

EU reform of seeds marketing rules

Which seeds for a just transition to agroecological and sustainable food systems?



Political study commissioned by
Martin Häusling, MEP and Sarah Wiener, MEP

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Author:

Magdalena Prieler:

She works as a policy officer for ARCHE NOAH in Austria and Brussels. As a non-profit association with a broad member base, ARCHE NOAH (“Noah’s Ark”) is dedicated to the conservation, development and dissemination of endangered cultivated plants.

Publisher:

Martin Häusling MEP

Sarah Wiener MEP

The Greens/EFA in the European Parliament

Rue Wiertz 60, 1047 Brussels



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Sarah Wiener and Martin Häusling

Seeds – they can be found in the most diverse colours, with the most diverse shapes and sizes. Seeds stick, fly and roll – the variations of seeds are the epitome of diversity. Certain seeds are of particular importance for human nutrition. Around 13,000 years ago, after the last ice age, the history of seeds and humans began. At that time, humans systematically sowed wild plants for the first time. This gave rise to the original forms of cultivated plants that dominate our markets today. Einkorn grain and Emmer are among the original forms of today's most important varieties of wheat, rye and barley. And with this agricultural revolution, people changed as well. After thousands of years as hunter-gatherers, they gradually settled down, built settlements and practiced agriculture, which later also benefited livestock farming. The cultivation of seeds thus changed the course of history. It is the world heritage on which we have relied for millennia. For a long time, seeds were freely available; farmers simply grew their own plants, cultivated them and exchanged the seeds among themselves.

Only after the 19th century – in the course of industrialization and advances in plant breeding – seeds were commercialized. As a commodity, plants with the highest possible yield were bred for the greatest possible economic profit. But the quality was not always optimal. Varieties began to be registered and patents granted. The idea behind the introduction of plant variety protection was to guarantee quality and to establish rules for breeding so that farmers would have access to high-quality seed and information on their identity. Thus, order was brought into the "confusion of varieties", unfortunately without regard for diversity, which was increasingly destroyed. In 1934, the first seed directive was issued in Germany, and three years later in Austria. Everything that was not on this official list, or could not make it to the official list which required the varieties to be uniform, was not allowed to be made available. This was a fatal decision for many regional, old country varieties, which were thus lost.

A few large companies now dominate the global seed market. At the forefront are Corteva (DuPont-Dow/Pioneer), ChemChina-Syngenta, BASF and Bayer-Monsanto, all with backgrounds in the chemicals industry. These four corporations, together with the French giant Limagrain and the German KWS control more than 60 percent of the global market for commercial and patented seeds. And thus a market that is more essential than any other: because all people need to eat. The power of these corporations is driving agriculture into dependency. Pesticides and fertilizers are sold along with the seeds, and farmers lose their food sovereignty and hang on the drip of the large corporations.

The consequences of this monopolization are also fatal for diversity: According to UN estimates, we have lost around 90% of our species and seed diversity in the last fifty to one hundred years. A large part of the world's food demand is met by only 5 livestock breeds and 9 plant species. There are more than 3,000 different tomato varieties in the world alone! In the supermarket, however, we only ever find the same five varieties – the same applies to the rest of the fruit and vegetable shelves.

Seed and variety diversity are crucial for a sustainable, independent and crisis-resistant agriculture. This makes it all the more important to propose a new EU seed law that meets both the requirements of organic farming and society's demands for seed conservation. Only in this way can we also achieve the goals of the Farm-to-Fork strategy for a sustainable food system.

In this study, we will take a look at the current state of the seed market and focus on the changes needed to make the seed market more robust and sustainable. The new seed law will play a key role in this context.



Introduction

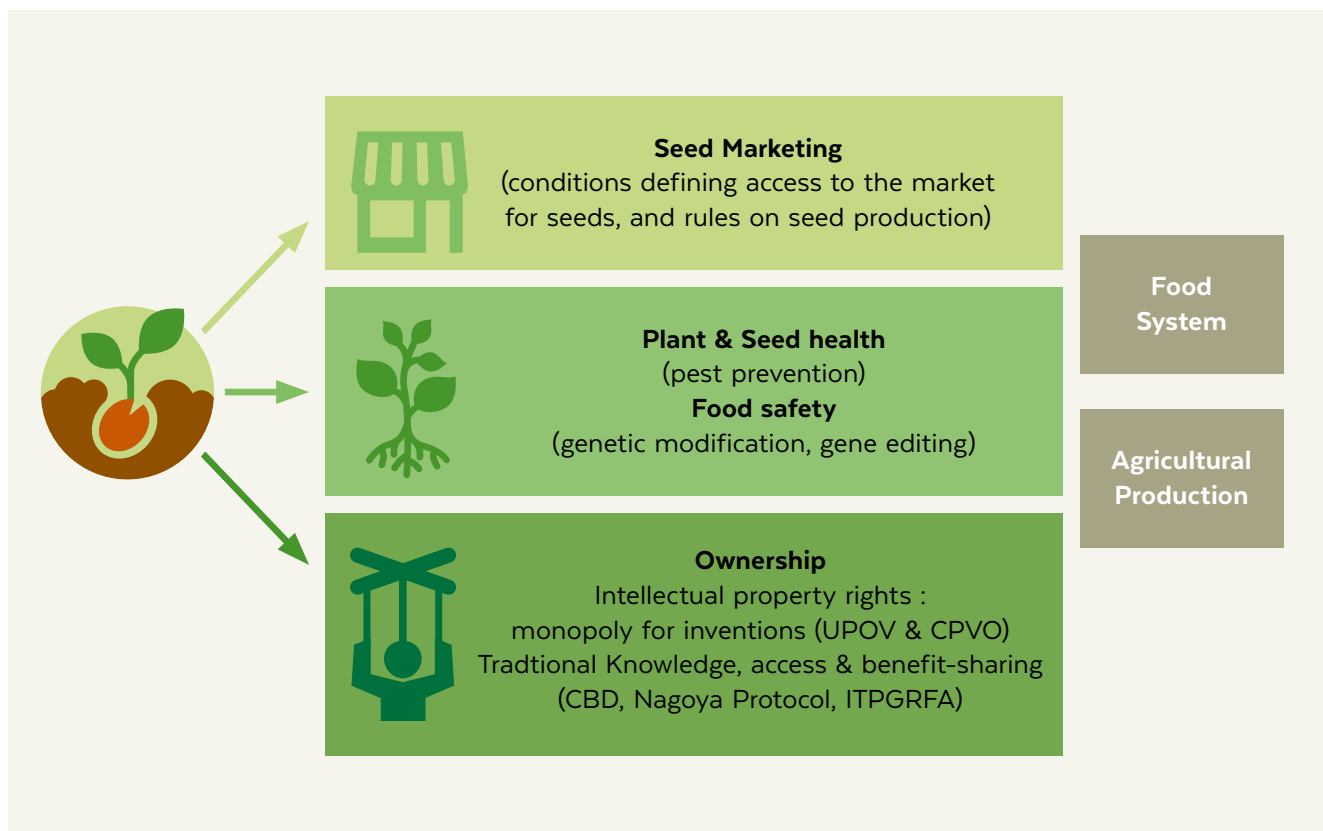
As an indispensable input of agricultural production, **seeds are the foundation of our agricultural and food systems**. Their variety, choice and performance determine the economic, social, and environmental sustainability of our agricultural and food systems. They not only generate income for peasants, farmers, breeders, and distributors, but also uphold local rural development and community-building. Seeds shape the use of natural resources and other inputs on farm and can also support the adoption of varied and healthy diets.

Seeds are extremely regulated resources

Seed marketing rules define the conditions under which seeds can access European Union (EU) markets. These rules are complex and concern both the production of seeds and their marketing. They are the focus of this study.

However, there are also other relevant legislative frameworks that impact the development, production and use of seeds.

Figure 1:
Different regulations that impact seeds



Some of these rules are focused on health and safety, enshrined in **plant health** rules and **food and feed safety** legislation. Seeds need to comply with stringent rules to ensure they are free of pests and diseases, observing **plant health** rules (Regulation 2016/2031). These rules do not only apply to the marketing of seeds, but to their “movement” more generally, and include not only the sale but also the exchange of seeds. In addition, seeds are also impacted by other **food and feed safety** legislation, which govern amongst others the import and release of genetically modified organisms (GMOs) into the environment.

Furthermore, the development and use of seeds is impacted by **intellectual property rights** granted on:

- new plant varieties: through **plant variety protection**, also coined plant breeders’ rights, in conformity with the 1991 UPOV Convention¹ and the regime of Community Plant Variety Rights (CPVR), which is implemented by an EU agency, the Community Plant Variety Office (CPVO)² in the EU,
- inventive plant development techniques and on plants and their characteristics: through patents granted according to the European Patent Convention and EU Directive 98/44 on the protection of biotechnological inventions (and in the very near future, the Unitary patent system established by Regulation 1257/2012), Patents are not granted by EU institutions, but the European Patent Office (EPO), a stand-alone international institution, as well as national patent offices of EU Member States).

Both plant variety protection and patents give the right to exclude others from using the protected variety. Their aim is to reward innovation and stimulate research and development by giving inventors a

monopoly. Patents can be granted on processes like breeding techniques as well as products like genetic sequences, enzymes or proteins that can be found in several plant varieties. Patent rights exclude third parties from accessing the market without royalty payment if the protected invention is present or has been used. Through the wide protection they offer, and the wide coverage of the inventions they protect, patents are the strongest intellectual property rights that exist in the world of seeds. They can be detrimental to both biodiversity conservation and plant breeding, as they restrict the use of genes by making it conditional to the payment of a license to the patent holder, even if these genes were present before the grant of the patent in breeders’ gene pools, farmers’ fields, public gene banks or seed savers’ collections³. All reproduction of the patented invention (i.e. the gene or breeding process) is indeed subject to authorisation, and the payment of royalties. It is also quite difficult, if not impossible for breeders, farmers and other seed users to exactly know whether the plant varieties and seeds they use fall under patent protection, and some patents can cover hundreds of varieties⁴.

In the case of **plant breeders’ rights (or plant variety protection)**, established through the UPOV and CPVR systems, the aim is to only reward plant breeding innovation, accounting for the special nature of plant breeding. This system also provides time-limited exclusive rights that exclude others from using, producing or selling a protected variety. Here, the protection is not on genes or breeding techniques, but the plant variety as such. The exclusive rights given by plant variety protection are slightly different than the very stringent approach of patents. It is also easier to know which varieties are protected, through the updated and easy to navigate CPVO Variety Finder online database⁵. Farmers cannot reproduce the seeds

¹ The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland), <https://www.upov.int/portal/index.html.en>; it oversees the UPOV Convention, first adopted in 1961, and revised in 1973 and 1991 to enlarge the scope of breeders’ rights.

