Hinterlegung ersetzt Beschreibung (phäno)*versus*
 - Sequenzbeschreibung „only“ oder alternativ
- Einheitlich für alle Vertragsstaaten (M.K.)
- Zusammengelegt: Schutzrecht und Marktzulassung: 10-Jahre Laufzeit ab Marktzulassung
- Pbp-claims and „Art. 64.2-extension“
- EDV Erklärung (sic.: administrative Streitschlichtung)
- Begrenzung der Erschöpfung
- Absenkung „essentially biological process“ vom Erteilungshindernis zur Einrede
- Entschädigungsregelung für Zwangslizenzen



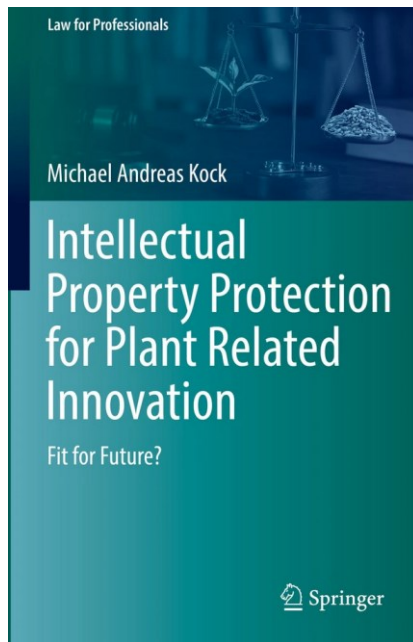
August 2022

Gewollte Schutzgrenzen

- Lex specialis derogat lex generalis
- Weite Auslegung von Schutzausnahmen
(Tatbestandsebene: Beweislast beim Schutzrechtsinhaber)
 - Sorten
 - „im wesentlichen biologisch“
 - Ausschluss auch der Produkte
- Zweckbindung (scope)
- „Vertragsfest“ → Klauselunwirksamkeit
- Rationalitätsdifferenz von
Marktwettbewerb und Sicherheit

IV. Reformdiskussion

- „Zusammenführung“ versus „Grenzachtung“: Gefahr der technischen Verengung
- **Was muss das Ziel sein?**
 - (1) Stärken von Märkten nutzen (versus Autoritarismus)
 - (2) Bewältigung von Zukunftsherausforderungen (Innovation, Climate Change, Food Security)
 - (3) Demokratische Kontrolle (auch von Märkten und Technik)



2022

„Holistic System“

(1)

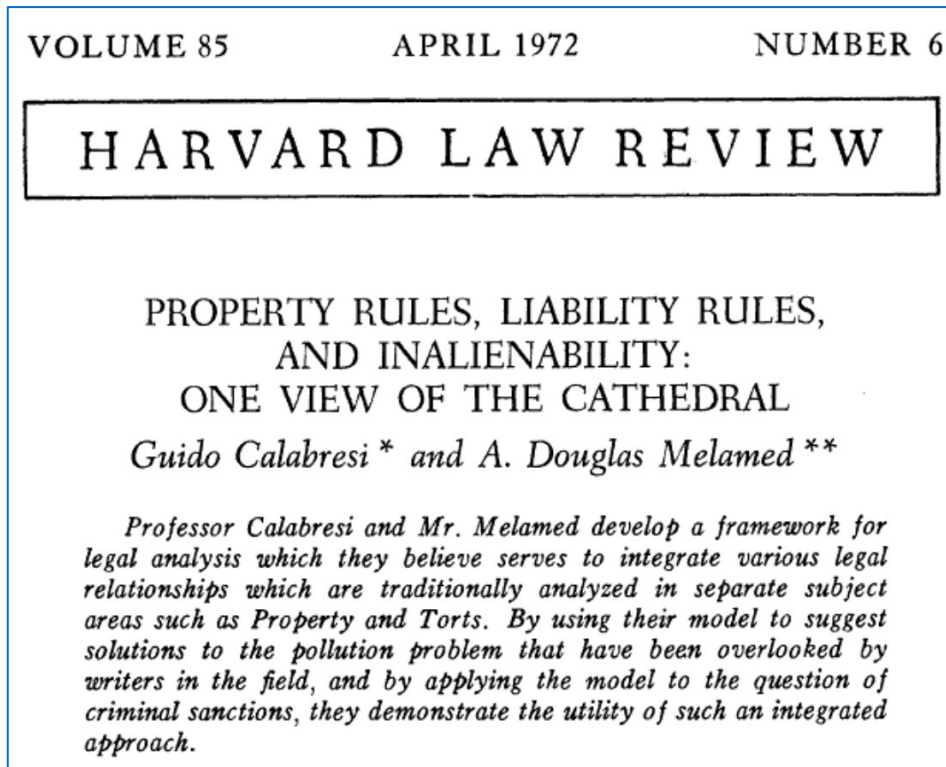
Grundsatz: Zusammenführung für „plant innovations“ („exclusive“: p. 216)

