

Report on How to Carry out Studies on EDV in Agriculture Part in China

农作物品种保护中如何实施EDV制度

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中国如何实施EDV制度的建议

Background and significance of EDV

(essentially derived variety) **system** EDV制度的背景与意义

■ Background

- Biological breeding technology provides convenience for "modified breeding" 生物育种技术为“修饰性育种”提供便利
- Conflict between sufficient protection of breeding innovation and Principle of Independence under UPOV1978 育种创新的充分保护与UPOV1978下品种权保护独立原则存在冲突 (Mr. Gert Würtenberger, Würtenberger Kunze)



significance

- Fundamental revision of breeder's right **UPOV1991**对育种者权制度的一项重要修订
- Strengthen breeder's right protection of the initial variety for incenting original breeding innovation 强化了原始品种育种者权的保护以激励原始育种创新
- Building the benefit-sharing mechanism between the initial variety and EDV(developers of new technologies such as genetic modification) 建立原始品种与**EDV**品种权利人在**EDV**商业利用中的利益分享机制
- Respond effectively to the Challenge of Patent system 有效应对专利制度的挑战

Protection and limitation Of EDV

EDV权利的行使与限制

Protection

- Initial variety should be protected by PBR 原始品种是受保护品种
- EDV may apply the protection of PBR EDV可以申请品种权保护
- Scope of the Breeder's Right of EDV can cover ... (Cascading Principle)
EDV品种权保护范围 (人工瀑布保护规则)

- **Acts covered**
- Production or reproduction (multiplication)
- Conditioning for the purpose of propagation
- Offering for sale
- Selling or marketing
- Exporting
- Importing
- Stocking for any of the above purposes

- **Material Covered**
- All propagating material
- Harvested material under certain conditions
- Certain products (optional)

- Compulsory exploitation right of IV under reasonable conditions (EU)
特定条件下享有对原始品种权申请强制许可的权利 (欧盟)



limitation

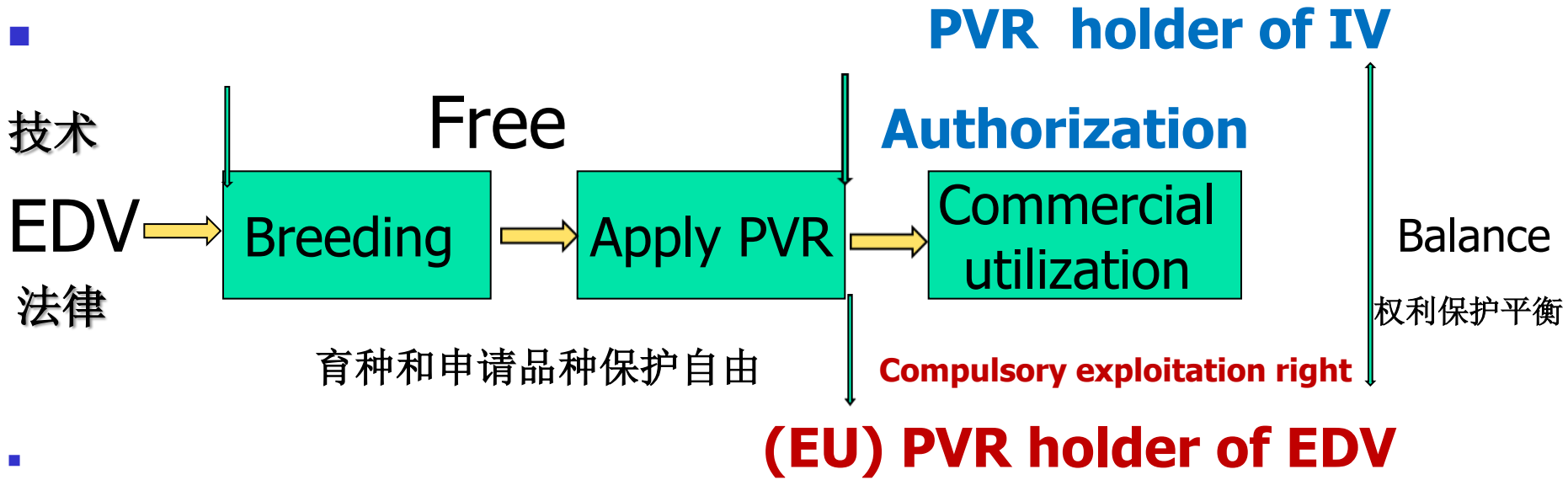
- Commercial utilization of EDV should be authorized by PVR holder of IV
EDV商业化需要经原始品种权人许可
- Scope of the Breeder's Right of IV can cover the following acts and material of EDV **原始品种权的保护范围延及EDV的下列材料下列行为**

- **Acts covered**
- Production or reproduction (multiplication)
- Conditioning for the purpose of propagation
- Offering for sale
- Selling or marketing
- Exporting
- Importing
- Stocking for any of the above purposes

- **Material Covered**
- All propagating material
- Harvested material under certain conditions
- Certain products (optional)

The relationship between PVR of IV and EDV

两个权利之间的关系



International practices of EDV Protection

EDV判定的国际实践

- **Who is judge of EDV? 谁来判定?**
- PVR Office only check requirements of variety applied 品种权授权办公室只判断品种是否符合授权条件
- Court judges according to evidence provided whether or not the variety is EDV 法院负责判断品种是否为**EDV**
- CPVO :the variety is registered as EDV according to judgement or agreement 欧盟品种保护局可以根据双方当事人达成的协议或生效判决将一个品种登记为**EDV**
- Australia Registrar Office of Plant Breeder's Rights makes the declaration of essential derivation accord to the application 澳大利亚品种保护办公室可以根据申请宣告某受保护品种为**EDV**

How To judge? 如何判定?