² The CPVO is an agency of the European Union, based in Angers, France, and implement EU Regulation 2100/94 of 27 July 1994 on Community plant variety rights, which is in line with the UPOV 1991 Convention.

³ See for instance the latest report from the No Patents on Seeds! Coalition, *Patents on Plant Genes*, 2022, available at <https://www.no-patents-on-seeds.org/en/report2022>

⁴ As a result of these difficulties, the European seed industry association has developed a database called PINTO, which links patents to plant varieties. However, contributions to the database are voluntary, see <https://euroseeds.eu/pinto-patent-information-and-transparency-on-line/> For examples of granted patents covering numerous plant varieties, see the No patents on Seeds! Report on *Patents on genes and genetic variations block access to biological diversity for plant breeding*, 2022, available at <https://www.no-patents-on-seeds.org/en/report2022>

⁵ Access to the CPVO Variety Finder requires a simple registration system, but is available directly thereon at <https://online.plantvarieties.eu/>

of protected varieties without the breeders' consent as a principle in the CPVR system, but can do so under the strict terms of the "farmers' privilege", usually if they remunerate the breeder of the protected variety if they wish to re-sow "farm-saved-seeds"⁶. For breeders, the CPVR system incorporates the principle of the breeders' exemption that guarantees free access to protected varieties for the development and exploitation of new plant varieties⁷. Breeders using protected varieties nonetheless cannot however develop varieties that are too close to the initial protected varieties (i.e. "essentially derived varieties"), in which case they would need to remunerate the protected variety-holder.

Breeders of protected varieties may decide to take a variety from the market after the plant variety protection has expired, just as they may very well also continue to maintain the market registration of the variety. Indeed, the CPVR system does not define access to the seed market itself. Breeders having obtained plant breeders' rights for a particular variety cannot automatically market them, but have to also comply with seed marketing rules, by going through the variety or operator registration processes mandated by these laws. However, the **link between UPOV legislation and the EU-seed marketing legislation is very strong**. Indeed, the criteria to be followed to register a variety via national authorities in order to commercialise it are the same as those to be followed to protect it under the CPVR system, except for the criterion of novelty which is additionally checked in plant variety protection. In order to gain access to the market, there are actually even more criteria, either relating to the identity of the variety itself (especially in cereals where registrants need to show its value for cultivation and use), and those relating to seed quality that will be checked by national seed author-

ities before the seeds can be marketed. In practice, it could thus even be said that seed marketing rules are more stringent than intellectual property rights through their scope and remit⁸. Indeed seed marketing rules apply the criteria used to reward innovation to actually regulate access to the market.

Ownership of seeds is also shaped by legislation governing **access to genetic resources and the recognition of traditional knowledge attached to these genetic resources**. The Convention on Biological Diversity (CBD), its Nagoya Protocol, and the FAO Treaty on Plant Genetic resources for food and agriculture (ITPGRFA)⁹ all recognise the sovereign rights of States over their genetic resources. They also recognise the traditional knowledge held by farmers and rural communities, which has been additionally codified in the UN Declaration on the rights of peasants (UNDROP). As a result of these sovereign rights and traditional knowledge, the use of genetic resources for research and development is conditional to signing benefit-sharing arrangements, i.e. contracts that determine the conditions of access and use of genetic resources. While most of these contracts are negotiated bilaterally, the ITPGRFA has created a Multilateral System for easier access through signature of a standard contract that does not need to be negotiated by the parties, the "standard material transfer agreement"¹⁰.

The general use of plant varieties and their seeds in agriculture is also indirectly impacted by the overarching **agricultural and environmental legislation**, such as the Common Agricultural Policy, or Biodiversity and Genetic Resources Strategies or Action plans developed by EU Member States, which can either support or disincentivise the use of certain plant varieties and their seeds, and adopt measures or set targets to avoid the depletion of cultivated plant diversity.

⁶ The contours of the farmers' privilege are defined in the CPVO Regulation in its main tenets (listing for example the species that it applies to, or stating that small farmers are exempted from paying the remuneration for the use of "farm-saved-seed"), but its implementation is carved in the national laws of Member States, and vary widely. Indeed, a system of royalty collection from farmers is organized in a number of countries, such as France or Germany, but no payment is requested for the use of "farm-saved seeds" in other countries, such as Luxembourg or Greece, amongst others.

⁷ This is not possible in patent protection, except in France, Germany, Netherlands and the future Unitary Patent System.

⁸ Seed marketing rules apply to almost all crop species, and are, contrary to plant variety protection, not limited in time as a principle. They also contain additional criteria and control mechanisms that relate to the quality of seeds, the identity and added value of the plant material to be marketed, and the registration of operators involved in seed production.

⁹ FAO Treaty, <https://www.fao.org/plant-treaty/en/>

¹⁰ The Standard Material Transfer Agreement (SMTA) is a private contract with standard terms and conditions that ensures that the relevant provisions of the International Treaty are followed by individual providers and recipients of plant genetic material. An easy system has been developed by the Secretariat of the ITPGRFA to facilitate its use: see <https://mls.planttreaty.org/itt/>

Seeds are politically charged resources

The development, use and control of seeds has also been a **politically charged topic since the dawn of times, not only in the EU but worldwide**. While more than 6000 plant species have traditionally been cultivated for food, today fewer than 200 species make major contributions to food production and only 9 plant species account for 66% of total crop production¹¹.

Access to the seed market is difficult in the EU for actors, such as peasant communities, seed saving initiatives, start-ups, and individual farmers, who offer diverse, locally produced varieties adapted to the needs of agroecological and organic production. Organisations have even been sued for selling seeds not registered in the official seed catalogues, in the infamous court case that opposed the French association Kokopelli and the company Graines Baumaux, which reached the European Court of Justice, and which will be developed further in this study¹². Restrictions over the use of seeds have only grown through the years. Plant breeders' rights patents, stringent seed marketing legislation and the advent of agricultural biotechnology (especially the development of genetically modified organisms and Genetic Use Restriction Technologies, "GURTs", coined Terminator seeds) have increasingly constrained the development, production and use of seeds.

As a result of the loss of cultivated plant diversity, but also consecutive seed enclosures, i.e. the restriction of the use and production of seeds, global agrarian movements became central protagonists in the struggles around seeds, and were joined by citizens and seed enthusiasts to give rise to **seed activism**¹³.

Opposition to the ecological and social downfalls of homogenization in agricultural production and to the growing corporate control over seeds has led to the counter-development of the concept of farmers' rights in the 1980's, and to global movements criti-

cizing applicable laws¹⁴, and demonstrating alternative models of seed development and production. These lengthy struggles across the globe have led to the recognition of human rights to seeds to peasants and people living in rural communities through the 2018 UN Declaration on the rights of peasants (UNDROP)¹⁵, with resulting obligations for all States to ensure the consistency of laws with the right to seeds, the obligation to respect, protect and fulfil such right, to support peasant seed systems and promote the use of peasant seeds and agrobiodiversity, to protect and develop peasants' rights to traditional knowledge, and ensure their participation in decision-making processes.

Seeds and plant varieties come in all shapes and sizes

Within the different plant species that are classified in plant taxonomy, there are different types of varieties or cultivars¹⁶, developed by different actors of seed systems. However, the complex and plural realities of agronomy are not easily translated into legal realities, and suffer from a lack of inclusivity and recognition.

Different varieties and seeds ...

Crop wild relatives are wild plant species that are genetically related to cultivated crops. Untended by humans, they continue to evolve in the wild, developing traits of interest for agricultural production, such as drought tolerance or pest resistance, that farmers and breeders can cross with domesticated crops to produce new varieties or populations. They have been used to improve the yields and nutritional quality of crops since the beginnings of agriculture¹⁷.

Landraces or farmers' populations are cultivars that are developed, maintained and exchanged by farmers. They are generally adapted to local growing conditions through genetic heterogeneity, but can be more or less

¹¹ See the latest *FAO State of the World's Biodiversity for Food and Agriculture* published in 2019

¹² See the cases *Kokopelli v France* and *Kokopelli v Baumaux*, in **Magarinos-Rey, B.**, *Semences hors-la-loi. La biodiversité confisquée*, Éditions Alternatives, 2015, especially pp 119-149, and page 19 of this study

¹³ **Peschard, Karine** and **Randeria, Shalini** (2020), "Keeping seeds in our hands: the rise of seed activism", *The Journal of Peasant Studies*, 47, pp. 613-647.

¹⁴ There are many stories and figures of seed activism across the globe, the most infamous one being Vandana Shiva and the Navdanya movement that fought the introduction of GM seeds in India, but also Pat Mooney and the ETC Group that shed light on corporate powers in the seed industry and was key to the recognition of farmers' rights to seeds, the Alliance for Food Sovereignty in Africa (AFSA) and the African Centre for Biodiversity (ACB), and many others.

¹⁵ UN Declaration on the rights of peasants and people living in rural areas, adopted by the General Assembly on 8th October 2018, available at <https://digitallibrary.un.org/record/1650694?ln=en>

uniform depending on the needs and priorities of the rural communities, since they remain first and foremost a reflection of the socio-cultural fabric and values of these communities. Farmers' populations can be both **traditional or heirloom varieties** that have been used and maintained by farmer seed networks or seed savers for times immemorial, but also **newer evolutionary populations**, products of farmer breeding efforts.

Uniform plant varieties or cultivars, also coined "modern" varieties by some actors, are the fruits of plant breeding efforts, which cross and select genetic material to develop uniform and stable varieties that yield higher in industrial crop production systems.

Targeted cross-pollination of two varieties of the same plant can lead to the development of "**hybrid varieties**", hyper-performers that show a heterosis-bound performance as well as high uniformity during the first sowing year (F1 generation). However, this "performance" is not passed onto the next generation (F2 and so forth), so the farmers must repurchase the seeds each year. In contrast, **open-pollinated varieties** rely on pollen-driven pollination between closely related parents, which allows their seeds to be saved year after year, and maintained 'true-to-type' with more or less isolation from other varieties from the same species, depending on the species.

The term "**plant variety**" is a legally defined concept in the framework of plant breeders' rights and the CPVR system in the EU as a distinct, uniform and stable plant grouping within a single botanical taxon of the lowest known rank¹⁸. The notion of "cultivar", which designates a plant variety that has been produced in cultivation by selective breeding, is not defined in any legal instrument.

"Registered varieties" are those that can be marketed across the EU because they have been registered in national lists and/or the EU common catalogue by public authorities because they complied by the requirements of seed marketing legislation.

"Protected varieties" are those that are protected through plant variety protection (or plant breeders' rights) and the use of which is limited by the CPVR system.

...are developed and used by different actors ...

