The end of Farm-Saved Seeds?

4 texts on
local varieties,
intellectual rights on seeds &
respective legislations

Introduction

Recent decades have seen a dramatic increase in the control over plant genetic resources (seeds) and policing of rural production with the agricultural industry being transformed from a field involving small companies and public programs, to a form of corporation apartheid dominated by multinationals. Today, only 10 corporations control about half the global market. Most are simultaneously producers of pesticides and, apart from the promotion of hybrid varieties, also focus on the development of genetically modified (GM) crops to support intensive agriculture and industrial types of farming, favoring the control of plant genetic resources through intellectual property and patents.

It should not be ignored however that it is small-scale farmers, using mild forms of agriculture and the use of local and self-produced seed varieties that continue to supply most of the planet with food, without almost any support from governments, which instead, are constantly constraining their practices, even to the degree of criminalisation. In addition, hundreds of thousands of people are actively asserting another form of agriculture and food sovereignty, struggling for the right to keep seed production in the hands of farmers through agricultural, environmental and political grassroots movements and international campaigns.

This pamphlet is an introduction to the issue of the ongoing transformation of seeds from a public, non-commercial good to a product covered by strict laws and property restrictions. The first version was created in April 2011 and this second edition in April 2012, adding in some developments over the last year around seed legislation. The main development is the intensified pressure to implement intellectual property rights (patents) for conventional varieties and not just for GMOs. The pamphlet consists of four articles, which can be read independently: a most interesting report from Grain, an organization that highlights the corporate ambitions on the issue of intellectual property for seeds at an international level, an article from BiotechWatch.gr about an impending EU legislation on local varieties and a text with condensed information about the protection of plant genetic resources in Greece, and to support the above articles is a list of related online resources. A fourth article was addedm, in order to include some recent developments regarding the probability of prohibition of farm saved seeds for French farmers.

In this way, the pamphlet sheds light on the essential advantages of local varieties and simultaneously tries to inform about the extensive regulatory framework that has proven empty, in need of clarification, and skewed against the preservation of local seeds and farmers' rights. The aim of the pamphlet is ultimately to aide an understanding and familiarity with the issue and signal in for a longer engagement.

V. G and C.L.
April 2012

Benefits for agribusiness, repression for famers

Industry's wish list for the next revision of UPOV

From GRAIN.org

The big players in the world seed industry are grumbling about loopholes in the plant variety protection system, which was the alternative to patenting that they set up in the 1960s. The Europeans want to get rid of farmers' limited entitlement to save seed. The Americans want to restrict the exemption by which breeders have the free use of each other's commercial varieties for research purposes. In both cases, the point is to reduce competition and boost profits. In the short term, the victims will be farmers, who will probably end up paying the seed giants an additional US$7 billion each year. But in the long run, we will all lose from the growing corporate stranglehold over our food systems. This briefing traces the recent discussions within the seed industry and explores what will happen if a plant variety right becomes virtually indistinguishable from a patent.

Introduction

No more farm-saved seed and no more free access to protected varieties for breeding. In other words, remove the two main differences between plant variety protection and industrial patents. That's the beginning of the seed industry's wish list for a new revision of the UPOV convention. [1]

When plant variety protection (PVP) was first standardised by the UPOV convention in the 1960s, it was a mostly copyright-like form of intellectual property. The variety owner had a monopoly on the commercial propagation and marketing of the variety, but little control over other uses. Farmers were free to multiply seed for their own use for as long as they wished. Other breeders could freely use protected varieties to develop their own material.

This changed dramatically with the 1991 revision of UPOV. Based on successful lobbying from the global seed industry, the revision turned PVP into something very close to a patent. Farm-saved seed was allowed only as an optional exception, restrictions were put on further breeding, and monopoly rights were extended all the way to harvest products. This is the version of UPOV which is now being rapidly rolled out across developing countries as a result of the WTO TRIPS [2] agreement.

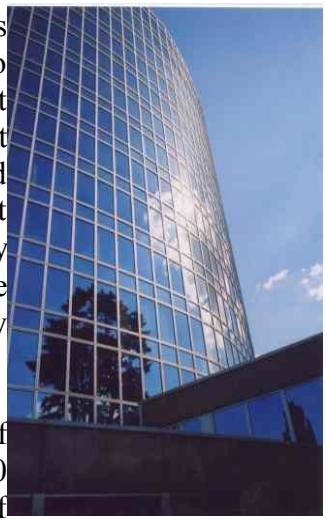
The industry, however, is still not content. Over the past few years, it has started gearing up its lobby machine for a final attack on the remaining "loopholes" in the

PVP system. If it succeeds, it will certainly spell the end of farm-saved seed, probably the end of free access to PVP-protected material for plant breeding, and a general tightening of the ropes with longer terms, stricter enforcement and wider scope of monopoly rights.

This GRAIN briefing traces the recent internal discussions of the seed industry and tries to visualise what will happen if a plant variety right becomes a patent. Will UPOV become superfluous and slowly disappear? Not necessarily. The seed industry is promiscuous in its use of intellectual property rights (IPR). It likes to have many options. Judging from developments in the USA, the future lies not in opting for one form of IPR over another, but in combining two, three or more layers of legal monopoly on top of each other.

Background

When the global seed industry starts again to sing its familiar lobby tune about strengthening IPRs, it is useful to know some history. No matter how often lobbyists repeat that strong IPRs are necessary as an incentive for plant breeding, the fact is that for most of its existence, the seed industry managed to develop and thrive without any IPRs at all. IPRs on seeds and other propagating material are a very recent phenomenon. They played no part in the establishment and rapid expansion of the seed industry during the first half of the 20th century.



The UPOV building in Geneva, Switzerland

With a few insignificant national exceptions, no forms of IPRs were available for plant breeders until just over 30 years ago. For all practical purposes, the original version of the UPOV treaty was the beginning of plant IPRs. And although adopted in 1961, it did not come into practical use before the 1970s. By that time, commercial seed had all but eliminated traditional farmer-bred varieties in developed countries, and was making inroads into the developing world.

So it was not until the seed industry had already become dominant that it was able to secure IPR protection, first with UPOV PVP, and soon after with industrial patents as well. This is not a coincidence. As a large and well consolidated industry it now had considerable lobbying power over governments, much more than it had when it was newly established in the first decades of the 20th century.

Had they been more powerful, plant breeders would have secured monopoly rights at a much earlier stage. There is evidence of lobbying at least from the 1920s, and while unsuccessful regarding specific IPRs on the seed itself, the industry was able to use several other mechanisms to reduce competition from traditional farmers' seeds. [3]

Seed laws were the most important factor in many countries. By making seed certification mandatory and trade in uncertified seeds illegal, governments indirectly supported commercial seeds against traditional seed-exchange systems.

Trademarks could be used to protect the variety name. Even if the seed as such could be freely multiplied and traded, only the breeder had the right to use the trademarked name.

Farm credit policies and support schemes have long been deployed to oblige farmers to use certified seeds. This means that as a farmer you may be locked out from low-interest loans, crop insurance or direct support payments unless you use a government-approved commercial variety.

Patents on plants were not explicitly excluded by the Paris Convention, and were used to some extent by a handful of European countries, particularly Germany for a period around 1930.

Hybrids became a means to force farmers to buy new seed every year. Hybrid seed cannot be reproduced on-farm, because it requires two different parent lines, which are kept secret and closely guarded by the seed company. Between 1930 and 1960, the whole of the US main crop – maize – was gradually converted to hybrid seed. While officially this was done to secure the heterosis effect (yield increase), in reality the main reason was the monopoly effect. [4]

UPOV 1961

During the 1930s and 1940s, a few countries experimented with specific IPR systems for plants. In the US, the Plant Patent Act (PPA) was passed in 1930. [5] Still in force today, it allows for monopoly rights on the multiplication of asexually propagated plants (those multiplied by tubers, cuttings, grafts or other vegetative material, not by seed). The system was mostly geared to breeders of ornamental plants, has not been much used and was never copied in any other part of the world. In both Germany and the Netherlands, however, national PVP systems were set up which became forerunners of UPOV.

But when the serious lobbying for an international plant IPR system started after the Second World War, the seed industry was not asking for specific PVP systems, but for ordinary industrial patents on plants. The initiative came primarily from the European breeders, who were already developing a sizeable trade across their borders, and saw the need for international regulation. The newly formed international breeders' association, ASSINSEL, [6] became the main voice of the industry, and it adopted the pre-war German patent practice as its model.

The idea of industrial patents on plants met with double resistance, however. Several European governments thought that it threatened the farm economy by giving industry too much power over the seed supply. A West German minister of agriculture is quoted as fearing that the rural population would be "reduced to begging".[7] Patent experts, represented by AIPPI,[8] saw another threat: to the credibility of patents. Plants are living and evolving organisms and therefore cannot be exhaustively described in the way required by a patent – well enough to allow someone else to "repeat the invention" exactly. Thus patents on plants would require far-reaching exemptions from normal patent criteria. ASSINSEL had to settle for a *sui generic* [9] IPR system, and jointly with the French government it initiated the negotiating process that was to result in the UPOV Convention of 1961.

This first version of UPOV PVP was more like a copyright than a patent. The scope of the monopoly was limited, but so were the criteria for protection.

- The owner had the right to control commercial propagation and marketing, but no other uses. Farmers were free to save seed for their own use for as long as they wished, and use the harvest without restriction.
- There were no rights over the genetic content of the variety. Other breeders could freely use a protected variety to develop their own material.
- There was no novelty requirement. As long as the variety was "distinct, uniform and stable" it could be protected.
- There was no requirement to prove invention. A pure discovery could also be protected.