Aber dann doch: „Lückenschluss“ durch Patentschutz („avoid falling through the cracks“, p. 217)

Kernidee: 'liability regime' für beides; minimale Ausnahmen

Ergebnis: Schutzausweitung (S. 219)

Guido Calabresi and A. Douglas Melamed,
Property Rules, Liability Rules, and Inalienability: One View
of the Cathedral
Harvard Law Review, Vol. 85, No. 6 (Apr., 1972), 1089-1128



Jerome H. Reichman, A Compensatory Liability Regime to Promote the Exchange of Microbial Genetic Resources for Research and Benefit Sharing, in *Designing the Microbial Research Commons: Proceedings of an International Symposium* 43-53 (Paul F. Uhlir ed., 2011)

6. A Compensatory Liability Regime to Promote the Exchange of Microbial Genetic Resources for Research and Benefit Sharing

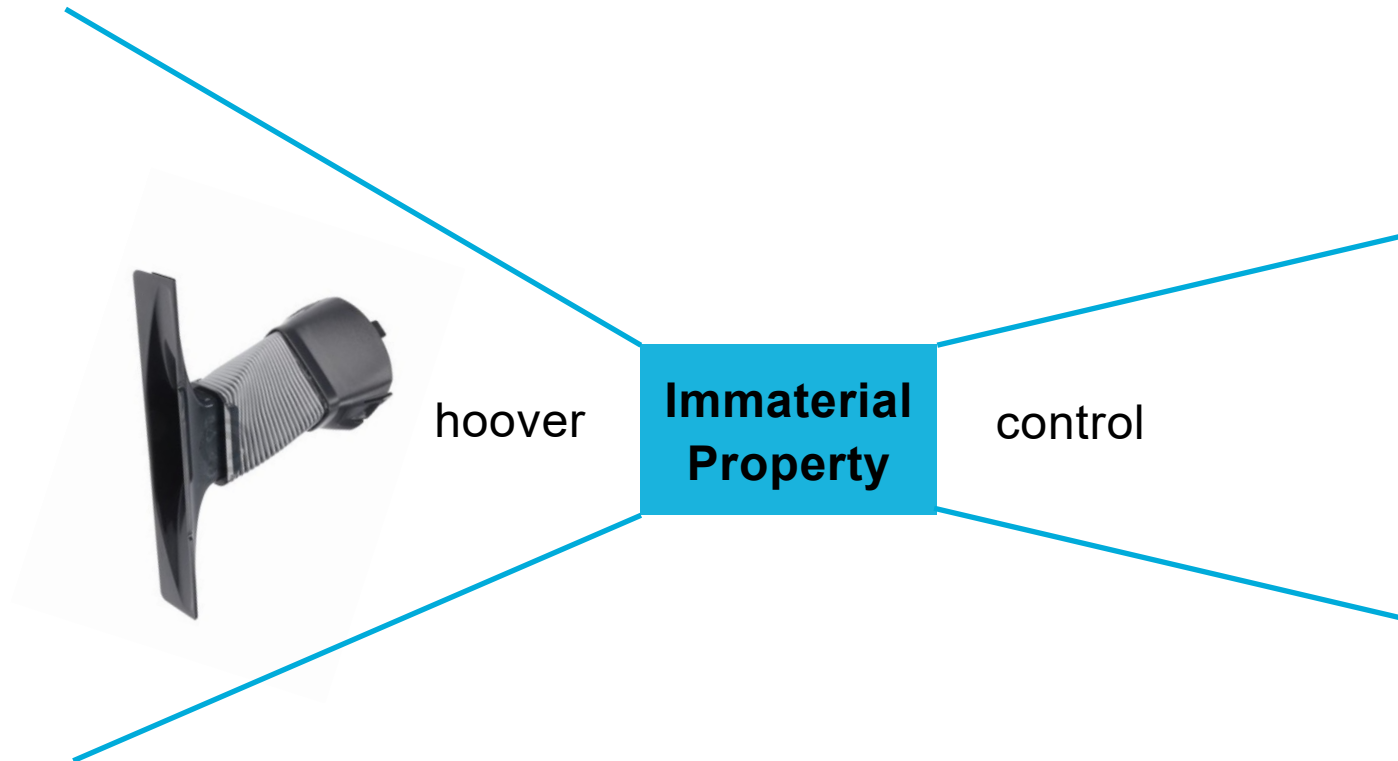
- Jerome H. Reichman

*Bunyan S. Womble Professor of Law
Duke University School of Law*

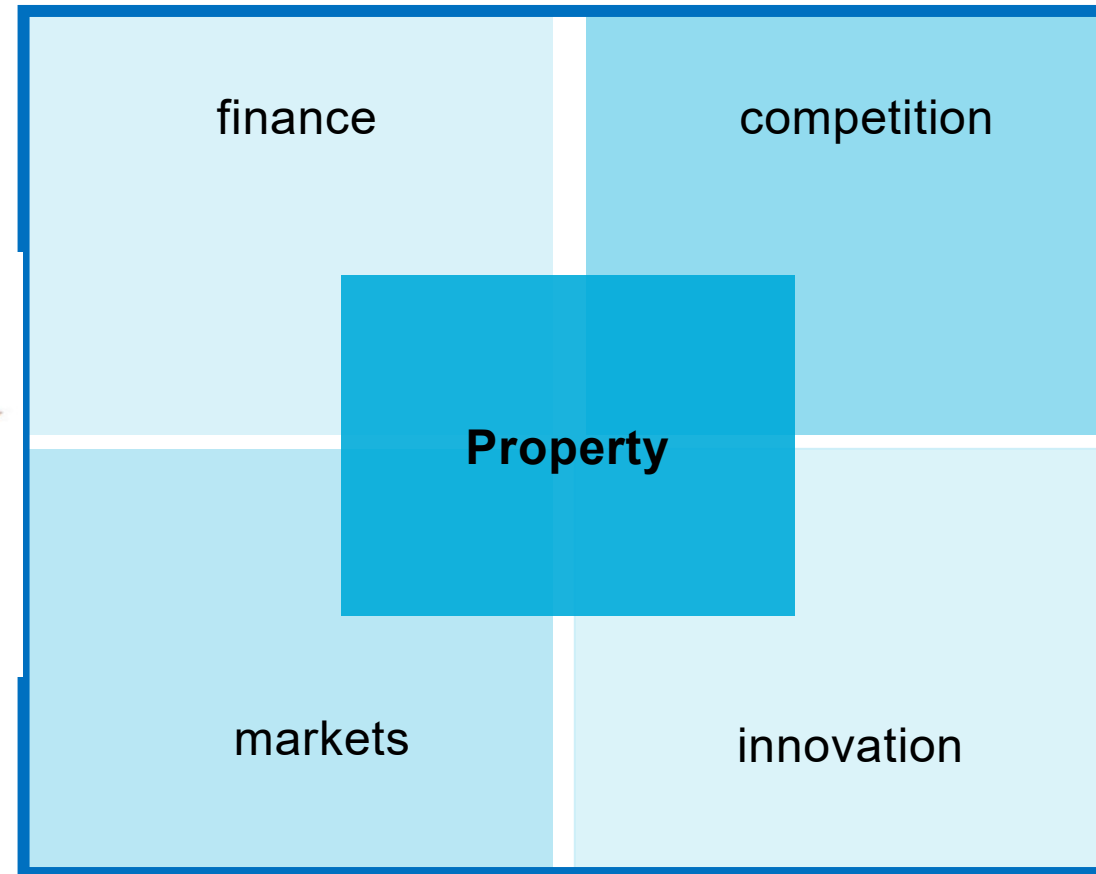
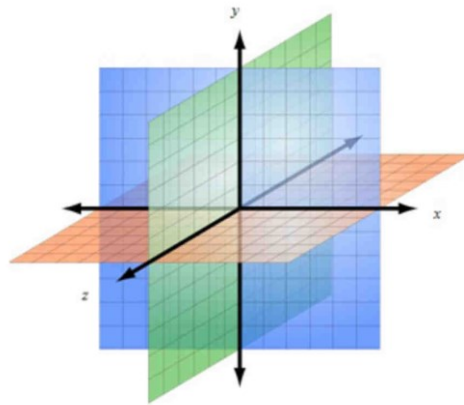
Scientists know only about 1 percent of the world's microbial resources. A good selection of known and scientifically validated microbial resources are held in hundreds of public culture collections around the world, which have accumulated these precious resources over a long period of time. Many other semi-public collections are held by government departments, especially in the U.S., and by universities around the world, who assemble materials for specialized research purposes. About 600 of the public collections are loosely organized under the World Federation of Culture Collections (WFCC) which operate under agreed quality and security standards. The original principle underlying the establishment of the WFCC was that their cultures belonged to the common heritage of mankind, in the same way that plant genetic resources were initially treated by the United Nations Food and Agriculture Organization (FAO). The