Since the dawn of agriculture, **farmers** have adapted plants to the needs of farming and food production, by selecting and improving the seeds grown in their fields. Today, these **mass selection practices** typically involve traditional varieties, landraces or populations, from the farmer's own production, and from seeds exchanged between farmers¹⁹. Even today, a large proportion of the seed planted across the world is either saved by farmers or exchanged on a farmer-to-farmer basis, especially in developing countries, and to a much restricted extent in the EU.

Mass selection: plant development done generally by **farmers** to adapt plants to the needs of farming and food production, by selecting and improving the seeds grown in their fields. It involves and develops traditional varieties, populations and landraces.

With the advent of genetics and genomics science, seeds have started to also be developed off farm and started to be delivered by **plant breeders**, and increasingly molecular biologists. Conventional plant breeders combine interesting genetic resources in lengthy and tedious research programmes within private or public structures. They deliver new plant varieties with greater productivity rates, abiotic or biotic stress resistances, and even longer shelf life of food products. To operate methodical crosses to develop stable and uniform plant varieties, they rely on a constant input of varieties, whether traditional ones or those obtained through plant breeding. Breeders

¹⁶ The term cultivars is used herein to refer to a specific variation of plants that develops either naturally in the environment, or is developed through human intervention.

¹⁷ See the dedicated webpage by Bioversity International at <https://www.bioversityinternational.org/cwr/>

¹⁸ According to Article 5 of the CPVO Regulation 2100/94, a plant variety is indeed a grouping which can be "defined by the expression of the characteristics that results from a given genotype or combination of genotypes, - distinguished from any other plant grouping by the expression of at least one of the said characteristics, and - considered as a unit with regard to its suitability for being propagated unchanged"

¹⁹ See **Bartur, T.; Dedeurwaerdere, T.** "The use of agrobiodiversity for plant improvement and the intellectual property paradigm: institutional fit and legal tools for mass selection, conventional and molecular plant breeding", *Life Sci Soc Policy*, 2014 Dec;10:14.

tend however to predominantly rely on proven market successes and stable varieties. They also build upon material and knowledge that is publicly available and has been developed and maintained through informal channels and different communities. Breeders can be either attached to public research institutes, or work for the private sector. Due to the uncertain nature of early breeding research results and their unreliable profitable opportunities, crop improvement and seed distribution networks were traditionally instigated by the public sector, where research was understood as a public good. The so-called "Green revolution" of the 1960's quickly acquainted the world with new high-yielding uniform varieties, turning plant breeding into a lucrative field only for economically important crops. The discovery of hybrids, the seeds of which needed to be purchased every year by farmers reinforced this trend. These developments attracted the interest of the private sector in plant breeding, propelling the dawn of the seed industry. From the 1970's onwards, private companies started to get engaged in the development of field crops such as maize or corn where the first attempts of hybridization had been really successful. Breeders tapped into the promise of productivity gains promised by the development of needs-specific characteristics and built their business models on the fact that competitors could not replicate the varieties easily, and that farmers had to come back for purchase every year. As a result of the professionalization and privatization of plant breeding, variety development focused mainly on staple and cash crops, optimized for favourable agricultural production conditions where higher profit margins could be made. To increase profit margins, varieties had to be marketed and perform well across different world markets, which led to disinterest of private breeders in lesser-grown and more locally important crops and in the needs of growers working in less favourable production conditions such as mountainous or fragmented areas.

In a contrasting trend, **participatory plant breeding** efforts have gained ground in some public research institutes, working together with farmers from the setting of priorities to the experimentation, crossing and selection stages. These efforts lead to less uniform and stable cultivars or populations that are more

adapted to local and lower-input growing conditions. Participatory plant breeding programmes have led to the development of so-called evolutionary populations, that are genetically diverse, locally adapted and closely associated with traditional farming systems²⁰.

Plant breeding: methodical crossing and selection by public or private plant breeders, which can result in more uniform and stable varieties, or more heterogeneous evolutionary populations, usually in **participatory plant breeding** involving public researchers and farmers.

Through the middle of the 20th century, genomics science revolutionised the food industry and plant breeding, with the development of **agricultural biotechnology**. This allowed faster screening and selection of plants, notably through cell culture and molecular markers that locate genes responsible for specific features, in parallel to the development of transgenic plants, whose DNA is modified through genetic engineering using recombination of genes or the artificial insertion of a foreign gene. While the former uses of biotechnology are commonly used throughout the seed industry, the latter, which requires significant investment, is developed by new actors. Biotechnology indeed triggered the interest of companies traditionally engaged in chemistry and the development of other agricultural inputs such as pesticides. It also triggered an impressive wave of horizontal mergers, whereby competitors in plant breeding acquired one another. It also led to important vertical mergers, whereby smaller-scale seed companies, usually specialized in certain market segments, were swallowed by larger entities, which combined trait developers with entities developing new plant varieties.

Next to these more traditionally known and cited actors of seed systems lie also another more heteroclite category of **community-level seed saving initiatives**. These have developed in the last 40 years as a result of the erosion of crop genetic diversity. In Europe, they mostly gather private individuals, whether gardeners or enthusiasts, but also farmers, acting together "to conserve, restore, revitalise, strengthen and improve

²⁰ Wolfe, M.S.; Ceccarelli, S., The increased use of diversity in cereal cropping requires more descriptive precision. *J. Sci. Food Agric.* 2020, 100, 4119–4123; and Camacho-Villa, T.C.; Maxted, N.; Scholten, M.; Ford-Lloyd, B., Defining and identifying crop landraces. *Plant Genet. Resour. Charact. Util.* 2005, 3, 373–384.



local seed systems, especially, but not solely, focused on local varieties”²¹. These initiatives include grass-roots seed savers networks, community-based seed production groups and community seed banks. They can be organised formally in associations, or remain informal networks of enthusiasts engaged in different events, whether seed swaps or other similar gatherings.

Scope of this study

Seed policies need to consider all components of plant genetic diversity, from improved uniform varieties to landraces and wild relatives. They also need to take account of the diversity of actors that rely on, improve and use seeds. They need to bring responses to the new challenges we are facing in agricultural production, from climate change to input dependency. Failure to do so threatens democracy and sustainability.

Although linkages will be made with different pieces of legislation as they all affect EU agricultural and food systems, **this study will focus solely on the framework that governs the marketing of seeds**²²,

which sets out the rules to be followed to access the seed market. The study will explore how the diversity of seeds and actors can be supported in the upcoming reform process.

In the decision-making process for a new legislation on seed marketing, the European Commission wishes to **align the legislation to the European Green Deal** and to the objectives defined in the **Farm to Fork strategy**. In this Strategy, the Commission recognized that sustainable food systems rely on seed security and diversity, and states that it “will take measures to facilitate the registration of seed varieties, including for organic farming, and to ensure easier market access for traditional and locally-adapted varieties”. However, the pathways to achieve these goals can be quite different and even contradictory, whether relying on agroecological approaches, or technology-driven industrial transitions. As the options identified by the European Commission in the upcoming seed marketing reform remain quite nebulous in this regard, the pathway that will be chosen in the actual content of the proposal is difficult to predict at this stage. The European Commission also wishes to avoid the mistakes of the past reform where the European Parliament rejected the Commission proposal in 2014, and is thus sensitive to the reasons that led to such rejection.

In this context, there is a pressing need to ensure a **better understanding** of the underlying issues of the seed marketing legislation and **guarantee strong engagement** from the European Parliament and European citizens in the upcoming EU reform.

²¹ Vernooij, R. et al, “The rich but little known chronicles of community seed banks”, in *Community Seed Banks: Origins, Evolution and Prospects*, Earthscan, London, 2015, p.1.

²² The legislation applies to all plant and forest reproductive material. This study deals only with plant reproductive material, which for reasons of easy readability we refer to as “seeds” in this document.

1



Diverse seeds as a tool to meet the current challenges of EU agriculture

The **exchange and flow of diverse seeds is vital for the resilience and adaptation** of our seed and food systems. The demanding need to adapt to changing climatic conditions as well as the long-recognised interdependency of countries and of all actors using plant genetic resources²³ highlight this. In the quest for **resilient agro-ecological food systems**, it is paramount that breeders, farmers, and gardeners preserve and use a wide range of plant varieties and animal breeds from a wide range of species. Their diversity is essential to ensure the efficiency and resilience of production systems. Seed diversity is essential to cope with phenomena and disasters that put our food systems under stress, such as climate change and its accompanying extreme climate events, but also pest invasions and resource scarcity or depletion, such as soil or water. Investing in **seed diversity has never been more important**.

Agricultural production should not destroy the genetic diversity that it creates or that it is derived from. Indeed, all types of plant improvement rely on access to new genetic variability, whether from uniform varieties, resources selected and maintained on farm, or from gene banks. Unfortunately, **the erosion of crop diversity is a dire reality**. The current range of cultivated plant species used in agriculture remains quite limited. The varieties found in fields and gardens have very similar genetic backgrounds, mostly developed by seed companies for production systems with high-input farming conditions and the world market. The latest *FAO State of the World's Biodiversity for Food and Agriculture* published in 2019 concluded that while more than 6000 plant species have traditionally been cultivated for food, **today fewer than 200 species make major contributions to food production and only 9 plant species account for 66% of total crop production**²⁴.

Farmers' choice of seeds can greatly influence the resilience or the vulnerability of agricultural production to biotic and abiotic stresses. These challenges have been recognised in the **European Green Deal** adopted by the European Commission in 2018, and the correlated Farm to Fork and Biodiversity Strategies. To reduce the impact of our food system on our natural resources and the climate, we need to develop plant varieties that thrive under organic and other low-input growing conditions, and those that facilitate the transition to more regional, seasonal and plant-based diets – such as legumes and winter hardy vegetables.

Unfortunately, the current legal framework for seed marketing only favours the development and use of uniform plant varieties intended for industrial crop production models. It restricts the use of cultivated plant diversity. This homogenisation in plant innovation brings with it important negative economic, social, and environmental impacts.

With the new legal framework, **cultivation schemes and seed development should again become genuine choices, adapted to local socio-economic and environmental conditions**. Seed legislation should drive the transition towards more sustainable agricultural production and food systems as a whole, by reducing pressure on the biosphere and diversifying diets. It should also support the increase of the number of economic operators active in seed development, production and use. Furthermore, it should contribute to rural development, recognising the important socio-cultural values attached to seeds.

²³ FAO, Second State of the World's PGRFA, 2009 (<https://www.fao.org/3/i1500e/i1500e.pdf>)

²⁴ Ibidem

EU seed market: constellation or consolidation?