UPOV 1991

Ironically, UPOV PVP had just barely come into practical use before it faced competition from the solution that the seed industry had wanted in the first place – patents on plants. In 1980, the US Supreme Court ruled that there was nothing to stop patents on any kind of living organisms. Europe and other developed countries rapidly followed suit. Why this sudden change of mind? The usual explanation is that genetic engineering and other biotechnologies had by then made it possible to meet the patent criteria with living organisms. But a gene transfer does not give much more predictable or repeatable results than a sexual crossing, and exhaustive description is still impossible. The description requirement is routinely

replaced by the deposition of a sample of the organism in a gene bank. In reality, it was probably the much greater lobbying power of the industries behind genetic engineering – the same transnationals that dominate pharmaceuticals and chemicals – that made the difference. Not only were they many times larger than the conventional seed companies, but genetic engineering was also perceived by governments as a crucial technology for future international competitiveness.

The rapid entry into plant breeding of large corporations armed with both genetic engineering and patents caused near-panic among conventional seed companies. One of their coping strategies was to demand a radical strengthening of UPOV PVP, to make it more comparable and competitive with patents. The original 1961 Convention had been left substantially unchanged through two minor revisions in 1972 and 1978. With UPOV 1991, the conventional breeders got a dramatically expanded monopoly right which goes far beyond seed multiplication and in several respects is very close to a patent. [10]

- Farm-saved seed is no longer automatically allowed. Only as an optional exception can a government legalise seed saving for the farmer's own use – and even then the seed company has the right to a royalty payment.
- The monopoly also extends to the harvest, and optionally even to products made from the harvest. If a royalty has not been paid on the seed, the variety owner can demand payment from the final consumer of the harvest.
- Other breeders are still allowed to use protected varieties for breeding, but if a new variety is "essentially derived" from an existing one, it does not qualify for a PVP of its own. This rule was introduced specifically to block genetic engineering companies from getting new PVP protection on varieties just because they added a single gene.
- There is now a novelty requirement.
- Double protection (PVP plus patents) is now allowed.
- The minimum term of protection is increased to 20–25 years (previously 15–18).
- All plant species must be covered (previously only a minimum of any 24 species).

Box 1: Farm-saved seed – a US$7-billion booty

How much of the world's crop area is sown to farm-saved seed (FSS)? For most countries there are no official statistics, but rough estimates can often be made by comparing the sales of certified seed of a crop with the total area under cultivation with that crop. Figures compiled by GRAIN indicate that most developing countries still mainly depend on FSS – in particular regions with a large peasant farming sector, such as South Asia and sub-Saharan Africa, where typically 80–90% of planting materials are produced on-farm.

What is less well-known is that many rich and middle-income countries also still use considerable amounts of FSS. The International Seed Federation (ISF) in 2005 circulated a questionnaire to its seed company members, which yielded estimates from 18 mostly developed countries. [1] Typical figures were in the 20–40% range, but for some crops and countries they were much higher. Several of the major

cereal producing countries – Argentina, Australia and Canada – reported FSS figures from 65% all the way up to 95%. Another notable country was Poland – a recent EU member and the largest agricultural power in Europe after France – where FSS was reported at around 90% for all major crops except oilseed rape.

So, although figures are uncertain, there is no doubt that FSS represents huge value – or, from the the seed industry viewpoint, a multi-billion-dollar booty. On the basis of its own estimates, the ISF Secretary-General claimed in 2005 that for just the 18 countries surveyed, FSS represented an "average loss" to the seed trade of almost US$7 billion annually (calculated on the basis of an average seed value of $73 per hectare and an area under cultivation of 95 million hectares). [2] Expressed differently (and more correctly), that would be the average extra business which seed companies could monopolise if FSS was made illegal. Multiply that figure a few times – because the actual worldwide area that is each year seeded with FSS is probably more than 1 billion hectares – and you may get a sense of just how far the seed industry is prepared to go to corner that market.

[1] The complete results of the ISF survey are not published, but the summary figures for all surveyed countries, as presented to the 2005 ISF Congress, can be found inside the following presentation by a representative of the Canadian Seed Trade Association: Bill Leask, "Intellectual Property in the Seed Industry. Tools Available and Their Effect on Investment", Public Institutions and Management of Intellectual Property Rights, Canadian Agriculture Innovation Research Network, Toronto, 13–14 December 2005. Available at http://tinyurl.com/26lbqe

[2] Bernard Le Buanec, "Enforcement of Plant Breeders' Rights. Opinion of the International Seed Federation, Meeting on Enforcement of Plant Breeders' Rights, UPOV/ENFORCEMENT/05/3, Geneva, 25 October 2005. Not published on the UPOV website, but kindly made available to GRAIN by Mr Le Buanec and accessible at http://www.grain.org/brl_files/ueisf.pdf

Another major development also started in the 1980s – the negotiation of the WTO TRIPS agreement, which would become the vehicle for expanding plant IPRs into the developing world. TRIPS made it mandatory for governments to provide some kind of IPR protection for plants – by patents or a *sui generis* system or both. Although neither PVP nor UPOV are explicitly mentioned in WTO texts, the TRIPS agreement has caused a large number of developing countries to adopt UPOV-like PVP systems over the past decade, for lack of a better alternative. Most want to avoid patents on plants. They could develop their own national *sui generis* systems from scratch, but that is a very resource-consuming task compared to adopting a ready-made solution off the shelf. Many of these countries have also become UPOV members, usually as a result of bilateral pressure from the USA, EU or other developed countries (see Box 3 on page 10). Before TRIPS, UPOV was a very small organisation with two dozen members, all of them developed countries except South Africa. Since 1994, the membership has more than doubled, and the great majority of the new additions are developing or transition-economy countries, which now make up close to half the membership. [11]

Next UPOV

With UPOV 1991 thus well on its way to becoming a global standard, rather than only a club for rich countries, the seed industry lobby is beginning to formulate its demands for the next UPOV revision. The contours are still very vague. So far this is

only a more or less internal discussion in industry fora, with probably informal lobbying of selected governments. So a formal negotiation is still some time away, and a finished deal can at least not be expected before UPOV's 50th anniversary in 2011. But there is no doubt about the general direction. This will be the final attack on the remaining "spaces" (as seen by farmers and researchers) or "loopholes" (as seen by the industry) in the PVP system, to make it virtually indistinguishable from a patent. If successful, it will certainly spell the end of farm-saved seed, probably the end of free access to PVP-protected material for plant breeding, and a general tightening of the ropes with longer terms, stricter enforcement and wider scope of monopoly rights.

To understand the current discussion, it is important to realise how drastically the industry structure has changed since the 1980s. The discussions which led up to UPOV 1991 were characterised by polarisation. On one side stood the large pharmaceutical and chemicals corporations, mostly US-based, which were newcomers to plant breeding, heavily into genetic engineering and completely focused on patents. On the other side stood the conventional seed industry, strongest in Europe and organised in much smaller companies, which saw itself as defending conventional breeding against the onslaught of both genetic engineering and patents.

Today, polarisation has given way to consolidation. Much of the conventional seed industry has been bought up by the transnationals or has entered into cooperation agreements with them. Typically, nationally or regionally based conventional seed companies are now taking on a role as distribution channels for the large transnational players, who need the market know-how and goodwill that the old names in the business can provide. Likewise, their portfolios of regionally adapted varieties are highly attractive as carriers for the engineered genes developed by the transnationals.

In other words, this time a strengthening of UPOV is a common interest of the whole seed industry, large and small, conventional or not. On the surface, there are still cultural differences between the European tradition, defending the PVP system as a "balanced solution", and the North American one which regards the choice of IPR system as a purely pragmatic issue and sees no need for "balance". In practice, however, it is difficult to see anything substantially different in the way European companies use IPRs. They too take out patents whenever they can, and they are sometimes the most eager to remove the "balancing" factors built into the PVP system.

Nevertheless, it is illustrative that the discussion about the next UPOV was kicked off by Pioneer Hi-Bred. Pioneer is the largest conventional seed company in the world, and has dominated the US maize seed market since the 1930s. It is now a subsidiary of the chemicals and genetic engineering giant DuPont – a prime example of the consolidation process. In 2004, Pioneer ex-president Richard McConnell bluntly told an international seed industry audience that it was time to create a "level playing field" and give plant varieties under PVP "parity protection … with biotech

inventions covered by utility patents". He was also clear about the road to that goal: "industry leadership should identify and implement the steps to achieve that desired state." [12]

For the US industry, this was not very controversial. The American Seed Trade Association promptly adopted most of the Pioneer proposal as its own. [13] But many of the Europeans were initially shocked, mainly because McConnell openly questioned what conventional breeders regard as the very core of the UPOV system: free access to protected varieties for further breeding. He specifically proposed that breeders should not be allowed to use any PVP-protected variety in their research programmes until it had been on the market for 10 years. On the other hand, Europeans have been the most eager of all to undermine yet further the other key characteristic of UPOV PVP: the right to use farm-saved seed. Representatives of the European Seed Association have gradually stepped up their attacks on the current rules, and now call for the farm-saved seed exemption to be eliminated altogether. [14] (See Table 1.)

Table 1: **UPOV's gradual encroachment**

	UPOV 1961/1978	**UPOV 1991**	**Next UPOV?**
Coverage species	Optional, minimum any 24 species	Must cover all plant species	Must cover all plant species
Coverage uses	Propagating material	All plant material, Optionally products	All plant material and products
Period of protection	15–18 years	20–25 years	25–30 years
Use for breeding	Always allowed	Always allowed, but no new PVP for "essentially derived varieties"	No use until after 10 years, then only with registration and royalty to owner
Use farm-saved seed	Always allowed	Allowed only as optional exception and only if royalty paid on seed	Never allowed
Application procedure	Separate for each country	Separate for each country	One international application for all countries
Double protection with	No	Yes	Yes

After a couple of years of fairly intense discussions, an industry consensus appears to be emerging. There are still differences of detail, especially regarding access for breeding, but in return for getting rid of farm-saved seed, the Europeans are probably willing to go quite far in restricting breeding access. [15] And apart from the two main issues, there is already agreement on a number of other changes to be proposed. What follows here is the picture GRAIN has been able to piece together of what the next UPOV would look like, if and when industry succeeds in achieving its "desired state".