UPOV1991判断EDV的几个基本原则 (Joel Guiard)

- **Distinctness**: clearly distinguish from IV 特异性:明显区别于原始品种 ;
- **essentially derived** from **one protected** initial variety (not more) 实质派生于一个受保护的原始品种 (不是数个品种) ;
- **Conformity**, essentially with the initial variety, in the expression of characteristics that results from the genotype or a combination of genotypes of the initial variety (Mr.Gert Würtenberger, Würtenberger Kunze) 在基因型或基因型组合的表达上与原始品种一致
- Breeding method is one factor to determine it is EDV or not 育种方法只是判断EDV的一个要素

Mainly determined by the genotype rather than by the phenotype
判断是否为EDV主要取决于基因型而不是表型特征

The International Seed Federation (ISF)

国际种子联合会

■ **Determination of essential derivation is not part of the granting procedure of the PBR.** 判断EDV不是品种权授权程序的内容

- **ISF has developed guidelines for EDV disputes pertaining to perennial ryegrass, maize, oilseed rape, cotton and lettuce.** IFS制定黑麦草、玉米、油菜、棉花和葛苣作物EDV争议指南

- **Proof**
- 证据要素

• Morphological characteristics	表型特征
• Molecular characteristics	分子特征
• Breeding records	育种记录
• Combining ability	组合力

- **Establishing Distance (or Similarity) Coefficients (measured by molecular markers) as a trigger point for the reversal of the burden of proof.** 用分子标记确定的遗传相似系数作为转移证明责任的标准

- **Distance (or Similarity) Coefficients**
- 遗传相似系数

Lettuce	0.96
Oilseed rape	0.85
Ryegrass	0.6
Cotton	0.875

- **Principles of a Code of Conduct in Essentially Derived Varieties of Perennial Ryegrass 2002**
- **0 royalties, the first 2 year; 50% royalties, the next 3 year ;**

■ CIOPORA: EDV Position of CIOPORA 2008

■ 无性繁殖装饰性植物与果树品种育种者国际共同体 EDV 声明 2008

In the area of asexually reproduced varieties, all mutants, GMO and apomicts as well as me-too-varieties have to be considered as EDV. How to prove 无性繁殖领域的变异体、转基因生物、单性繁殖植物以及**me-too-variety**都是**EDV**,关键是证明。

Mutants 变异体
GMO 转基因生物
Apomicts 单性繁殖植物

use Jaccard Similarity Coefficient of 0.90 as threshold for the shift of the burden of proof in EDV-disputes
将遗传相似系数0.9作为转移证明责任的标准

me-too-variety

plaintiff proves a genetic conformity higher than the threshold, the defendant proves the variety is EDV.
原告证明品种的基因型高度一致，被告证明不是EDV

- Plaintiff proves the variety is EDV difficult 原告证明是难
- Defendant proves the variety is not EDV easy 被告证明不是易

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- Voluntary rule, not mandatory standard 自愿规则，不具强制性

- Evidences work together

- 证据要素共同发挥作用

- Morphological characteristics
- Molecular characteristics
- Breeding records
- Combining ability

- Similarity Coefficients for shifting of the burden of proof is different in different crop. 不同作物领域，用于判断证明责任转移的遗传相似系数数值是不同的。



Civil Court of Hague in the Netherlands : Astee Flowers v. Danziger 海牙法院 首个解释EDV的案例

- Gypsophila 满天星
- **Obvious morphological characteristics as essential characteristics, resulting from the genetic material of the accused EDV which are not present in IV** 被控EDV有明显的实质性外形特征，由其基因决定的，而原始品种上没有这些特征
- **DNA evidence has no obvious advantage over Morphological characteristics** 与外形特征相比，DNA证据没有明显优势
- **In cut flower industry, attach importance to the cosmetic characteristics of plant appearance** 切花产业，更加重视植物外形上的修饰性特征。

How to implement EDV system in China

中国如何实施EDV制度的建议

- The Seed Law had not provided the EDV system 种子法没有规定EDV制度
- EDV system is helpful to stimulate the innovation of original breeding and decrease plagiarism in plant breeding EDV制度有助于激励原始育种创新，减少育种剽窃
- EDV system is an important rule of PVR in future PVP Law

Set 2 years transition period

2年过渡期

Publish EDV list

EDV名录

Non-retroactivity

不溯及既往

Developed specific guidelines of determining EDV

EDV判断指南

Adopt internationally agreed-upon professional rules

国际标准

- Encourage breeders to comply with EDV system on the basis of voluntary principles or agreement 鼓励育种者自愿或者根据协议遵守EDV制度



THANKS!

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