Taken as a whole, the European Union is the **third-largest seed market in the world** after the United States and China, accounting for approximately 20% of the global market²⁵. The European Seed Market was worth \$16.77 billion in 2021 and is estimated to reach 25,68 billion by 2026, especially due to the growing demand for grains, oils and vegetables, as well as animal feed²⁶. The EU seed market can be considered de facto globalized, consisting of smaller segments delimited by either EU Member States or by crop²⁷. Within the EU, France, Germany, Italy, Spain, and the Netherlands combined account for two-thirds of the EU market (with France accounting for nearly one-third of the EU market's total value). An estimated 7 000 firms are active in the seed industry across the various stages of the supply chain in the EU, with more than a third of these entities listed in Poland, Romania, and Hungary. With regards to employment, the sector is estimated to employ approximately 52000 persons, with the most important countries being France, Romania, Netherlands, Poland, Germany and Italy. The number of private entities in France and Netherlands is however smaller, which leads the European Commission itself to recognize consolidation in these two countries²⁸. According to data gathered by the European Seed Certification Agencies Association, "France is a leader in seeds for cereals, corn, oilseeds, pulses, and fibre crops, while Denmark dominates the forage grasses market, Italy that of small-seeded legumes and beets, the Netherlands that of seed potatoes"²⁹.

The **EU seed industry is actually much more concentrated** than the high number of companies mentioned could let on. Even though the EU has a lot of SMEs, many are owned, partially or fully, by the larger multinational companies (such as BASF), private companies (such as the Dutch Rijk Zwaan) and cooperatively owned companies (such as the French Limagrain), which dominate certain market segments.

This concentration has been in part the result of mergers and acquisitions that have taken place globally in the seed market, with notable investment from chemical and oil companies, creating so-called "life-sciences conglomerates", especially in the 1990s³⁰. A series of mergers and acquisitions thus created the "Big Six": Monsanto, Bayer, BASF, Syngenta, Dow and DuPont. These multinationals were all active in agrochemicals, and (with the exception of BASF) had strong positions in seed and biotechnology. As noted by the Organisation for Economic Cooperation and Development (OECD) in a 2018 large-scale study on seed market concentration, the recent merger wave reduced the number of major firms to four globally, as Bayer acquired Monsanto (although the former had to divest almost its entire seed business, sold to BASF), and Dow-Dupont have merged, creating Corteva (regrouping also the former Pioneer)³¹. The seed market is thus globally dominated not by a Big Six, but a "Big Four": BASF, Bayer, Corteva and Syngenta. A recent study showed that the Big Four's global market share was at a rocket 62% combined with regards to the sale of agrochemicals and 51% for the global sale of seeds and licensing of traits (followed closely by the French Limagrain Group and the German KWS)³².

²⁵ **Ragonnaud, G.** (2013), The EU seed and plant reproductive material market in perspective. A Focus on companies and market shares, European Parliament, DG Internal Policies, Policy Department B: Structural and Cohesion Policies, [http://www.europarl.europa.eu/RegData/etudes/note/join/2013/513994/IPOL_AGRI_NT\(2013\)513994_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/note/join/2013/513994/IPOL_AGRI_NT(2013)513994_EN.pdf) July 2022).

²⁶ Market Data Forecast, Europe Seed Market, January 2022 (<https://www.marketdataforecast.com/market-reports/europe-seed-market>)

²⁷ European Parliament study, Overview of the agricultural input sector in the EU, 2015, available at [https://www.europarl.europa.eu/RegData/etudes/STUD/2015/563385/IPOL_STU\(2015\)563385_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2015/563385/IPOL_STU(2015)563385_EN.pdf)

²⁸ European Commission, Commission Staff Working Document, Impact Assessment accompanying the Proposal for a Regulation on the production and marketing available on the market of plant reproductive material, SWD/2013/0162 final.

²⁹ European Seed Certification Agencies Association, EU seed production data in 2021, available at <http://www.escaa.org/index/action/page/id/7/title/seed-production-in-eu---2021>

³⁰ Ibidem

³¹ OECD, Concentration in Seed Markets: potential effects and policy responses, 2018 (<https://www.oecd-ilibrary.org/sites/9789264308367-en/index.html?itemId=/content/publication/9789264308367-en>)

³² **Shand, Hope** et al, Food Barons: Mapping Corporate Power in Big Food, ETC Group, 2022, pp.15-16, building also on the research by **Howard, Phil**, Concentration and Power in the Food System: who controls what we eat?, Bloomsbury Academic, 2016.

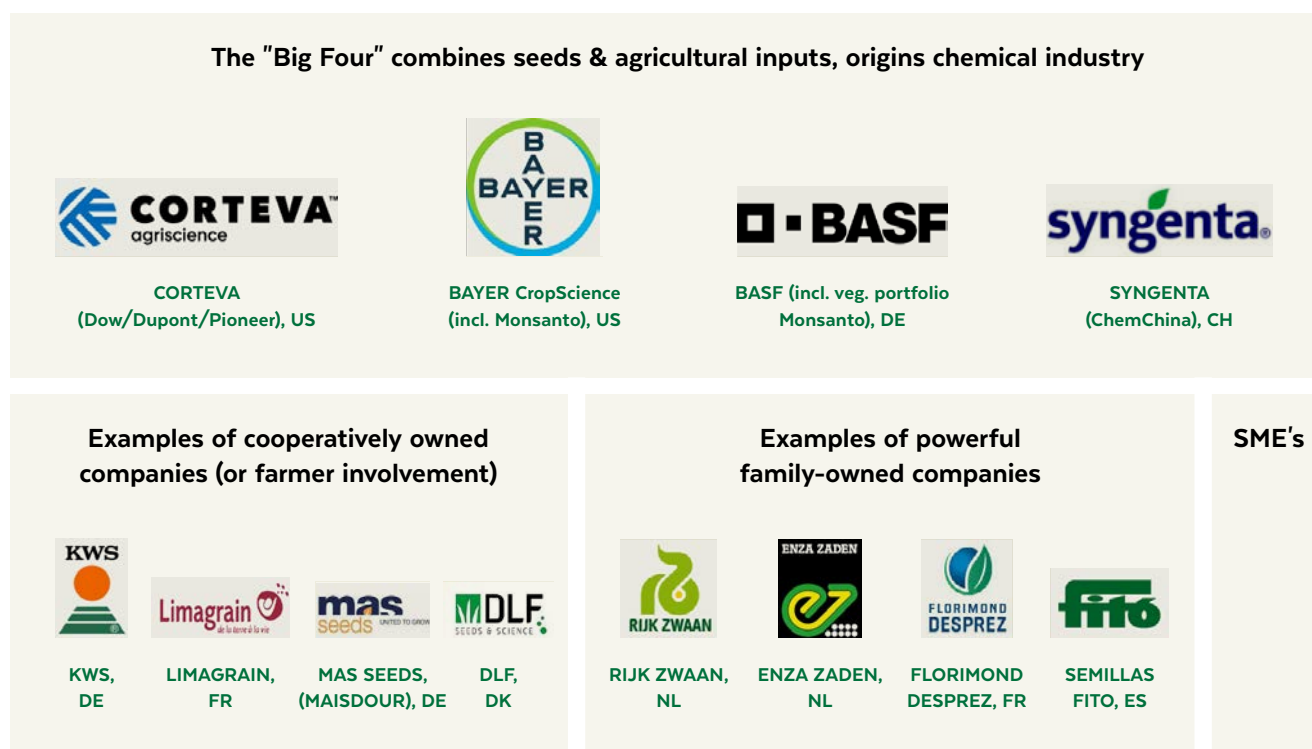


Figure 2:
Typology of main players in the EU Seed market

As a result, the **power and roles of SMEs are quite uneven across the EU seed market**. Indeed, “some market segments are dominated by big companies, while in other sectors SMEs play an important role in providing farmers with new plant varieties”, in the words of the European Commission³³. The entire seed supply chain starts with plant breeding, developing new varieties. It then extends to seed production by contract farmers, to seed conditioning (drying, cleaning, sorting, treating). It lastly concerns the distribution of seeds. The largest and most strategically relevant seed markets, especially in the initial two stages of the seed supply chain, are dominated by the new Big Four, whether in maize, sugar beet or even the vegetable sector³⁴. Investment in plant breeding is a resource-intensive endeavour, and often bears fruit only after a decade of research. This creates quite important barriers to the entry of SMEs into plant breeding. Since **the companies active in plant breeding are those who decide the varieties that are actually included into the rest of the supply chain**, their influence and power on the EU’s agricultural and food systems is much more important than the power of the

rest of the actors in the value chain. The power of the Big Four, and powerful family-owned or cooperatively owned companies is thus sizeable on the EU seed market, despite the high number of entities operating within.

Market concentration is worrying due to its potential effects on prices, product choice and innovation, no matter which market is concerned. When it comes to seeds, this concentration has additional negative effects as it leads to a **strong focus on lucrative and uniform varieties paired with pesticide and synthetic fertiliser use**, both of which are commercialised by the same companies. Breeding efforts in low-input or regionally adapted varieties, as a much-less profitable enterprise, are thus put on the shelves by the large actors that dominate the market. The lack of attention to the different layers of seed systems hinders value production at regional levels. It has detrimental impacts on the environment at large, and more particularly on the conservation and sustainable use of genetic diversity, as warranted by international law.

³³ European Commission, Relevance of the European seed sector: https://food.ec.europa.eu/plants/plant-reproductive-material/relevance-sector_en (accessed July 2022).

³⁴ Mammana, Ivan, Concentration of Market Power in the EU Seed Market, Greens/EFA, 2014 (https://www.greens-efa.eu/files/assets/docs/concentration_of_market_power_in_the_eu_seed_market.pdf)

2



Time for a reform of EU seed marketing rules

EU legislation governing the marketing of seeds has developed into a complex web of instruments since the 1960s, with several amendments completed along the way. A sizeable reform attempt was initiated in 2011, but failed to materialise with the rejection of the proposal by the European Parliament in 2014, and the formal withdrawal of the text by the European Commission in 2015. Today, the European Commission is once again looking to update the regime, with a proposal expected by spring 2023.

EU Seed marketing rules: history

While some seed laws are considered to have been enacted by the end of the 18th century in Europe, the first more formal seed certification rules go back to the beginning of the 20th century. They were enacted as a means to control diseases in potato production and stop the spread of pest outbreaks and important losses in the early 1900s³⁵. There was growing criticism of informal seed markets as they were considered to be not reliable enough to communicate the content of seed bags. The “white bags”, untagged and unverified, were considered to not provide sufficient information and quality. However, they also prevented the development of formal seed supply chains because they were priced lower than those developed by private plant breeders³⁶. The choice of a regulated seed market was therefore **motivated partly by the need for transparency and quality control, but it was also an active political choice to support a particular segment of wider seed systems, i.e. the seed industry.**

Adopted in a context of under-production in agriculture, seed marketing rules aimed at maximising productivity gains through uniform plant varieties. They also aimed to provide accurate information on the seeds to be used by farmers, not just through labelling requirements, but through publicly operated controls over the identity of plant varieties (variety registration) and the quality of seed lots (seed certification). The first Directives adopted at EU level date back to the 1960's, following suit to the adoption of the first UPOV Convention in 1961 as an international convention to grant the same level of plant variety protection throughout different jurisdictions. Although the two pieces of legislation address separate problems and have different objectives, they remain inextricably linked and have equally contributed to the control of genetic diversity and seed systems by the private seed industry.