- *Farm-saved seed.* Saving seed of protected varieties is likely to be prohibited altogether. Just like a patent, a PVP will give the owner an unlimited right to control all uses of the variety. The current option for governments to allow farm-saved seed as a national exception will disappear. In theory, there will still be an option for farmers to make licensing agreements with variety owners, just as there is under patent law. In practice it is very unlikely that seed companies will give up their acquired right to control all seed growing and thus maximise their profits. (See also Box 1, about the total value of farm-saved seed, on page 5.)

If the industry does not succeed in persuading governments to ban seed saving altogether, the fallback alternative is to make governments responsible for royalty collection and make non-payment a criminal offence. Especially in Europe, seed companies are already pressuring governments to strengthen national legislation for enforcement of licence payments (see Box 2 on page 8).

- *Access for breeding.* The current right to access PVP-protected material for breeding will probably disappear. First, there will be a period of at least 10 years when no breeding use at all is allowed, just as with a patent. Then there will be a limited right to access, comparable to what in patent law is called a compulsory licence. Each access will have to be registered and a licence fee paid to the variety owner. Today, a breeder can simply buy commercial seed of a protected variety for use in a breeding programme without even informing the variety owner. This will no longer be possible.
- *Seed deposit system.* In order to implement the restrictions on access, a seed deposit system will be created where samples are made available by variety owners, just as in the patent system. Only seed which is accessed from a depository according to a formal procedure and with a licence agreement will be legal to use for further breeding.
- *All products covered.* The rights on the plant variety will be extended to cover all products made from the variety, so that a variety owner will be able to collect royalties from the end user – such as the brewing or baking industry – if they have not been paid by the grower. This is currently an option that can be implemented in national PVP legislations.
- *International application system.* An international system will be created for filing a single PVP application valid in all UPOV member states. A similar system already exists for patent applications – the Patent Cooperation Treaty

(PCT), administered by the World Intellectual Property Organisation (WIPO). [16]

- *Longer terms of protection.* An increase to at least 25–30 years is probable. These are the terms now used for the EU Community PVP. Industry is already complaining that they are too short for certain crops. [17]
- *Stricter criteria for essentially derived varieties (EDVs).* Industry is asking in general terms for stronger rights over EDVs and more effective enforcement, and in specific terms for a reversal of the burden of proof, meaning that the alleged EDV breeder would have to prove his innocence, rather than the accuser having to prove guilt. [18]

Box 2: **Enforcing royalty collection on farm-saved seed**

While a complete ban on farm-saved seed is the seed industry's long-term goal, the complementary short-term strategy is codenamed "enforcement". In practice, it mostly boils down to royalty collection. UPOV 1991 gives breeders the right to demand a royalty on all farm-saved seed, but does not say how it is to be collected. So by default, it was left to the industry to organise this through contractual agreements.

In a number of European countries, for example the UK, Germany, the Czech Republic and Sweden, private collecting agencies have been set up by seed companies, which collect royalties directly from farmers and/or seed cleaners – usually based on agreements with farmers' organisations. [1] In France, a private but government-sanctioned system of "mandatory voluntary contributions" [2] has been in place since 2001 on all bread wheat delivered to grain elevators, regardless of what seed was used. This "seed tax" is partly reimbursed to farmers who bought certified seed, while those who used farm-saved seed get nothing back at all. Eighty-five per cent of the money thus collected goes directly to the seed industry, supposedly to fund research. Although hotly contested, this system may soon be extended to all crops and all farmers as France starts implementing UPOV 1991. [3] In Australia, there is increasing use of so-called End Point Royalties (EPR). As in France, these are collected by the grain buyers, but unlike in the French system they usually replace normal seed royalties altogether; that is, they cover both certified seed and farm-saved seed under the same rules. [4]

But this is far from enough for the industry. Led by the European Seed Association, it is mounting an increasingly aggressive campaign demanding stronger "enforcement". They complain that even in Europe there are still countries where they have not been able to reach agreements about a collection system. Where collection arrangements are in place, the complaint is instead that these are not effective enough and do not cover all crops. In addition, industry is upset that the legality of the collection systems has been challenged. German farmers have brought several cases to the European Court of Justice, which has ruled that a private collecting agency does not have the right to demand information from farmers or seed processors unless they have evidence that protected varieties are

actually being saved on the farm. [5] Likewise, the French system has been challenged in court cases, some of which are still not settled.

What the ESA proposes is essentially that governments should take over the main responsibility for collecting and delivering the royalties and make non-payment a criminal offence. Not only should they give breeders a legal right to demand information from farmers on what seed they are using, they should also send "official inspection agencies to carry out spot checks" and "make use of national certification agencies on the collection of data on the use of FSS". [6] While at it, they should also change legislation so that the present reduced royalty rate for FSS is raised to the same level as for commercial seed production, and the present European exemption for small farmers is abolished. [7]

While these demands are directed to European governments and the European Commission, the International Seed Federation has requested UPOV to review all national PVP legislations and "propose appropriate legal remedies for the effective enforcement of breeders' rights" – threatening that breeders will otherwise stop using the UPOV system and look for "other legal mechanisms to protect their intellectual property". [8]

Perhaps surprisingly, the US seed industry is much less vocal on this issue, despite the fact that US PVP still allows FSS for all crops, without any royalty payments. The explanation is that they have been able to eliminate FSS in most major US crops by other means: in maize through hybrid seed, which has been completely dominant since the 1960s; and in maize, soybean and cotton (mainly but not only varieties bred by genetic engineering) through patents in combination with grower contracts, so-called "seed wrap contracts". The only major crop without hybrids, patents or contracts is wheat, where private interests are small because public sector varieties have two-thirds of the market. [9]

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[1] For an introduction to the UK system, see http://www.fairplay.org.uk/site/index.html. For a presentation of the Czech system, see Vojtech Dukát, "Farm saved seed in the Czech Republic", Regional Seminar on Enforcement of Plant Variety Rights, Community Plant Variety Office, Warsaw, 11–12 May 2006. Available at http://tinyurl.com/26d4ey

[2] Yes, this is actually the term – "cotisation volontaire obligatoire" in French. Orwell would have been proud.

[3] France adopted UPOV 1991 in February 2006. However the implementation law, which was approved by the Senate, has been blocked in the National Assembly due to social mobilisations and opposition. The draft implementation law proposes that CVO-type contracts between breeders and "the most representative farmers' organisations" be imposed on all farmers as implementation of the derogation for farm-saved seed. For a brief report on the debate, see Yannick Groult, "Quel statut pour les variétés végétales ?", La Terre, Saint Denis, 23 August

2006, available at http://www.laterre.fr/ IMG/pdf/LT_HEB_3223_p10-11.pdf. For further updates (in French), see the websites of the Réseau Semences Paysannes (http://www.semencespaysannes.org) and the Confédération Paysanne (http://www.confederationpaysanne.fr).

[4] The Australian seed company PlantTech provides an introduction to EPR at http://www.planttech.com.au/epr_faqs.php

[5] For a summary of the German court cases with links to decisions, see Dietrich Buschmann et al., Thesis paper: legal cases on reproduction (seed multiplication), available at http://www.gmo-free-regions.org/ Downloads/WS_B1_miersch.pdf

[6] Grand (2005); details given in footnote 14.

[7] Orlando de Ponti, European view of Intellectual Property Rights for the Protection of Products and Processes of Plant Breeding, National Council of Commercial Plant Breeders, 2004. Available at http://www.nccpb.org/ppts/deponti-pres.ppt

[8] Le Buanec (2005); details given in footnote 2 to Box 1.

[9] For a brief overview of the US seed market and links to further references see Jorge Fernandez-Cornejo and David Schimmelpfennig, "Have Seed Industry Changes Affected Research Effort?", Amber Waves, US Department of Agriculture Economic Research Service, February 2004. Available at http://www.ers.usda.gov/ AmberWaves/February04/Features/HaveSeed.htm

Any future for plant variety protection?

If UPOV PVP is revised to the point of being almost impossible to distinguish from an industrial patent, what is the point of having a separate system at all? Will it simply disappear or merge into the patent system? Some apparently think – or wish – so.

A recent paper by two leading US experts in plant IPRs argues that PVP is already an obsolete system and should be laid to rest, or at least completely redesigned from the bottom up. [19] Much of their argument rests on the idea that plant varieties are no longer a relevant category in the era of genetic engineering, that they will increasingly be reduced to a kind of distribution package for genetically engineered traits, which will be the only thing valuable enough to warrant IPR protection. That is a ridiculous exaggeration of the value of adding a single gene or two to a variety with an evolutionary history of hundreds or thousands of years, and like many other predictions from the genetech industry it is bound to be proved wrong. Plant varieties are a problematic concept for other reasons – in particular because they artificially arrest evolution at an arbitrary

point of "stability" – but there are no serious reasons to think they are about to go extinct.