Initial Entitlement	Injunction / Property Rule	Damages / Liability Rule
Resident	Rule 1: Court issues an injunction against Polluter	Rule 2: Court finds a nuisance but permits pollution to continue if the Polluter chooses to pay damages
Polluter	Rule 3: Court finds the pollution not to be a nuisance and permits the Polluter to continue without paying damages	Rule 4: Court permits Polluter to continue unless Resident chooses to pay Polluter damages in order to enjoin further pollution

„Märkte brauchen funktionierende Eigentumsrechte“

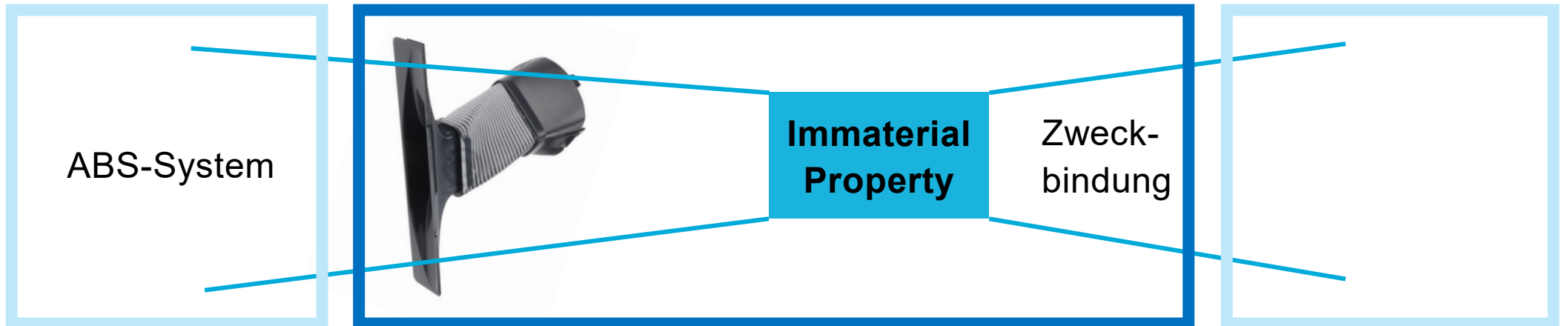


Property embedded in a quadrangle framework

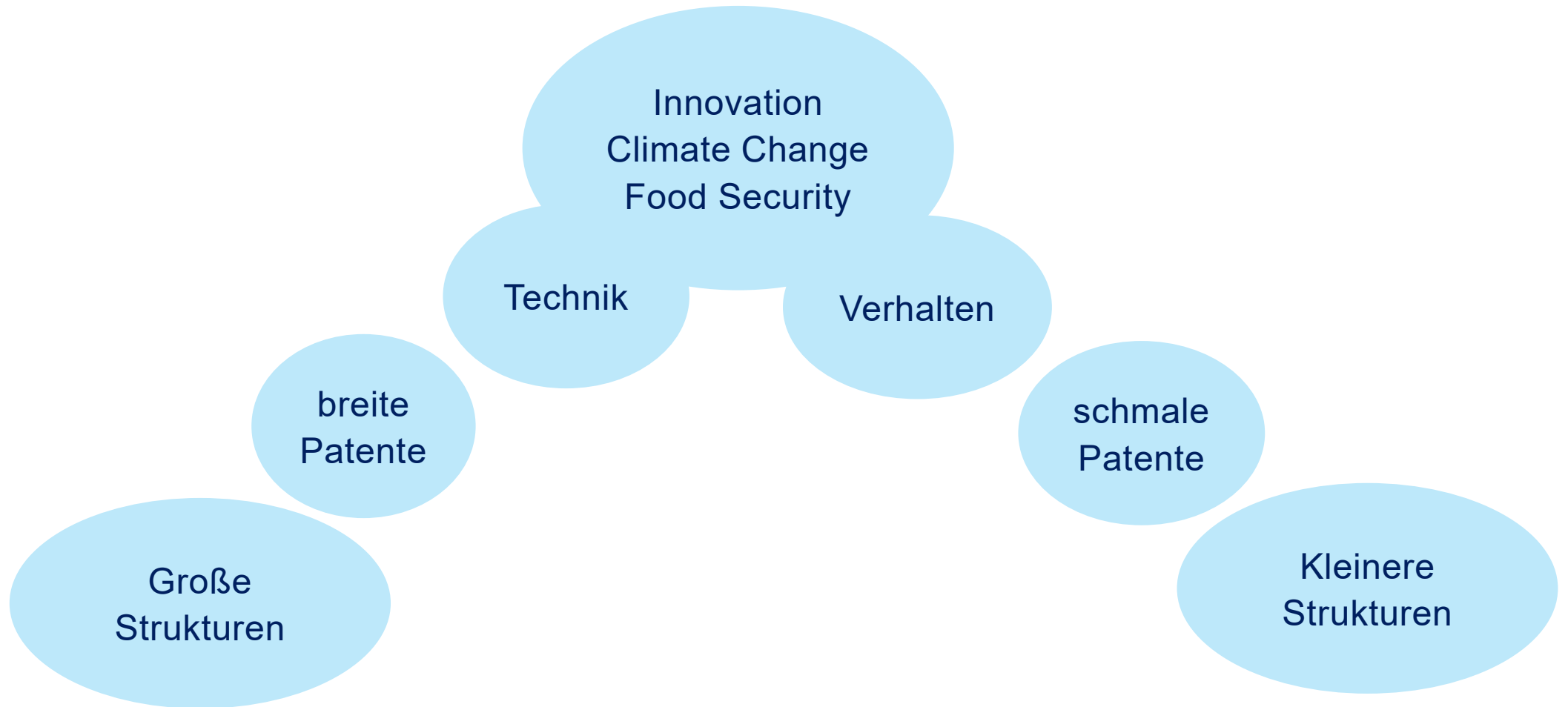


Pflanzenzüchtungen: Schutzsystem reformbedürftig?