Although the EU seed legislation has been amended numerous times, including to try to address the loss of agricultural genetic diversity that has been recognized internationally in the last decades, its main principles have not changed in nearly 100 years. Conversely, both society, educational levels, informational tools, the seed market, and environmental or agricultural challenges have considerably changed. Access to information has never been easier; food security and sovereignty has never been more strategically important; and the environmental challenges of climate change and the loss of biodiversity have never been greater. It is thus time to take the seed marketing legislation into the 21st century.

³⁵ Tripp, R., *Seed Provision and Agricultural Development: The Institutions of Rural Change* London: ODI, 2001

³⁶ Fukuda-Parr, Sakiko, “Emergence and Global Spread of Gm Crops: Explaining the Role of Institutional Change,” in *The Gene Revolution: Gm Crops and Unequal Development*, ed. Sakiko Fukuda-Parr, London: Earthscan, p.203.

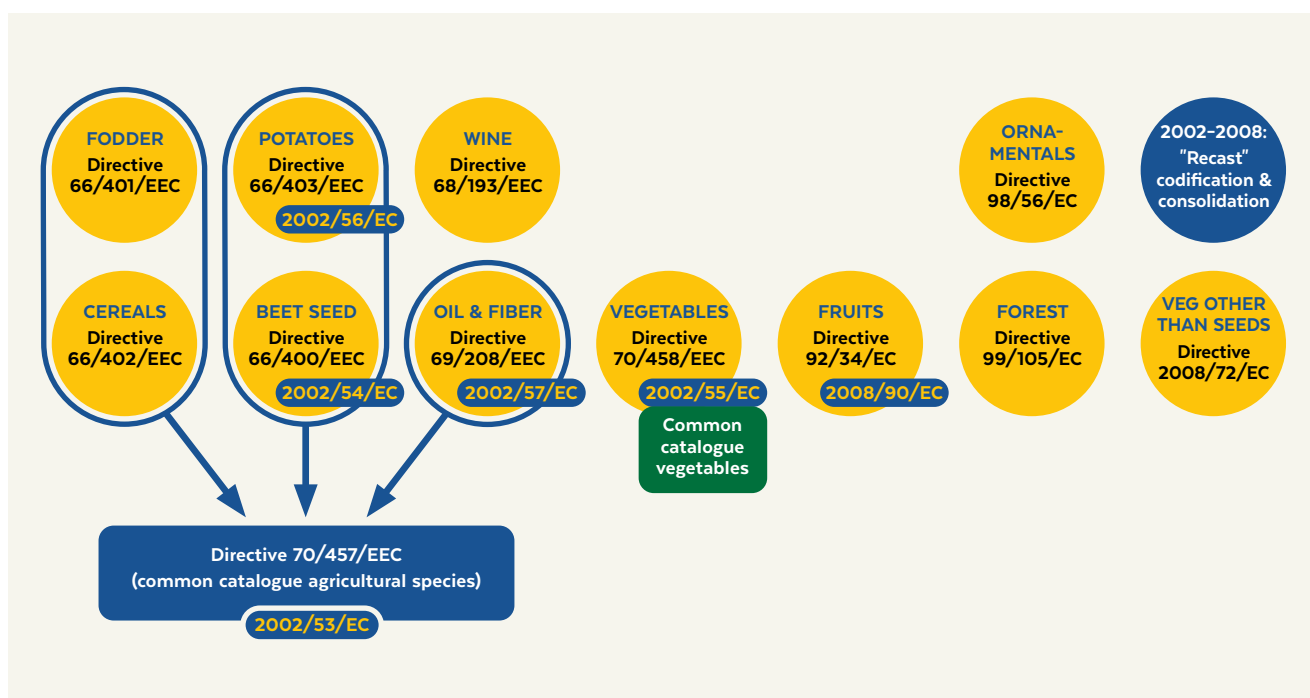


Figure 3:
EU seed marketing Directives

EU Seed marketing rules: general principles

The marketing of seeds and other types of plant reproductive material in the EU is governed by **12 different Directives at EU level, complemented by nearly 100 secondary acts** ("EU Seed Directives"). These instruments need to be transposed at national level, which means that there are effectively 27 different seed marketing regimes in the EU, with quite important differences. The Directives do not refer to "seeds", but rather regulate "plant reproductive material (PRM)" and "plant propagating material (PPM)", which are larger notions that cover any material that allows the reproduction or propagation of plants, which could be seeds, seedlings, cuttings or trees. To ensure easier readability and understanding of this study, we will refer to all PRM and PPM as seeds in this document. This study is also solely concerned with plant material, and does not delve into the specific rules governing the marketing of forest reproductive material.

The EU Directives were adopted in the 1960s onwards for different crop species, with the overarching aim to ensure the identity, quality and productivity of seeds,

mostly for the needs and interests of industrial agriculture and food production. They have also created the Common Catalogues of varieties of agricultural and of vegetable plant species³⁷ in the 1970s, which regroup all national lists that exist in the EU.

The main goal of the EU Seed Directives is to boost agricultural production and productivity, by relying on uniform and stable varieties. Concomitantly, they seek to protect farmers by guaranteeing seed quality and identity in a context where there is informational asymmetry, i.e. information about the identity of seeds cannot be controlled by farmers at the time of purchase.

The EU Seed Directives take a "belt and braces" approach to ensuring identity and quality. For a list of regulated species, the directives³⁸:

- uphold the principle of pre-marketing registration (either of the plant variety or of the supplier/operator),
- establish production rules to ensure seed quality and maintenance, and
- contain labelling and packaging standards.

³⁷ EC Directive 2002/53 on the common catalogue of agricultural plant species, and EC Directive 2002/55 on the marketing of vegetable seed.

³⁸ For a detailed appraisal of this regulatory system, see T. Winge, 'Seed Legislation in Europe and Crop Genetic Diversity', *Sustainable Agriculture Reviews*, Vol. 15, 2015.

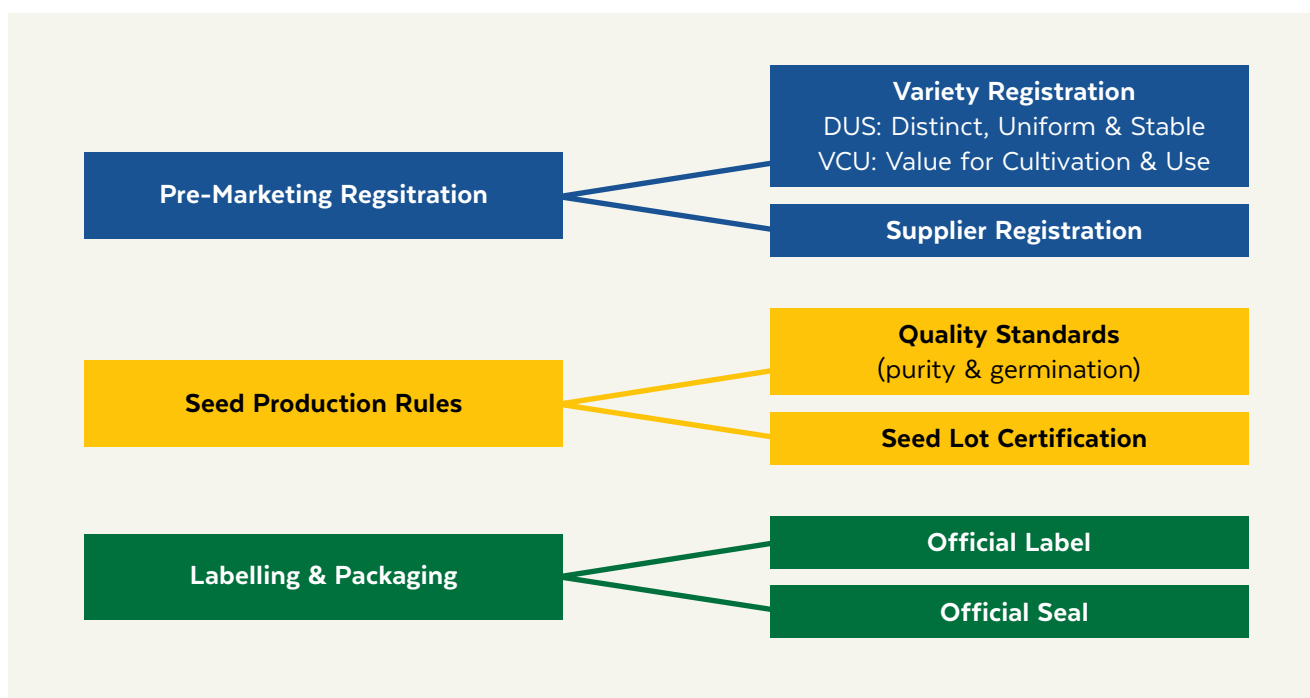


Figure 4:
General Principles of EU seed marketing Directives

Pre-marketing registration

Pre-marketing variety registration remains the norm in most EU Seed Directives, although **supplier registration** is the principle in ornamentals, forest material and vegetative propagating material other than seeds. The criteria that must be met by varieties to get listed into national catalogues (and thus the EU catalogue) have been copied from plant variety protection regimes. Criteria that were developed to ensure varieties are sufficiently uniform and stable to ensure the effective enforcement of intellectual property rights are therefore in effect determining which seeds can access the market.

In both cases, applicants need to prove that the variety is Distinct, Uniform and Stable (**"DUS"**). These DUS tests are done by public authorities, and take several years due to the need to cultivate the seeds and compare them to the reference collections maintained by the same authorities. The interdependency of EU seed marketing rules and intellectual property rights is so high, that the DUS protocols followed by national seed testing authorities, are actually developed by the Community Plant Variety Office (CPVO), in line with questionnaires developed by the interna-

tional organisation, UPOV. DUS protocols set out for example the differences that a variety needs to have compared to others (e.g. height, size and shape, etc.), and the level of homogeneity that is required with regard to specific traits for each species.

In agricultural crop species, plant varieties go through additional tests that determine their "Value for Cultivation and Use" (**VCU**). These protocols are determined at national level.

Once registered, varieties are listed in the **national catalogues of Member States, which is then compiled into the EU common catalogue, established only for agricultural crop and vegetable species**³⁹.