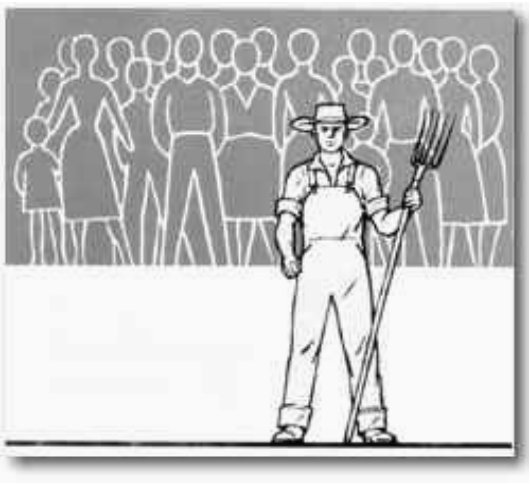
There is one very simple reason why the seed industry will almost certainly want to keep the PVP system, and that is its character of "objective" rather than "prospective" protection [20] – in ordinary language, you can always get a PVP on a variety, whether it is an improvement or not. All you need to show is that it is sufficiently new, distinct, uniform and stable. There is no requirement to prove any "inventive step" or future "utility", as there is with patents. In fact, it is still possible under UPOV 1991 to register pure discoveries for PVP, provided some minimal development has taken place. Most plants registered for PVP would be unlikely to meet the criteria for patent protection. So given that the next UPOV will offer very nearly the same level of monopoly rights as patents, but without the tougher criteria, the industry would have to be crazy to turn it down.

Another compelling reason for the industry to hang on to UPOV is that many developing countries are likely to continue rejecting the patenting of plants, even though bilateral pressure is applied in free trade agreements to force them to adopt it. In those cases, a patent-look-alike PVP might be a monopoly saver for the seed industry.

But above all, it is wrong thinking altogether to assume that there is an either/or situation between PVP and patents. Even though some parts of the seed industry still try to hard-sell UPOV as the "good cop" compared to "bad cop" patents, it should be obvious by now that, just like in the movies, the two cops are actually working as a team. PVP and patents are complementary, not mutually exclusive. In the US – as well as in Japan, Korea, Australia, and a few developing countries – a plant variety can even be protected simultaneously by PVP and patent. In Europe it is not possible to patent a variety, but the ban is easily and routinely circumvented by applying PVP to the variety and a patent to, for example, "a plant of species x with the gene y".

And it does not stop at double protection either. A very knowledgeable source claims – with great pride – that under US law it is now theoretically possible to have up to seven different forms of legal protection for the same plant variety: under federal law a PVP, a utility patent, a plant patent under PPA (if it's an asexually reproduced plant), plus a design patent; and, under various state laws, protection for contractual monopoly claims (seed wrap contracts), trade secret protection, and protection against unfair competition. [21] While this may not yet be true in many other countries, the trend is no doubt global. It is difficult to discern any principle for the legal strategies of the seed industry other than "whatever we can get away with" – an attitude well-known for decades from the operations of the big pharmaceutical and chemicals corporations. As illustrated by a handful of recent examples (see Box 3 on page 10), the innovativeness is as striking as the ruthlessness. Any sense of "balance" between the rights of breeders and the rights of farmers – or of society at large – is utterly lacking.

Robbing farmers and stifling innovation



What would be the consequences if seed companies succeeded once again in imposing their IPR agenda on UPOV member governments? The immediate effects are obvious. Banning farm-saved seed means an enormous value transfer from farmers to corporations. It would be especially destructive because for the first time a change in PVP rules would have a direct effect on large numbers of farmers in developing countries and poor transition economies. This is about outlawing an important part of a farmer's livelihood and culture, not only in Europe and the USA but also in places like Bolivia, Moldova, Uzbekistan and Vietnam, for no better reason than to increase the profits of Du Pont, Bayer, Syngenta, and Monsanto.

Maybe poorer countries will have some "balancing" influence at UPOV as their membership grows, but we can be sure that the seed industry will do whatever they can to prevent it. In a telling episode during the IPR seminar at the June 2006 congress of the International Seed Federation, one of the very few developing country delegates, representing the Seed Trade Association of Kenya, took the floor in an open discussion. He did so to argue the importance of farm-saved seed for developing countries, and to demand that ISF acknowledge and support this. He was brusquely called to order by the ISF Secretary-General, who snapped that this was completely out of the question.

The long-term consequences are equally serious but more insidious. The history of the seed industry provides an instructive example of how increasing IPR protection creates not an incentive but a barrier to innovation and development. The big strides in yield and resistance improvement during the 20th century were made before IPR protection was available to plant breeders, and while much of the variety development was done in the public sector. And in any case, these big strides were mainly due to the one-off effect of selecting and combining the best traits from thousands of farmer varieties, locally selected over centuries – it was more a windfall than a product of patient and systematic research.

Since then scientific plant breeding has delivered nothing comparable. We have seen that in many cases individual farmers can match – or beat – the performance of present commercial varieties by simple on-farm selection. The seed industry has every reason to fear competition from farm-saved seed, not as they claim because it threatens innovation, but because it exposes their lack of it. Commercial breeding is increasingly making itself irrelevant to the real-world concerns of farming. Its current focus on unsustainable single-gene traits in the best cases, and outright dangerous genetic experiments in the worst, threatens to leave agriculture very badly prepared for the great challenges of the near future, such as climate change and the need to wean ourselves off our dependence on fossil fuels.

Constantly strengthened IPRs have become, as for so many other stagnant industries, the seed industry's primary defence against competition. [22] This process has now gone so far that even very conventional analysts are starting to notice how the consolidation of the seed industry is reducing research and development. [23] Both the attack on farm-saved seed and the proposed near-elimination of free access to varieties for plant breeding exemplify the same trend. Unable to produce value through innovation, the industry is trying instead both to grab the last remaining segment of the seed market from farmers, and to increase its earnings on existing varieties by blocking research access and thereby intentionally obstructing progress in breeding.

Box 3: **"Whatever we can get away with"**

The seed industry is constantly on the lookout for new legal means to strengthen its monopolies, with equally constant support from governments. Here's just a snapshot of some recent items, large and small.

Patents on conventional breeding It is not only genetically engineered plants that are protected by patents. In the US, there are now over 2,600 patents on non-GE plants. [1] In Europe, an opposition case in the European Patent Office is soon expected to decide whether patents will be allowed on plants produced by marker-assisted selection (MAS), where conventional breeding is guided by the use of molecular markers. While two large seed companies, Limagrain and Syngenta, have opposed one such patent, it is widely believed that they expect to lose, thereby creating a clear precedent for themselves to use patents on similar products. [2]

Monopoly on non-protected hybrid parent lines Parent lines of hybrids are often kept as trade secrets and therefore not available for further breeding. Maize breeding firms especially are now complaining about "self-hunters" who identify self-pollinated plants of each of the two parent lines in maize fields, which can then be used to recreate the hybrid. In a bag, there are always a few individual seeds that are not the product of hybridisation but carry the genetic setup of the parents. They are often easily spotted because of very different growth patterns. "Self-hunting" is a perfectly legal practice as there is no IPR protection on the parent lines and the trade secret has been voluntarily given up by including self-pollinated seed in the bags of hybrid seed. In a recent position paper, the international seed industry organisation nevertheless argues that the hybrid owner should have a "moral" right to stop third-party use of those plants. [3]

"Non-exhausted" rights In a widely publicised campaign, Monsanto is demanding that European importers of Argentine soya beans pay royalties to them, because no royalties were paid on the seed in Argentina. The legal basis is contested, but Monsanto might have found a way to extend radically the reach of a patent. [4]

Bilateral pressure on other UPOV members During recent negotiations on regulatory issues, the European Commission put pressure on the Japanese

government to limit its use of the exemption on farm-saved seed – even though this is entirely a decision for the individual UPOV member state. [5]

Seed laws Legislation which makes the sale of uncertified and/or unregistered seed illegal is one of the oldest legal means of supporting the seed industry against competition from farmer-bred seeds. Such laws are currently being introduced or strengthened in a number of places such as Turkey, Iran, Afghanistan, India, various states in the US, the West Africa region, etc. [6] Seed laws generally make it illegal to sell any variety that is not distinct, uniform and stable – the same criteria that must be met to get a PVP title.

Compensation for delay in GE crop approval In Europe, the approval process for genetically engineered crops is longer than for conventional seed because of health and environmental risks. This means that the effective life-span of patents becomes shorter. Industry organisations are now demanding a special extension of patent terms, called supplementary patent certificates, as compensation. [7]

Cultivation contracts A genetically engineered starch potato owned by chemical transnational BASF will be grown under a new type of contract where the farmer never becomes the owner of the crop. Planting material of the potato, which BASF hopes will become the first GE crop to be authorised in the EU after the long "moratorium", will be sold only to starch companies, which in turn will sign cultivation contracts with their growers. Growers will no longer sell the crop, only the cultivation service. [8]

UPOV and patents through bilaterals TRIPS does not require WTO member states to have either patent or UPOV PVP protection for plant varieties, only some kind of "effective sui generis system". But many recent bilateral trade and investment agreements, negotiated outside the WTO between industrialised and developing countries, include provisions that require either patents on plants or UPOV membership or both. [9] For example, recently concluded free trade agreements (FTAs) between the United States and almost half a dozen Latin American countries require all parties to join UPOV and make "all reasonable efforts" to allow patents on plants. [10] The agreements also state that this policy shift must be never be reversed. Agreements with Singapore, Morocco and Jordan went further and included animal patents as well. The European Union and European Free Trade Association (EFTA) have also been pushing UPOV membership through their bilateral FTAs with southern countries. [11] Most developing countries that have joined UPOV in the past few years have done so not because of the WTO but because of these bilateral FTAs.