- Elsabé van der Sijde, Reconsidering the relationship between property and regulation: A systemic constitutional approach, PhD thesis, Stellenbosch: Stellenbosch University, 2015
- Josef Drexl, ‘Legal Challenges of the Changing Role of Personal and Non-Personal Data in the Data Economy’ (2018) Max Planck Institute for Innovation and Competition Research Paper No 18-23 at 5-19
<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3274519> *printed in* Alberto De Franceschi und Reiner Schulze (Hrsg.), *Digital Revolution – New Challenges for Law* (Beck/Nomos 2019).



(2) Bewältigung von Zukunftsherausforderungen (Innovation)



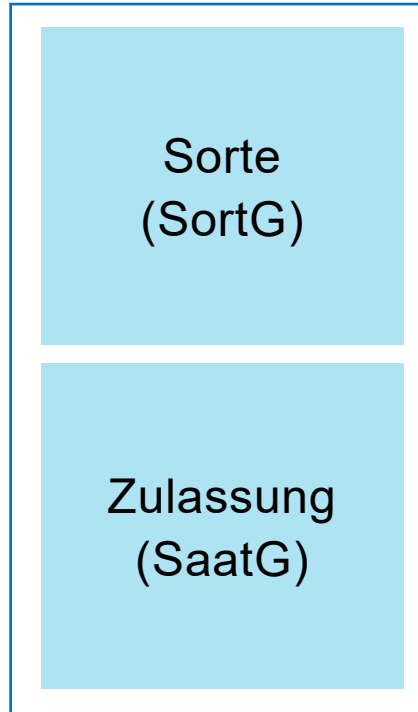
(3) Demokratische Kontrolle von Märkten und Technik

- Trennung von Schutzrechten und Sicherheitsregulierung
- Zuschnitt von Schutzrechten
 - (Ausschlusstatbestände; Schutzgrenzen: u.a. Erschöpfung)
- Rückholbarkeit (Rückverfolgbarkeit) von Gefahren

V. Antwort: Reformbedarf?

ITPGR-FA

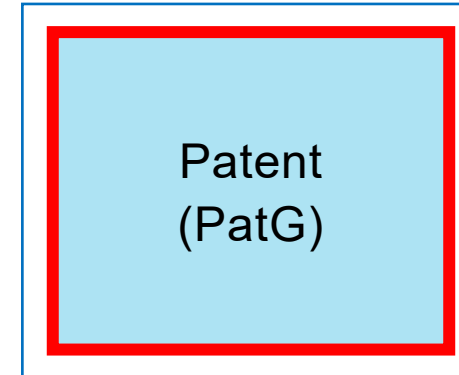
UPOV/CPVO



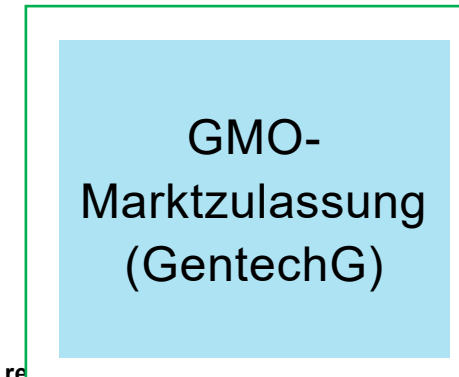
Pflanzenzüchtungen: Schutzsystem reformbedürftig?

CBD-NP

PCT-EPC



Plant Varieties: System in need for re



Reformbedarf

Institution
EPA

Materielles
Recht

- Moderne Auslegung
 - ungerichtete Mutagenese
 - Disclaimer fragwürdig
- ABS
 - Herkunftsangabe (für Material)
 - Abgabe (für DSI; „entkoppelt“)
- Zweckbindung Umfang

**Danke
für Ihre
Aufmerksamkeit!**

**Thanks
for your
attention!**