³⁹ The common catalogues list the varieties that can be marketed in the EU, and are based on the registration of plant varieties in EU countries after they have been technically examined and notified to the European Commission. The latest version of the consolidated version of the Common catalogue of varieties of agricultural plant species (of 13 December 2021) can be found at https://food.ec.europa.eu/document/download/79b91903-aa0f-41cb-92aa-d8ef5481a87d_en?filename=plant-variety-catalogues_agricultural-plant-species.pdf; while the common catalogue of varieties of vegetable species (of 13 December 2021) can be found at https://food.ec.europa.eu/document/download/bcb4f482-d558-45ac-9c5a-71c57c3cae7b_en?filename=plant-variety-catalogues_vegetable-species.pdf. A searchable EU database is also maintained by the European Commission and is available here: https://ec.europa.eu/food/plant/plant_propagation_material/plant_variety_catalogues_databases/search/public/index.cfm

There are also **differences by crop species** in the way EU seed marketing rules deal with variety registration. For fruit reproductive material, the EU seed marketing rules do not only rely on a pure registration but rather a “listing” system, which relies on an “official description” that is separate from DUS requirements⁴⁰. As for fruit there is no official catalogue and the voluntary listing on FRUMATIS, the database maintained by the EU, is incomplete, it is not apparent which fruit varieties are registered or tradable in the EU. For ornamental crop species, there is no variety registration or listing system, but rather mechanisms to control and approve suppliers of plant propagating material.

Two derogatory regimes were established in 2008 and 2009 to allow the registration of so-called **conservation and ‘amateur’ varieties** (Commission Directives 2008/62 for agricultural crop species and 2009/145 for vegetable crop species). While conservation varieties are authorised for agricultural crop and vegetable species, varieties ‘without intrinsic value for commercial crop production’ (generally called amateur varieties) are only allowed in vegetables. Even though these derogations are quite restrictive, they allow variety registration and seed production without fully complying with the strict criteria of the main rules. These derogations have nonetheless failed to deliver: First because of the stringency of the rules set out at EU level, and secondly because of their strict implementation in certain Member States. The rules are indeed quite stringent. They maintain mandatory seed certification and set geographical and quantitative limits on the production of seeds from conservation varieties allowed in agricultural and vegetable species. They set package size limits for amateur vegetable varieties. While registration of these varieties is based on officially recognised descriptions in some Member States, most Member States rely on simplified UPOV technical questionnaires to register conservation and amateur varieties. The link between plant variety protection and seed marketing is thus not broken, even for plant varieties for which no plant variety protection will be applied for.

⁴⁰ The information on fruit varieties collated in national variety registers is then collated in the EU variety register, and is made available in a searchable information tool coined FRUMATIS: https://ec.europa.eu/frumatis/fru_marketing_req.xhtml

Seed production rules

Once a variety is registered, its seeds can be marketed throughout the EU market. However, the EU Seed Directives also contain **quality criteria** that need to be complied with, for example in relation to purity, humidity, the absence of pests and diseases, and germination rates.

In the vast majority of the Directives, **seed lot certification** is mandatory to ensure the identity and quality of the material, requiring the respect of distances in seed production to avoid contamination. The respect of these rules is controlled by public authorities in official inspections of samples sent by producers, and is complemented by field visits. Some Directives allow for more flexibility in seed production with post-marketing quality controls instead of pre-marketing seed lot certification, such as the categories of standard vegetable seeds or propagating material for fruit plants (Conformitas Agraria Communitatis CAC material).

It should be noted that seed quality criteria that ensure plant health in the EU seed marketing rules were adopted prior to EU Regulation 2016/2031 (EU Plant Health Regulation). The new Plant Health Regulation lists more stringent procedures to be followed by operators dealing with seeds impacted by the pests listed as a cause of concern. It applies to all movement of seeds, rather than just their marketing. As a result of the new rules, the movement of regulated seeds needs to be accompanied by a plant passport within the EU, or a phytosanitary certificate in the case of imports, which certifies compliance with the strict requirements. The EU Plant Health Regulation was part of the same package as the 2013 failed seed marketing reform that we will detail below (together with the Official Controls Regulation 2017/625). The current seed marketing rules do not entirely reflect the legislative changes operated by this Regulation, and its considerably wider scope. Indeed, prior to the new Plant Health Regulation, seeds were rarely concerned with plant health rules, which applied more to seedlings and trees. They also did not cover the exchange of seeds.

Labelling and packaging rules

Last but not least, the EU Seed Directives also contain provisions that relate to the **labelling and packaging of seeds** marketed in the EU. Packages generally need to be “sealed officially in a manner that they cannot be opened without damaging the sealing system”, and an official label needs to be affixed meeting mini-



Figure 5:
Timeline of previous European reform of seed marketing rules

mum information standards (which does not include the place of production, but rather more administratively relevant information such as lot references or certifying authority).

As a result, the **stringency, lack of proportionality and flexibility, along with the complexity of EU seed marketing rules hinder new entrants in the seed market.** The scope of the legislation tends to be interpreted very loosely across the EU and includes many activities including seeds, such as conservation work or the sale of seeds to non-professional amateur gardeners. EU seed marketing rules thus also **prevent the diversification of the seeds offered to gardeners, and to farmers who wish to use seeds adapted to their local growing conditions or respond to different consumer demands.**

Reforming the EU Seed Directives

There has already been **one major, unsuccessful attempt to reform the EU Seed Directives.** An external consultancy was asked to evaluate the efficiency of these instruments in 2008. The study focused mostly on the facilitation of trade, the level-playing field across EU Member States, the administrative burden created by the Directives and the discrepancies between various VCU protocols enacted at national level. The 2008 effort was followed by another study focusing on variety registration processes in 2010. Following this background work, the European Commission outlined in 2011 five different scenarios that focused on the procedural aspects of the EU Seed Marketing Directives. The options included the most minimal change on cost recovery in official testing, a co-system allowing controls done by operators under official supervision next to public controls, a *deregulation* scenario where VCU testing and seed lot certification would not be mandatory in the EU market, an *enhanced flexibility* model allowing the marketing of ‘non officially tested’ varieties and seeds, and final-

ly a *centralised* system with enhanced competences granted to the CPVO, traditionally in charge of plant breeder rights. It thus focused on the variety registration and seed production system, rather than taking a more holistic perspective on the impacts of these rules on seed and food systems.

The public consultation organised on these policy options showed that “stakeholder groups mainly interested in biodiversity issues” supported a liberalised and flexible system with no obligatory variety registration and certification of lots”. On the other hand, competent authorities, breeders, suppliers, and users of seeds, supported the continuity of the two main pillars of the legislation, with more responsibilities for operators to conduct testing in their own facilities “under official supervision”. This dichotomisation nonetheless fails to show the granularity that exists in EU seed systems, not taking into account the perspectives of the many different actors that develop, produce and use seeds, such as peasants, organic breeders or seed savers.

Although the impact assessment was submitted internally by EU Commission services in November 2011, it was only published in May 2013, due to the infamous case brought to the European Court of Justice by the French judiciary in the conflict opposing Kokopelli to Graines Baumaux. Following the ruling, the European Commission proposed a draft Regulation on seeds and plant reproductive material in 2013⁴¹. It would have replaced all the Directives on the marketing of seeds by a Regulation, a single binding instrument directly applicable in all EU Member States. The proposal was rejected by the European parliament in March 2014 by 650 votes to 15, an un-

⁴¹ Proposal for a Regulation of the European Parliament and of the Council On the production and making available on the market of plant reproductive material (plant reproductive material law) /* COM/2013/0262 final - 2013/0137 (COD)

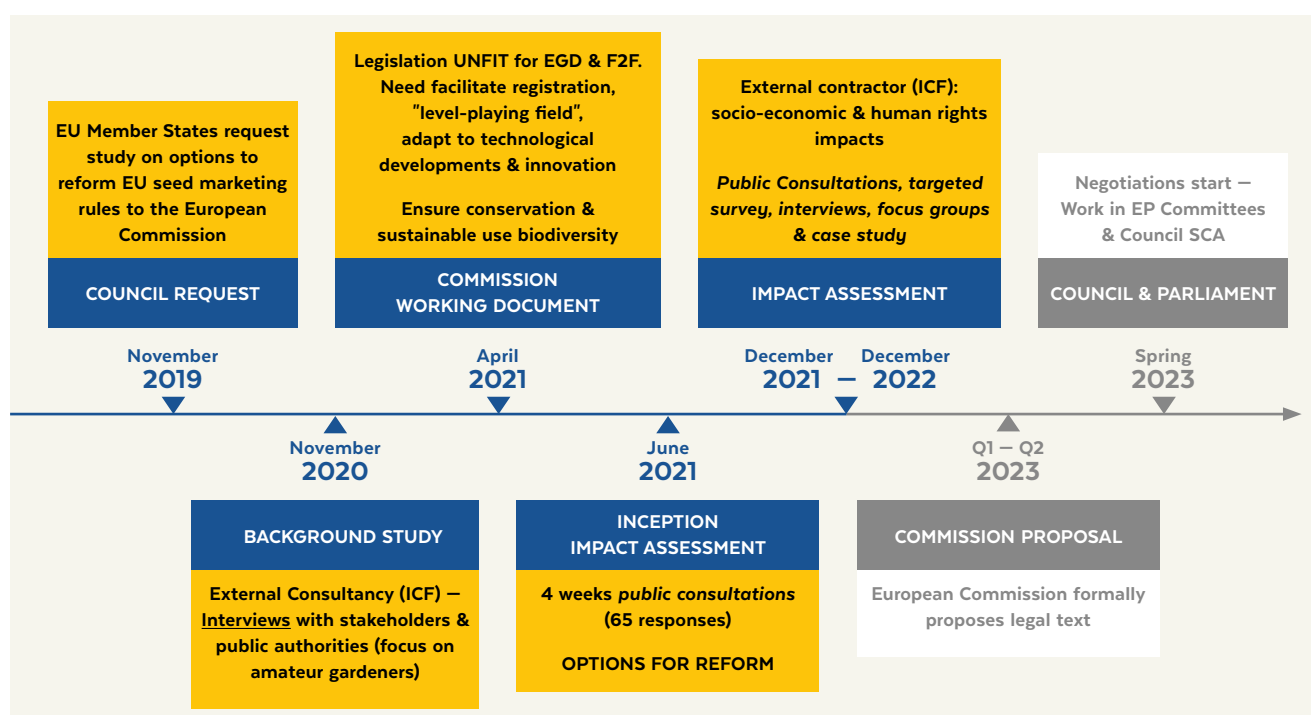


Figure 6:
New Seed Marketing Reform Timeline

precedented event in the history of the institution. One of the justifications for such refusal was that the proposal did not sufficiently facilitate and encourage biodiversity conservation and use in agriculture and horticulture. It was also criticised for adopting a “one size fits all” approach that did not cater to the different needs of operators, consumers and public authorities, and also because it was a “black box” with too much delegation of powers to the Commission, making it difficult to assess the impact of the Regulation⁴².