First amendment protection for genetic engineering In a presentation at an international seed industry seminar, a senior legal counsel of Pioneer Hi-Bred suggested that the first amendment – the clause in the US Constitution which guarantees freedom of expression – could potentially be used if the government tried to limit the right of genetech companies to pursue whatever kind of plant breeding they like. This could perhaps have been written off as pure fantasy if the

speaker had not been Edmund Sease, the lawyer who successfully represented Pioneer in the recent Supreme Court case that reconfirmed and strengthened the legality of patents on life. [12]

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[1] Sease (2006); details given in footnote 21.

[2] The contested patent, filed by a small British company called Plant Bioscience, is EP 1069819. Available through the search function at patentinfo.european-patent-office.org/ For a concise background on MAS and its pros and cons, see Marker-Assisted Selection. A Briefing Paper, Center for Food Safety, Washington, June 2006. Available at http://www.environmentalobservatory.org/library.cfm?refID=88241

[3] The Use of Proprietary Parental Lines of Hybrids, ISF Position Paper, Copenhagen, May 2006. Available at http://www.worldseed.org/Position_papers/Prop_parental_lines.htm

[4] For the legal argument, directly from the Monsanto operative, see Michael J. Roth, "Infringement and Enforcement of Patents: A Primer", ISF Seminar Patent Protection of Plant-Related Innovations: Facts and Issues, Copenhagen, 1–2 June 2006. A CD with the seminar papers can be ordered from the International Seed Federation secretariat at isf@worldseed.org

[5] See European Commission, EU Proposals for Regulatory Reform in Japan, 1 November 2006, p. 56. Available at http://www.mofa.go.jp/region/europe/eu/overview/dereg0612-4.pdf

[6] See GRAIN's special issue of Seedling focused on current changes in seed laws around the world, July 2005: http://www.grain.org/seedling/?type=45. This issue was produced in English, French and Spanish. Hard copies are available on request from GRAIN.

[7] See 2006 Report from the Competitiveness in Biotechnology Advisory Group (CBAG), European Commission, Brussels, October 2006, p. 37. This method of patent term extension has previously been used in the pharmaceutical field. The actual proposal has not been made available by either Croplife or EuropaBio.

[8] BASF Plant Science Holding GmbH, Placing on the Market of the Amylopectin Potato Clone EH92-527-1. Market Introduction Plan, September 2003. This unpublished document clearly states: "Commercialisation of the seed potatoes on the open market is not intended. BASF Plant Science will sell certified seed potatoes as final product to contracted starch producing companies. (…) From this point on the starch producing company will be owner of all potato material and does not sell it any further. The farmers that cultivate the starch potatoes from these seed potatoes will be under contract for the starch producing company."

[9] See GRAIN, Bilateral agreements imposing TRIPS-plus intellectual property rights on biodiversity in developing countries, September 2005. Available at http://www.grain.org/rights/?id=68 For further updates, see http://www.bilaterals.org

[10] This is under the US–Central America FTA (CAFTA, concluded 2004 with Costa Rica, El Salvador, Nicaragua, Honduras, Guatemala and the Dominican Republic), the US–Peru FTA (concluded 2005), the US–Colombia FTA (concluded 2006) and the US–Panama FTA (concluded 2006).

[11] The European Free Trade Association (EFTA) is composed of Norway, Switzerland, Iceland and Liechtenstein.

[12] Put forward by Sease in a panel discussion at the ISF seminar on Patent Protection of Plant-Related Innovations, Copenhagen, 1–2 June 2006.

[1] UPOV means the International Union for the Protection of New Varieties of Plants; the acronym is from the French name. Website at http://www.upov.int

[2] TRIPS, the Agreement on Trade-Related Aspects of Intellectual Property Rights, was one of the package of agreements which entered into force when the World Trade Organisation (WTO) was established in 1994. Website at http://www.wto.org

[3] For this and in general for a more detailed account of the lobbying and political games leading up to the UPOV convention 1961, see Robin Pistorius and Jeroen van Wijk, The Exploitation of Plant Genetic Information, University of Amsterdam, 1999, especially pp. 44–51 and 77–85.

[4] It has never been proved that hybrids have inherently higher yield. Many independent scholars question the whole idea, and seed industry sources sometimes admit that the "built-in plant variety protection" is the real attraction. See GRAIN, "Hybrid rice in China – A great yield forward?", Seedling, January 2007. Available at http://www.grain.org/seedling/?id=455

[5] For more on the PPA and in general for the history of plant IPRs in the US, see Cary Fowler, Unnatural Selection. Technology, Politics, Law and the Rationalisation of Plant Evolution, Uppsala University, 1993.

[6] ASSINSEL is the International Association of Plant Breeders (acronym from the French name). The organisation merged in 2002 with the International Seed Trade Federation (FIS) to create what is now called the International Seed Federation, ISF. Website at http://www.worldseed.org

[7] Stephen A. Bent, "History and Portents for Intellectual Property Rights in Agricultural Innovation", Patent Protection of Plant-Related Innovations: Facts and Issues, ISF Seminar, Copenhagen, 1–2 June 2006. A CD with the seminar papers can be ordered from the International Seed Federation secretariat at isf@worldseed.org

[8] AIPPI, the International Association for the Protection of Intellectual Property (acronym from the French name), http://www.aippi.org

[9] An IPR system is called sui generis (Latin for "of its own kind") when it is designed for a specific type of product, rather than general in scope like patents or copyright.

[10] The different versions of the UPOV convention can be found under Publications at http://www.upov.int

[11] Membership figures at http://www.upov.int under About UPOV

[12] Richard L. McConnell, "Developing Genetic Resources for the Future – the Long Look", Protection of Intellectual Property and Access to Plant Genetic Resources, ISF International Seminar, Berlin 27–28 May 2004. A CD with the seminar papers can be ordered from the International Seed Federation secretariat at isf@worldseed.org McConnell's Pioneer colleague, Germplasm Security Coordinator Stephen Smith, had already delivered a very similar message at a UPOV meeting the previous year: Stephen Smith, "Dissemination of Biotechnology into Agriculture", WIPO–UPOV Symposium on Intellectual Property Rights in Plant Biotechnology, WIPO–UPOV/SYM/03/3, Geneva, 24 October 2003. Available at http://tinyurl.com/253bp2

[13] American Seed Trade Association, Position Statement on Intellectual Property Rights for the Seed Industry, 15 July 2004. Available at http://www.amseed.com/newsDetail.asp?id=97

[14] See for example Claude Grand, "Does the enforcement system meet the needs of the breeders?", Enforcement of Plant Variety Rights in the Community, Seminar of the Community Plant Variety Office, Brussels, 4–5 October 2005. Available at http://tinyurl.com/ytn5d9 or Judith Blokland, "Do the legal tools meet the needs of the breeders", Regional Seminar on Enforcement of Plant Variety Rights, Community Plant Variety Office, Warsaw, 11–12 May 2006. Available at http://tinyurl.com/28bvcg Both call for elimination of all rights to save seed on-farm in Europe.

[15] For the views of the Intellectual Property Manager of Limagrain, the largest Europe-based seed company, see Pierre Roger, "A Professional European View on Intellectual Property for Plant-Related Innovations", Patent Protection of Plant-Related Innovations: Facts and Issues, ISF Seminar, Copenhagen, 1–2 June 2006. A CD with the seminar papers can be ordered from the International Seed Federation secretariat at isf@worldseed.org

[16] For information about the PCT, see http://www.wipo.int/pct/en/index.html

[17] See for example Grand (2005) and Blokland (2006); details given in footnote 14

[18] See for example Essential Derivation. Information and Guidance to Breeders, International Seed Federation, June 2005. Available at http://tinyurl.com/2fsvs8 American Seed Trade Association (2004), details given in footnote 13 on page 6; and McConnell (2004), details given in footnote 12

[19] Mark D. Janis and Stephen Smith, Obsolescence in Intellectual Property Regimes, University of Iowa Legal Studies Research Paper 05-48, Iowa City, April 2006. Available at ssrn.com/abstract=897728 (free registration necessary for download).

[20] Bent (2006); details given in footnote 7.

[21] Edmund J. Sease, "Protections Available For Plants Under United States Laws, Both Federal and State", Patent Protection of Plant-Related Innovations: Facts and Issues, ISF Seminar, Copenhagen, 1–2 June 2006. A CD with the seminar papers can be ordered from the International Seed Federation secretariat at isf@worldseed.org Edmund Sease was the main legal counsel for Pioneer Hi-Bred in the recent Supreme Court case which reconfirmed and considerably strengthened the legal basis for patenting plants and other living organisms in the USA (JEM Ag Supply vs Pioneer Hi-Bred). Regarding design patents, he admits that there is as yet no legal precedent showing that they could be used for plants, but notes that as the JEM decision qualified a plant as "an article of manufacture" for the purpose of utility patents, why would it be different for the purpose of design patents?

[22] For a general background on IPRs as an anti-competitive tool, with examples mainly from the pharmaceutical and entertainment industries, see Peter Drahos and John Braithwaite, Information Feudalism. Who Owns the Knowledge Economy?, Earthscan, London, 2002.

[23] David E. Schimmelpfennig et al., The impact of seed industry concentration on innovation: a study of U.S. biotech market leaders, Economic Research Service, US Department of Agriculture, Washington, 2004. Available at ssrn.com/abstract=365600 (free registration required for download). Schimmelpfennig and colleagues have primarily documented how industry consolidation leads to a decrease in genetech research, which may be a good thing, but nevertheless illustrates the point.

Grain
April 2007
(article on line:Grain.org)

New EU Seed Legislation:
A threat to local varieties, beneficial to patents and repressive technologies

from BiotechWatch.gr

A newly awaited revision of EU legislation regarding the seed trade appears to be a real threat to the preservation and trade of local varieties, which culminates even towards banning their use. The proposed rules favor large seed companies through the expansion of intellectual property rights and the promotion of new technologies to control all commercial plant varieties.