Towards a new reform

Six years later, the European Commission was prompted by the European Council in November 2019 to conduct a study on the options to reform seeds marketing rules, next to a study on “new genomic techniques”⁴³.

The study was carried out by an external consultancy, which concluded that the current EU seed marketing rules were outdated, even if they fulfilled their goals⁴⁴. The study was accompanied by a Commission Staff Working Document in April 2021⁴⁵, which identified new problems compared to the last assessment done in 2007-2008. It highlighted that the legal framework was complicated, incoherent and fragmented, that the procedures were complex and rigid; creating non-level playing field within the EU common market, heightened by the lack of harmonised rules on official controls, and creating obstacles to innovation. Biodiversity and the diversification of seed systems was again only mentioned in the side-lines.

In June 2021, the European Commission published an Inception Impact Assessment in the view of a new reform. The revision aims to “align EU legislation on

⁴² See the ENVI opinion on the Proposal dated 5th February 2014 (https://www.europarl.europa.eu/doceo/document/ENVI-AD-522867_EN.html), and the AGRI report of 14th February 2014 (https://www.europarl.europa.eu/doceo/document/A-7-2014-0112_EN.html).

⁴³ Council Decision (EU) 2019/1905 of 8 November 2019 requesting the Commission to submit a study on the Union’s options to update the existing legislation on the production and marketing of plant reproductive material, and a proposal, if appropriate in view of the outcomes of the study, ST/12783/2019/INIT

⁴⁴ ICF Consulting, Data gathering and analysis to support a Commission study on the Union’s options to update the existing legislation on the production and marketing of plant reproductive material, 28 April 2021, available at <https://op.europa.eu/en/publication-detail/-/publication/40fa0cd3-a893-11eb-9585-01aa75ed71a1/language-en> (herein referred to as the ICF Study on EU seed marketing rules)

⁴⁵ European Commission Staff Working Document, Study on the Union’s options to update the existing legislation on the production and marketing of plant reproductive material, 29th April 2021, available at https://food.ec.europa.eu/system/files/2021-04/prm_leg_future_prm-study_swd-2021-90.pdf

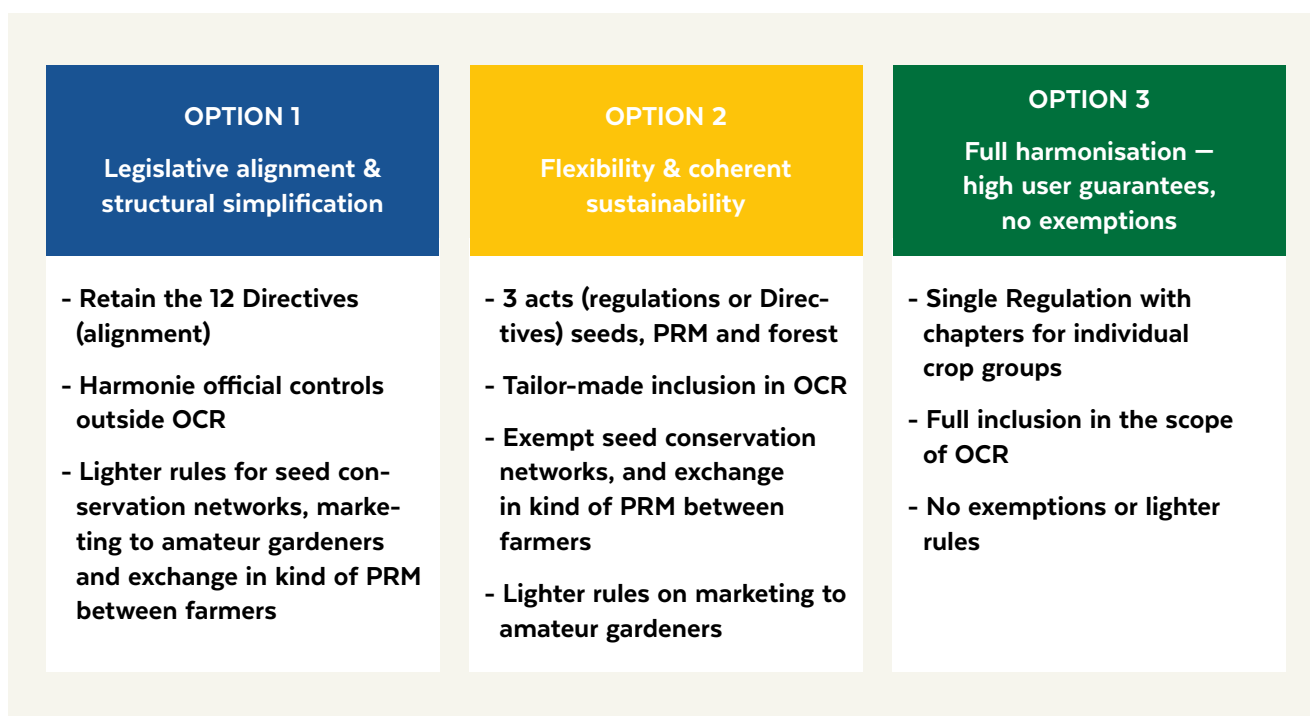


Figure 7:
Policy Options under consideration in the new reform

PRM with the political objectives of the Green Deal and its farm to fork, biodiversity, climate adaptation, digital and forest strategies; support technical developments, sustainable and climate-resilient agri-food systems & forests, and conserve biodiversity and plant & forest genetic resources, and remove barriers to trading on the single market⁴⁶. The inception roadmap envisages three legislative options for the future, which have been slightly revised by the European Commission, but not in public documents. Compared to the last attempt, the changes proposed do not solely focus on procedural aspects, but tend to look at the legislation as a whole:

- Option 1 only foresees light changes and alignment of the current Directives
- Option 2 considers the alignment of EU Seed Directives with the European Green Deal, by infusing more flexibility in three EU legislative acts, whether Regulations or Directives, while
- Option 3 envisages little room for derogations and flexibility in a single Regulation, fully integrated into the Official Controls Regulation 17/625 (OCR)

The Open Public Consultation ran from December 2021 until March 2022, and gathered nearly 2500 responses⁴⁷. The consultation results showed an important polarisation across stakeholder groups, even

on the need to have a sizeable reform to address the fragmentation and incoherence of EU seed marketing rules. While public authorities and business associations generally disagreed on the failure of the current regime, all other stakeholder groups agreed on the need for such reform. It is interesting to note that an impressive 80% of respondents, and a majority of respondents from each stakeholder group, agreed that “there should be lighter rules for conservation and ‘amateur’ varieties”, even if there was no strong consensus on how to articulate the challenges and impacts of such rules.

Although a formal proposal was expected to be tabled at the end of 2022 for the consideration of the European Council and the European Parliament, the effort was postponed to Spring 2023 due to the difficulties of finding grounds for compromise between diametrically opposed visions for an efficient EU seed market aligned with the goals of the European Green Deal.

⁴⁶ European Commission, Inception Impact Assessment, ARES (2021) 3899523, available at https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13083-Plant-and-forest-reproductive-material-revised-rules_en

⁴⁷ See the consultation outcome at https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13083-Plant-and-forest-reproductive-material-revised-rules-/public-consultation_en

3



Thematic analysis of seeds marketing legislation

Since the proposal will likely look into a combination of measures initially foreseen in the three policy options outlined in the inception impact assessment, our analysis will rather look at the general principles in different thematic areas of EU Seed Directives.

We will assess the **challenges** posed by the legislation that applies today with regard to:

- the scope of the legislation (3.1),
- the conservation and sustainable use of crop biodiversity (3.2),
- the system of variety registration and seed lot certification (3.3),
- and the governance of EU seed legislation (3.4.).

For each item, we will point out the **current situation and the proposed legislative pathways**, identifying potential risks and benefits in view of different political goals or policy objectives. To conclude, we will issue **recommendations** for the future regime governing the marketing of seeds in the EU.

Scope of the legislation

What is regulated by the seeds marketing Directives? Which plant species and activities fall under their scope?

The scope of the EU seed marketing rules is defined through the list of regulated species and the definition of seed marketing. The latter is crucial to determining whether the legislation applies to non-professional actors, and whether it recognises the cornerstone of farmer seed systems, i.e. the free exchange and sale of seeds amongst these networks.

Regulated species

Current situation

Each EU Seed Directive lists the **specific crop species that are regulated at European level**. For example, aromatic herbs, quinoa, buckwheat, emmer, millet, lentils and parsnips are not regulated. They can therefore be marketed freely, provided they conform with other applicable legislation, such as the EU rules on plant health. The list of regulated species can be changed at national level. For instance, the marketing of lentil seeds is regulated in France, while some types of sorghum are not regulated in Ireland or the United Kingdom. Ireland is the only EU country not to regulate asparagus seeds and propagating material.

Foreseen changes

The past reform attempt proposed to have EU-wide criteria to change the list of regulated species. The species would have had to either represent a significant area or value of production, be produced by a significant number of professional operators in the EU, or contain substances to be regulated. The final list would have been determined by a Delegated Act to be adopted by the European Commission, with the consultation of experts from national authorities, but little involvement of the European Parliament.

Although the policy options that have been published by the European Commission do not go into the detail of regulated species of the future regime, the targeted survey organized by the consultancy in 2022 to support the impact assessment contained questions on regulated species. The survey inquired about the criteria that could be used to determine whether crop species would be regulated and asked participants whether or not the list of regulated species should be lengthened or reduced.

Recommendations

Only crop species that are commercially relevant for industrial agricultural production should be regulated, and only in the countries in which they have this relevance. Regulating economically less important species would jeopardise crops, as the market would not be big enough to justify registration. As the risks of pests and diseases continue to be regulated in the EU Plant Health Regulation, this approach does not jeopardise plant health. Therefore, the number of regulated species should decrease rather than increase, allowing flexibility for operators. This would support the development, production and use of underutilised crop species and contribute to the diversification of diets further down the food system.

Definition of seed marketing

Current situation

Seed marketing laws only apply to the marketing of seeds, defined in the Directives⁴⁸ as the ‘sale [...] aimed at commercial exploitation of seed to third parties, whether or not for consideration’. ‘Trade in seed not aimed at commercial exploitation of the variety [...] [is not] regarded as marketing’.

In a contextual reading of the text, all exchanges of seeds between peasants, farmers and amateur gardeners as well as seed saving activities for biodiversity conservation or its dynamic management should thus be excluded from the scope of the Directives. However, if a broad interpretation of ‘seed marketing’ is chosen, the recovery of small fees for the production of seeds by private enthusiasts, or all exchanges of seeds between farmers would be considered as a commercial exploitation of the variety.

Since the EU instruments need to be transposed into national laws, there are sizeable differences between national across the EU in the interpretation of this key notion.