Maintaining diversity? Not quite

Without becoming publicly apparent, the European Commission has begun to revise the EU legislation on the seed trade in 2008. Up until a few years ago, trading of unregistered seed varieties (local, traditional and self produced) in most countries did not fall under any effective control, and constituted a relatively small market share, without much competition and was traded without commercial intentions. In June 2008, the European Commission presented a Directive (the 2008/62/EC) on the preservation of specific varieties, which resulted in a set of directives (such as 2009/145/EC), applied differently in each EU country. Their role is to regulate the movement of commercial animal breeds, plant varieties adapted to local conditions and those at risk of extinction. The EU Member States will soon be forced to incorporate the relevant directives into national law.

However, although titled: "for the maintenance of diversity", the directives have not been consistent so far with their purpose, i.e. to stop the loss of agricultural biodiversity and to simplify legislation. As noted, although it has allowed entrance to local varieties in official catalogues, it has also created too many bureaucratic obstacles. Three conditions are considered as particularly absurd and are expected to mean a very high risk of banning unregistered varieties: the need to demonstrate the importance of the variety, the restriction and distribution of local seeds only in their regions of origin and the quantitative restriction of crop varieties in proportion to the commercial varieties.

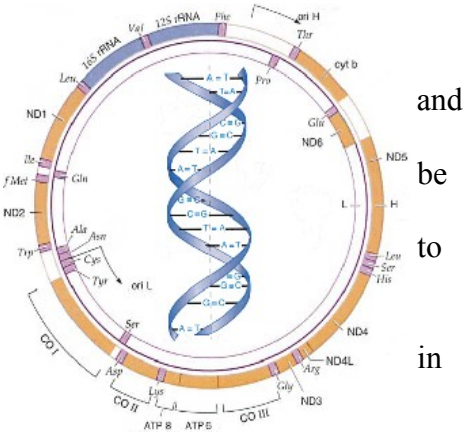
The pressures of the seed industry's lobby

An important role in forming the above directives has been played by the seed producing industry, an international business with the ten largest companies controlling the largest market segment. Amongst them are giants such as Monsanto, Bayer and Syngenta, which, besides the chemical and biotechnology industry, have spread rapidly in the field of seeds and have a long term strong pressure lobby in the EU for new legislation requiring the strengthening of intellectual property rights and their protection. The companies claim that they currently lose 40% of the potential

market due to "illegal reproduction" as they call it, and because of seed production of non-registered varieties. The interests of the European seed industry are represented on all continents within the International Union for the Protection of New Plant Varieties (UPOV) through policies relating to the Plant Variety Protection (PVP).

Molecular "barcode" for plants

Until now genetic engineering seems to have served the industry as the ideal solution for securing intellectual property rights, since genetically modified varieties can be patented identified in the fields by their genetic code. The farmers which are bound by such contracts can be sued for illegal reproduction, if they keep and trade GM seed. The biotech industry has refused to take responsibility for any contamination in fields and insists on establishing quantitative limits which allow limited genetic contamination in non GM crops, without this being stated on labels.



Given the growing European resistance to GMOs the industry now recommends other related technological solutions. During the negotiations for new legislation regarding seed trading, they were seeking the possibility of identifying varieties through technologies using genetic sequences known as molecular signaling. This technology, although it doesn't concern the unpredictable and potentially dangerous process of genetic modification, it will allow companies to recognize their varieties in the field and thus clamp down on re-seeding the following year. But the risk that these genetic sequences could be detected and displayed in neighboring fields due to spontaneous cross-fertilization of plants is ignored, creating the same problems of ownership, just as with GMO.

Production Grabs

What are the consequences if the seed companies succeed and impose their agenda? Environmental and social organizations have already pointed out the authoritarian attack, primarily on local varieties - the last "free" element in agricultural production – and the creation of a dangerously dependent relationship of exchange and control through patents and new technology, even for conventional seeds.

A blatant abolition of the fundamental rights to self preservation and production of seeds and a massive transfer of value from farmers to corporations which are now in open conflict over basic agricultural processes. The interesting thing is that even some conservative analysts have begun realising that this can lead to reduced research and development. In an industry which, unable to generate value through innovation, is trying to grab the last remaining market and increase profits, it is simultaneously preventing any progress in agriculture.

Vassilis Gkisakis
BiotechWatch.gr
May 2010
(Article on line: BiotechWatch.gr)

Taxation and Prohibition of Seed Saving and Re-Sowing for French Farmers (?)

A strict new bill that imposes royalties to the use of seeds and restricts the free self-production of seeds was recently approved by the French parliament. The new law confirms the general trend in the EU that limits and constricts the rights of farmers to seed use as well as increases the concerns about potential impacts on agricultural biodiversity.

For French farmers the free use of seeds may very soon be a thing of the past. Self-produced seeds, known as "farm seeds" are selected by farmers from their crops and kept for planting the following year. For decades, this had been effectively considerably reduced, particularly since the seeds became protected by the Plant Variety Certificate (PVC), i.e. the property right that belongs exclusively to the seed "owners". The reuse of these seeds for planting was theoretically forbidden, although in reality, the practice of reusing the seed was well tolerated in France. However, from now on, the legislation will become much more severe under a bill proposed by the French center-right UMP party, and adopted on 28 November by the French parliament.

"Of the 5,000 plant varieties grown commercially in France, 1600 are protected by PVC accounting for 99% of all cultivated varieties" explains Delphine Guey, the National Interprofessional Seed Group (NISG). However, to date, and according to the National Coordination for the Defense of Farm Seeds (CNDSF), about half of the cultivated grain is reused for planting by farmers, and is almost always "illegal". It seems, however, that the time of "legal uncertainty" has elapsed: according to the French Ministry of Agriculture "…seeds can not be exempt from taxation, as it is at present."

The UMP party bill essentially interprets a 1994 European regulation on plant varieties[1], which was up till now rather unsubstantial in France. Consequently, farm seeds, whose existence was until recently under a regime of tolerance, have now been legalized, provided of course that some "compensation to the owners of the certificate PVC" should be given - meaning, money for the seed companies - "that aim to continue to devote their strength in research and continuous improvement of genetic resources", says the bill document. Exceptions to this are farmers producing less than 92 tonnes of cereals.

[1]This can be found at: http://eur-lex.europa.eu/Notice.do?mode=dbl&lng1=el,el&lang=&lng2=bg,cs,da,de,el,en,es,et,fi,fr,hu,it,lt,lv,mt,nl,pl,pt,ro,sk,sl,sv,&val=302956:cs&page=1&hwords=

Since 2001, this legislation was effectively implemented to only one species, wheat for bread making; it was called “necessary voluntary contribution" and was collected from seed-producing compounds. Farmers had to pay 50 cents / tonne during wheat harvest. This system will now be extended to an open list of 21 varieties, says Xavier Beulin, president of the National Federation of Agricultural Producers (NFAPU). In short, according to Guy Kastler, CEO of Seed Network and a member of the Confederation of Farmers “for about half of the cultivated species - such as soy, fruits, vegetables – it is forbidden to reuse of our seeds, and for the other half - grain and fodder species – we will have to pay to reuse them."

Is this the Privatization of Seeds?

Many ecological and agricultural organizations fear the significant interference from seed-producing companies in access to seeds through the extension of property rights to various crops and their derivative products. With this tax, "even farmers who use commercial seed will have to pay for their seeds," says Guy Kastler. The fear expressed is that the percentage of farm seeds used will be drastically reduced as they would become more expensive and thus become less attractive to farmers. Through taxes and prohibition on reusing their own seeds, farmers will be taxed more and more each time, without actually producing them, and each year having to purchase their seeds. In this way there will be an increased dependence on the seed industry.

On the other hand, the Xavier Beulin thinks this ensures the contribution from everyone in furthering the research in cultivated seeds, since most of these generally originate from farm seeds. Drawing a parallel with a law aimed at "protecting artists' film and music”, the chairman of NFAPU claims that it is "normal for any users of farm seeds to also participate in financing the creation of new varieties, since they themselves will benefit ".

Refuting this argument, the Union of Rural Coordination stress on their website that Beulin Xavier is not only the head of the National Federation of Agricultural Associations NFAPU, he is also the group director of Sofiproteol, “which is part of a larger group of French seed companies such as Euralis SEMENCES, Limagrain others."

Is biodiversity loss coming this way?

People fear the impact this will have on agricultural biodiversity. Obviously, planting only one variety - something that almost always results from research – will not increase biodiversity. The Guy Kastler suggests that using farm seeds "new characteristics appear which allow the plant to better adapt to the soil, climate and local conditions. In this way it becomes possible to reduce the use of fertilizers and pesticides. On the other hand, the seed industry adapts the plants to their own fertilizers and pesticides, so they are the same everywhere and tend to create uniformity in the plants, wherever they're grown. "

Towards a patent regime

The PVC certificate in France is different to the regime of patents on living organisms, such as the one in force in the U.S. This property right is registered to companies which, through research, have created hybrid varieties and have a monopoly on the sale of seeds [for several years] of these species, as is the case in France for about 450 species.

Some, such as Guy Kastler, fear this would be favorable to the patent regime that limits the rights of farmers to freely use protected seeds. In any case, unlike the PVC certificate, the patent completely prohibits farmers to cultivate [patented] seed obtained from own cultivation, with or without compensation, according to Delphine Guey. This is already the case with genetically modified varieties (GMOs) belonging to U.S. company Monsanto, which, according to Marie-Monique Robinin in the documentary "The World According to Monsanto", has created a kind of "seed police" who specialize in the harassment of farmers who plant or exchange "illegal" [patented] seeds of their own production.

The other difference with patents is that the PCV license allows owners to freely use protected varieties, taking advantage of genetic resources and creating new varieties. Thus, the use of a gene from one plant species does not allow establishing a patent, and therefore prohibits it from full ownership. This variation allowed, according to Delphine Guey, the maintenance of varieties of French seed companies. And at least it allowed the producers to choose from a wider range of varieties. However, although a patent on living organisms is not allowed in France, patenting plant genes already exists and this trend is growing.

Source: BiotechWatch.gr (Translating from Le Monde)

The protection of seeds in Greece

Loss of agricultural biodiversity

The Greek geographical area has been recognized as an important source of agricultural biodiversity. From it originate a number of species such as wild and cultivated cereals or certain medicinal plants - herbs that are native species. Today, Greece is the country with the second richest biodiversity in the Europe, after Spain. However, the transformation of the countryside from the '50s, with the expansion of intensive agriculture and the rural exodus, resulted in the reduction of biodiversity (genetic erosion) and the anthropogenic degradation of traditional rural landscapes. With the prevalence of industrial type monocultures of improved and hybrid varieties in domestic agriculture, most of the native genetic resources has been displaced by the production process as being less competitive and has, due to untimely conservation measures, been lost for good.

Box 1

Definitions

Agrobiodiversity: Is a wide concept which includes all the elements of biological diversity which relates to food and agriculture and all the elements of biological diversity which make up agricultural ecosystems.

Plant Genetic Resources (i.e. Seeds, other propagating parts):

Are part of the agrobiodiversity and are defined as part of the genetic material of plant origin which has real or potential value for food or agriculture. They are the most important part of global biodiversity, due to their importance for the present and future of agricultural production and food security. They are the base of food production and contain the possibility to feed populations, during times of climatic and other environmental changes.

Unimproved local varieties:

Varieties used in traditional agriculture, which evolved in specific areas over many centuries, with the influence of natural selection-that is, adaptability and breeding in the environmental conditions, and artificial selection applied by the farmer – by keeping the plants which were higher quality and developed resistance to pests and diseases.

Hybrids / improved varieties:

Hybrids are the result of crossing two genetically dissimilar individuals, but which express a common characteristic in a different way. On farms, farmers and agronomists use the term for different varieties of the same species (e.g. corn) which normally were created artificially to produce larger yields or more resistant plants.

Genetic erosion
In hybrid seeds: overusing and recycling very few individuals as "parents often related to each other means only a fraction of the large range of genes are involved in the cultivation of new varieties of genotypes. This gradually leads to genetic erosion and narrowing of genetic variability and brings about uniformity. Today, improved varieties are not used for more than 5-10% of the available variance. This increased genetic uniformity, the reduction in the genetic base of crops and cultivation of huge areas using only one or very few varieties, gradually led to increased genetic vulnerability of crops to evolving pathogens, with obvious negative consequences of epidemics in many cases.
Local varieties kept in the field: whilst preserving varieties through their cultivation, they are under the influence of local conditions, so the population is subject to genetic erosion (deviation or diversion). After a few years it may not be considered to faithfully represent the gene sequences of the original population from which the variety originated.

The numbers relating to the reduction in agricultural biodiversity are disheartening. Estimations show that only 1% of Greek arable land 50 years ago is cultivated using local varieties of wheat, and there is a similar trend for vegetable varieties. According to the Second National Report of the Ministry of Rural Development and Food YP.A.AT regarding "the situation of plant genetic resources for food and agriculture", wheat varieties have undergone the most rapid erosion. A similar trend, with a delay of 15 – 20 years is seen in vegetable production.

The plant genetic resources that have survived in the field are due primarily to farmers and gardeners, mostly in their old age, usually from the mountainous islands or mountainous hinterland which continued to cultivate uncompetitive local varieties as part of the local agricultural tradition and culture. In addition, local varieties are still used in growing fruit trees (olive, apple, cherry, pear, etc.) and in vineyards, but their numbers but have declined sharply. Another part of Greece's plant genetic resources of local varieties is held in the National Seed Bank and in its equivalent counterparts abroad.

The institutional framework for the protection of seeds in Greece
The evolution
First period (interwar period – the beginning of the 1980s - Breeding programs and mechanization of agricultural production.

The interest in plant genetic resources in Greece began in the early '20s. The then newly established breeding organisations, the Institutes of Plant Breeding (cereals, cotton, etc.) began the first systematic collection of genetic material, resulting in the development of a series of modern varieties. The first such improvement program, made the country self-sufficient in several key crops (cereals, fodder plants, legumes, vegetables, cotton, etc.). The next goal was the creation of varieties suitable for international exports and the increase of imports of specific products. From the mid '50s production moved from self-sufficiency, to surpluses and exports. However, the first collections of genetic resources were quickly lost due to limited scientific

knowledge and deficiencies in facilities and equipment storage. The modernization of agriculture due to the Green Revolution led to dramatic losses of cultivated genetic resources, which became displaced by more competitive modern varieties, locally produced or imported. By the late 1970's, due to the incomplete legal framework, there had not been a full assessment or estimation of genetic erosion of plant genetic resources for agriculture in the country.

Second period (early '80s to present) Establishment of the Gene Bank and systematic inventory of plant genetic material

In 1981, in Thessaloniki, the Greek Gene Bank (TGY) was founded, with the support of FAO, while a presidential decree enacted in 1990 the National System of Plant Genetic Material, currently overseen by the Ministry of Rural Development and Food (Yp.A.A.T.). The Ministry is considered the scientific coordinator and the organization responsible for the conservation of plant genetic resources in Greece with the support of other organizations involved in conservation and research, such as universities, colleges, botanical gardens, museums of natural history, N.G.Os etc.

Since 1992, the Gene Bank, together with the majority of Institutes of Plant Breeding were put under the National Institute of Agricultural Research (ETHIAGE-Nagref). Its mission was defined as the collection, preservation and conservation of threatened traditional domestic varieties and wild crop relatives, as well as the assessment of the degree of genetic erosion. Furthermore, the purpose was to study the main agricultural characteristics with the aim of documenting them in an electronic database.

Apart from the National Gene Bank, conservation also occurs in Institutes, Universities and other organizations, most of which come under National Institute of Agricultural Research, whilst samples and collections are available in various educational institutions and botanical gardens, mainly for scientific research. Examples are the Mediterranean Agronomic Institute of Chania (MAICh), National University of Athens - Department of Botany and Botanical Museums, various universities and foundations, the most important being the University of Patras (Department of Plant Biology).

The Gene Bank's collection of seeds

It is estimated that the collection of the Gene Bank (TGY) exceeds 14,500 varieties, and constitute, according to an Yp.A.A.T. Report in 2006, only a small part of the national genetic resources. The collection is excellent for some wild cereals, legumes and pulses, many of them extremely resistant to drought and disease. However, the collection is rather poor, compared with the existing genetic resources in Greece, for vegetables, trees, ornamental plants, wild fodder plants, legumes, medicinal and aromatic plants. In the past two decades there has been little increase in the number of entries of the most important crops held in TGY, reflecting the dramatic degree of genetic erosion and irreversible loss of traditional unimproved varieties in Greece.

Regarding the programs the Gene Bank undertakes in seed conservation In Situ (see Table 2), there has been some progress since 1995 with various EU funded projects, such as the Community Support Frameworks (CSF) and other initiatives in which the Bank works with farmers and related organizations. The expensive nascent project for

the new management and storage of seeds, along with a science laboratory has not been utilized at all, whilst the lack of staff is really dramatic.

In recent years the TGY faces many problems and is deemed not to have sufficient resources for its sustainability. E.TH.I.A.G.E., which houses it as well as other research centers, is passing through a phase of reorganisation and greatly reduced budget, so the TGY is not adequately funded. The consequences of these are the loss of seed collections and loss of scientific knowledge. It is estimated that due to lack of funding and scientific personnel, at least 5,000 of the 14,500 varieties have been destroyed due to lack of funding.

There is a growing need for the work of TGY, especially in times of changing climatic conditions, where the Mediterranean will experience increased drought. The European Commission adopted a recommendation towards all EU countries to accelerate the research and documentation of the conditions of agriculture under climate change, especially regarding genetic material.

Table 2

Technical conservation and protection of Seeds (genetic resources)

Seeds can be preserved and protected in 2 main ways: maintenance ex situ or outside of the natural environment and maintenance on site or in the natural environment (In Situ). A branch of in situ conservation is the field or in cultivation in general (On Farm conservation) applied to protect populations and traditional varieties.

Ex Situ conservation is the commonest and easiest way of preservation, and is done through Seed preservation in special refrigerated warehouses in conditions that slow aging or in collections-plantations which maintain tissue of clonally propagated species. The Conservation In Situ & On Farm conservation is done through cultivation or farming.

Access to public collections of plant genetic material

The use of the material collected from TGY and other institutions is limited, mainly due to the lack of evaluation that allows identification of a suitable material for immediate use in improvement programs. In recent years, there is an increased interest and concern of farmers and the public for the plant genetic resrouces and an increasing need for better access to seeds – access to seeds is a farmer's right. However this access is not guaranteed to farmers. So, the context in which farmers can have access to public collections of plant genetic material is not sufficient. Access for amateur growers (gardeners etc.) is even more difficult due to the limited amount of genetic material kept or the small number of scientists who work in organizations such as the TGY and deal with the subject.

The National Legal Framework about Seeds

The institutional protection and conservation of indigenous genetic material of unimproved varieties in Greece, is determined by Presidential Decree (PD), decrees (Y.A) and Laws (N.). The total to date legislation constitutes its implementation and follows the priority choices of the EU whilst it is harmonised with international treaties such as the ITPGRFA (International Treaty on Plant Genetic Resources for Food and Agriculture).

Table 3

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

Is an international treaty adopted at the Meeting of the International Statute of Food and Agriculture Organization (FAO) of the UN in Rome in 2001 and came into operation in 2004. It is the first legally binding treaty which deals exclusively with the management of plant genetic material for food and agriculture. Official purpose of the Treaty is the conservation and sustainable use of plant genetic material for food and agriculture, fair and equitable management of the benefits that can their use may bring, and is in line with the international Convention on Biodiversity. This treaty has been signed by all Member States of the European Union. Article 5 gives explicit reference to the development of an effective sustainable management system of plant genetic material, especially for rare, wild and local varieties. Article 6 and Article 9 make explicit reference to the rights of farmers and their pivotal role in the conservation and sustainable use of plant genetic resources.

The legal framework governing the management, protection and conservation of plant genetic resources are the following:

1. PD 915/8-8-1981 which founded the Greek Gene Bank (T.G.Y.) as part of the Agricultural Research Centre of Northern Greece (K.G.E.V.E.).

2. Law 1546/1985 on "organization, production and marketing of propagating material of plant species", which permitted natural or legal persons under private law, to establish nurseries and seed producing companies. Under this law, farmers buy seeds or propagating material of another kind from local or international seed producing companies or nurseries, which are under the supervision of state authorities.

3. PD 80/90 (Official Gazette 40 / A '/ 22.3.1990) on "Protection of plant genetic resoruces in the country" which was intended to "protect and preserve indigenous unimproved seeds of cultivated plant species and their progenitor species or their relatives' and which establishes the National System of Plant Genetic Resources. It is considered the primary PD for the protection and management of plant genetic resources.

4. Y.A. 396851/22.10.92 (Gazette 626 B '/ 92) for "the national catalog of varieties, varieties of fruit trees, shrubs and other small fruit."

5. Y.A. 396943/24.11.92 (Gazette 684 B '/ 92) for "the national catalog of varieties of vine varieties."

6. Y.A. 329360/5.4.94 (Gazette 234 B '/ 94) for "the national catalog of varieties of varieties of vegetable species."

7. Law 2204/94 (Official Gazette 59 / A '/ 15.4.1994), which ratifies the Convention of Biological Diversity (Rio International, 1992).

8. Y.A. 433374/16.12.94 (934V GG '/ 94) for "the national catalog of varieties of agricultural species." It relates to arable crops.

9. Law 3165/2003 (Official Gazette 177 / A '/ 02.07.2003), which ratifies the

International Treaty of FAO on "plant genetic resources for food and agriculture" signed by the Contracting States in 2001

10. 135644/6-7-2005 JMD on "protection of local varieties by genetic erosion" and the decision of implementation Measure 3.8 of the Rural Development Programming Document (ESDP) 2000-2006 in the framework of Regulation (EC) 1257/99. The above measure of the ESDP 2000-2006 empowers farmers to maintain and reproduce local varieties that have been subjugated to genetic erosion.

11. Integrating the Ministerial Decision of EU Directive 2009/145 with the measures for local varieties of vegetables February 11, 2011: CMD 194 B / February 11, 2011
Moreover, in the context of EU agro-environmental policy Regulation 1698/2005 and EC 1974/2006, the Greek government has earmarked some financial support for programs to grow varieties that are not recorded in the national catalog and threatened by genetic erosion.

Legislation and the National catalogue of varieties

In the agricultural sector, commercial trading in seed or other propagating material of a specific plant variety is permitted only if it is listed on the National or the corresponding European Catalogues of varieties of plant species lists and is reproduced by a 'responsible' preserver and monitored by the relevant official bodies of the Greek authorities. For those items not included in these lists, the marketing of propagating material is under the supervision of state authorities. In addition, on a theoretical level at least, Greece recognizes the work of rural organizations and groups dedicated to the subject of conservation of varieties not included in the national list.
There is no specific legislation or regulation for the registration and marketing of seeds on national lists differentiated from the official national list (e.g. regional ones) or the availability of seeds from these. However there are specific criteria for inclusion in the official, public list as applied by the EU directive 2008/62 EC for arable crops (wheat, barley, corn, etc.) and potatoes and by the recent Directive 2009/145 EC on horticulture. These criteria include geographical, quantitative and trade restrictions (see previous article), which are estimated to have negative consequences for farmers' rights and agrobiodiversity. However, some geographic limitations may help and have a positive effect on farmers' rights, as they will protect the cultivation of regional varieties in other areas.

Exchange and trade of self saved seeds
The exchange and trade of self saved seeds by farmers is in theory not recognized in Greece, although there is relative tolerance of such practices, since it is such a small part of farming. Also, the right of farmers to choose their own varieties based on protected varieties is not recognised. The existing national laws and trade regulations related to agricultural policy effectively prevent farmers from re-sowing part of their harvest and also require them to use specific certified varieties of certain species, limiting the right of farmers to use self-saved seed. This is especially true for subsidized crops that farmers receive to use certified, seed varieties (e.g. cereals). At present, the use of certified seed is maintained at certain levels, but the seed companies and other business executives are pushing the government to increase this

percentage in coming years

Fees for plant variety rights

As mentioned in the previous article, the International Union for the Protection of New Plant Varieties (UPOV) seeks fee payment for the use of vegetable varieties for which there are copyrights (patents). Greece does not belong to UPOV, so the non-payment of charges for the use of seeds that were kept by farmers for following years is acceptable. This is because although the national system, e.g. Law 1546/1985, sees some exclusive rights to breeders, the relevant Directive 2004/48 EC on copyright in general has moved the issue of plant varieties, so payment of fees does not apply practically. Greece is under pressure to become a member of UPOV and integrate with existing European legislation on copyright issues that may make sanctions applicable. Recently, the Yp.A.A.T. succumbed to review the issue of participation in UPOV.

Control of GM varieties

In the European Union, the only genetically modified (GM) varieties currently grown are corn Mon810 and Monsanto of 2010 and GM variety of potato Amflora Basf.In Greece, citing the Cartagena Protocol on Biosecurity, there is a moratoriumsince 1999 on growing genetically modified (GM) varieties,soofficially Greece does not produce or cultivate GM seeds, although there are recorded incidents of contamination, the best known case being through the General Confederation of Agricultural Associations in Greece (Pan) which submitted a complaint against the company Syngenta and the State, for smugglinggenetically modified corn seeds in northern Greece through conventional seed lots. It is generallyconsidered that there is no adequate monitoring for contamination of GMO imported commercial seeds.

Grassroots movements for the preservation of local varieties

An indispensible role in the preservation and promotion of local varieties in Greece is through the major contributions done by individuals, various groups of producers, networks and organizations working in this field of their own accord and who are active on a local or national level. The most serious efforts are made by organizations such as Peliti and Aigilopas which deal mainly with the preservation of agricultural biodiversity.

In recent years there is a permanent representation of these groups and organizations in the Consultative Group on Plant Genetic Materials, coordinated by the Ministry of Agriculture. The purpose of this move is to extinguish the influence on decision making proposals which guarantee the rights of farmers particularly in relation to seed preservation on the farm, and the free use of biodiversity.

Recently, there has been an effort to unite and coordinate the voices, both on a national, European and international level for rural agrobiodiversity with the creation of an platform on for Seed Rights from various groups involved in biodiversity (Aigilopas, Peliti, Archipelago), the Ecological Agriculture Network (Oikokoinotita Network), and collectives such as Sporos and organizations such as VIOZO. In

Greece of 2012 free access to seeds and access to food can potentially become a matter of luxury. In the vice of the current crisis more and more people are turning to food growing and so initiatives dealing with the preservation and production of local and traditional varieties are multiplying.

BiotechWatch.gr-Sporos
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(on line: www.biotechwatch.gr/?q=librarypdf)
(Thanks to Kostas Koutis, Roikos Thanopoulos, Vagelio Christidou for comments, sources and suggestions)

Information on line:

Resources in Greek:

-Aegilops (in Greek)
Netowork for biodiversity and ecology in agriculture
www.aegilops.gr

-Peliti (in Greek & English)
www.peliti.gr

-Archipelagos (in Greek & English)
Institute of marine environment – Aegean Seed Bank
www.archipelago.gr

-Sporos (in Greek)
Alternative and Solidarity Trade
www.sporos.org

-BiotechWatch.gr (In Greek and English)
Counter-info for the Biotech Era
www.biotechwatch.gr

International:

-Campaign "Sowing the future – Harvesting diversity"
www.seed-sovereignty.org/GR

-No Patents on Seeds Coalition
www.no-patents-on-seeds.org

-Save Our Seeds
www.saveourseeds.org/en

-Via Campesina
http://viacampesina.org/en/

- Farmer's Rights
http://www.farmersrights.org/

Recent decades have seen a dramatic increase in the control over plant genetic resources (seeds) and policing of rural production with the agricultural industry being transformed from a field involving small companies and public programs, to a form of corporation apartheid dominated by multinationals. Today, only 10 corporations control about half the global market. Most are simultaneously producers of pesticides and, apart from the promotion of hybrid varieties, also focus on the development of genetically modified (GM) crops to support intensive agriculture and industrial types of farming, favoring the control of plant genetic resources through intellectual property rights and patents.

It should not be ignored however that it is small-scale farmers, using mild forms of agriculture and the use of local and self-produced seed varieties that continue to supply most of the planet with food, without almost any support from governments, which instead, are constantly constraining their practices, even to the degree of criminalisation. In addition, hundreds of thousands of people are actively asserting another form of agriculture and food sovereignty, struggling for the right to keep seed production in the hands of farmers through agricultural, environmental and political grassroots movements and international campaigns.