There are positive examples of the national interpretation of seed marketing, that allow a greater margin of manoeuvre outside of the seed marketing legislation. In France, the Rural Code was amended in 2020 to exclude from seed marketing laws ‘the assignment, supply or transfer, whether free of charge or against payment of varieties belonging to the public domain to non-professional end-users not aiming at the commercial exploitation of the variety.’⁴⁹ In France, the amateur market is thus completely out of the scope of seed marketing rules, although this legislation was challenged by the European Commission. In Denmark, authorities have issued instructions for non-commercial use of seeds, which clarify that seed laws only govern the marketing of seeds for agricultural and horticultural production, i.e. commercial production.⁵⁰ In other Member States, there is no legal certainty on the exact definition of seed marketing and the type of activities that are excluded. Yet, a loose implementation of the legislation allows for quite a relaxed margin of manoeuvre for seed savers or farmers who wish to exchange seeds, and recover the costs of multiplication and distribution. This is for example the case in Germany or in Ireland.

There are also restrictive examples that regulate a very high number of activities that relate to seeds: In Estonia any and all exchanges, even between private non-professional citizens/gardeners is viewed as seed marketing. The Polish national seed law considers any exchange or circulation of seed as marketing, and only excludes movement of seeds for scientific purposes and trials from the scope of the legislation.

Foreseen changes

The past reform attempt had adopted a very wide definition of seed marketing. Its trigger was “making [seeds] available on the market”. It covered as a result the production of seeds in that view. It only excluded from its scope activities intended for testing/scientific or breeding purposes, and seed conservation activities, which had to be “maintained by gene banks or organisations and networks of conservation

⁴⁸ Although the definition is slightly different in some Directives, its main contours are defined through the notion of seed marketing developed reprised in the seven main Directives in 1998 : Council Directive 98/95/EC of 14 December 1998 amending Directives 66/400/EEC (beet seed), 66/401/EEC (fodder plant seed), 66/402/EEC (cereal seed), 66/403/EEC (seed potatoes), 69/208/EEC (seed of oil and fibre plants), 70/457/EEC (vegetable seed) and 70/458/EEC (common catalogue agricultural plant species).

⁴⁹ French law on the transparency of the information in the food chain, June 2020, Article 10.

⁵⁰ Ministry of Environment and Food of Denmark, Seeds 2, Instructions for amateur breeders, seed savers and companies about rules and practice of trade and transfer of seeds for non-commercial use and conservation (2015), especially Section 7; see also Danish Seed Savers, https://www.froesamlerne.dk/cgi-bin/uploads/media/Projekter/Legislation_booklet_EN_arbejdskopi.pdf

of genetic resources". Only the exchange of seeds "in kind" was left outside the scope of the legislation, thus not allowing monetary compensation for multiplication efforts. Since exceptions are generally to be interpreted restrictively in EU law, the past reform attempt thus required most seeds to be registered in the official catalogue to be exchanged and sold, and all seed lots to be certified in principle.

In the current reform process, the European Commission has identified three pathways: either status quo, but with less margin of manoeuvre to EU Member States (Option 1), or a stricter definition of marketing that would exclude a number of activities from the scope of the legislation (Option 2), or lastly a single wider definition, whereby all exchange and sale of seeds is likely to be equated to seed marketing, no matter their scale or objectives (Option 3). The latter approach would be a major setback from the current situation, and annihilate all existing accommodations in national laws to adapt the scope of the legislation to accommodate the needs of the actors active in their territory. It would not allow national authorities to align the rules to their national contexts, their priorities, or environmental and social action plans.

Recommendations

The scope of EU Seed Marketing Directives should be strictly defined. It should be limited to commercial-scale operations targeting industrial agricultural production, where the principles of the regime would indeed protect seed users and ensure a level-playing field in the common EU seed market. The Directives are not designed to regulate the sale of seeds to non-professional users, which abide by different rules, being subject to strict consumer protection laws and affected by reputation to a greater extent. The 2020 background study clearly supported that gardeners looked for diversity, taste, and history when buying seeds, next to seed quality. Imposing disproportionate variety registration and seed certification requirements for these markets would thus not serve this market, and would hamper the role played by gardeners in the conservation of biodiversity, recognised by the FAO.

The scope of the seed marketing legislation should be narrow and only cover commercial activities targeting professional seed users.

A list of activities should be explicitly exempted from the scope of the seed marketing legislation: (1) the sale of seeds to amateur gardeners; (2) all activities

of seed conservation networks, including seed savers, hobby gardeners and farmers; (3) all activities aiming at the conservation of cultivated plant diversity or adaptation of cultivars to regional agro-ecological conditions for cultural, historical, social or environmental reasons, including the sale and exchange of all cultivars and varieties for these aims; (4) using of farm-saved seeds from one's own cultivation; (5) the exchange of seeds by farmers or gardeners, in kind or with monetary compensation, without any obligation to belong to an association/network; and (6) the passing on of seeds for testing, research and breeding purposes.

Due to its importance, the question of the applicability of the law to farmers and seed savers is discussed in more detail below, while a specific section is dedicated to the conservation and sustainable use of biodiversity.

What about farmers' exchange and sale of seeds?

Current situation

In the current interpretation of the European Commission, the exchange and sale of seeds by farmers fall into the definition of seed marketing. This means that all farmers, no matter their size and activity (whether they engage in seed or food production), need to comply with the strict rules of the EU Seed Marketing Directives. They can only exchange quality-controlled seeds of registered varieties. To further add to the problem, national implementation of EU rules has been unequal at best. Peasant and farmer communities are thus affected very differently across the EU, facing outright violation or conditional recognition of their rights to seeds.

There are sizeable differences between national seed laws across the EU. Austrian seed laws allow the transmission of seed by farmers, peasants or seed users against payment or in kind for the purpose of conservation if the person does not trade in seed, if the variety is not registered (except conservation and amateur varieties) and if the transmission is done in small quantities.⁵¹ Instructions issued by the Danish authorities for non-commercial use of seeds also take into account the realities of farmer seed systems, and allow for the exchange of seeds amongst

⁵¹ Austrian Seed Regulation, 1997 (2016 Version), §4(3).

farmers, and sale of unregistered varieties under certain conditions.⁵² In France, seed exchanges between peasants are considered to fall under the regime of mutual assistance, and are not subject to seed marketing legislation. In these countries, farmers are not limited to using registered varieties and certified seed unless they produce seed on a commercial-scale. Exchanges of seeds of protected varieties depend on the scope of plant variety protection. In the absence of a formal relaxed interpretation, farmers navigate the greyest area of legal uncertainty in EU seed marketing rules, no matter if they support one another, or whether they exchange or use seeds in the context as farmer-breeders.

Foreseen changes

As mentioned above, the past reform attempt had adopted a very wide definition of seed marketing, which included not only commercial use but also the exchange of material between farmers and other so-called "professional operators" engaged in seed production or breeding. Farmers exchanging and saving their own seed, solely because they were professional operators, would have needed to comply with seed marketing legislation, even to simply exchange seeds. This meant that they would have had to make sure that the varieties they exchanged or used were registered in the national catalogues and the seeds exchanged or used were certified.

In the foreseen reform, the European Commission envisages different pathways with regards to the exchange of seeds by farmers. The exchange and sale of seeds by farmers would be considered in the scope of the legislation allowing for no exception or margin of manoeuvre to Member States (Option 3), or by granting the possibility to Member States to adopt lighter rules in this respect (Option 1). Option 2 is the only one that envisages to leave the exchange and sale of seeds by farmers out of the scope of the legislation, albeit limiting this exception only to farmers that are affiliated to an association.

⁵² Ministry of Environment and Food of Denmark, Seeds 2, Instructions for amateur breeders, seed savers and companies about rules and practice of trade and transfer of seeds for non-commercial use and conservation (2015), especially Section 7; see also Danish Seed Savers, https://www.froesamlerne.dk/cgi-bin/uploads/media/Projekter/Legislation_booklet_EN_arbejdskopi.pdf



Recommendations

The exchange and sale of seeds by farmers lies at the centre of farmer seed systems and mutual aid in rural communities. They are also enshrined in both the FAO ITPGRFA and recognised as human rights in the UNDROF. Any legislative attempt hampering such rights would thus not only be in violation of human rights instruments, it would also severely hamper the transition towards an agroecology-based transition to sustainable food systems.

To truly implement farmers' rights to seeds, the seed marketing legislation **cannot apply to the exchange of seeds amongst peasants**. It cannot view the receipt of monetary compensation for the recovery of production and maintenance costs of exchanged seeds as seed marketing. Exchange of seeds by farmers or gardeners, in kind or with monetary compensation, should be out of the scope of the seed marketing legislation, without any obligation to belong to an association or network, explicitly recognising the right to save and exchange seeds. **Any exception granted to allow exchange of plant material and seeds for breeding purposes in the scope of the legislation should also extend to mass selection and participatory plant breeding activities** designed by or involving farmers.

Biodiversity conservation and sustainable use

How does the EU seed marketing legislation approach efforts to conserve seed diversity and ensure its sustainable use?

Biodiversity conservation work

Current situation

Currently, the EU Seed Directives do not formally exempt the work of seed savers. It relies on the interpretation of the notion of seed marketing in different EU Member States, and their lenience towards such activities.

In countries where every single exchange of seed is viewed as marketing, such as Estonia, this means that seed savers that strive to conserve biodiversity need to register the varieties and populations they wish to maintain on the national catalogues, and have to follow the stringent rules that relate to seed production. However, the varieties and populations that seed savers focus on generally do not fulfil the stringent DUS criteria. Their cultivars are heterogeneous, rather than uniform and adaptable to local environments rather than stable. Furthermore, the stringent rules of seed production cannot be justifiably applied for the small quantities of seeds that are exchanged amongst seed savers. This national interpretation thus severely restricts the conservation work that can be done by seed savers.

In other countries, where the interpretation of the notion of seed marketing explicitly excludes such non-commercial activities (such as Denmark), or allows them under certain conditions (such as Austria), seed conservation actors only need to follow the rules that ensure seed health as prescribed in the Plant Health Regulation.

Foreseen changes

In the current reform process, Option 1 envisages “lighter rules for seed conservation networks”, while Option 2 foresees to exempt them from the scope of the legislation, and Option 3 equates the work of these networks to the activities of the commercial seed industry and applies the same restrictive rules to them.

Although it is not clear what the “lighter rules” mentioned under Option 1 would really mean in practice, this would still be significantly more favourable than Option 3. This last option would either sign the end of most crop diversity conservation work done by seed savers, (but also some of the biodiversity conservation programmes carried out by public gene banks), or simply push them into complete illegality. In this scenario, it would simply be impossible for them to comply with the strict rules designed for commercial crop production. Although Option 2 seems to be the most enabling option of those envisaged by the European Commission, if the exemption were only to apply to “networks”, a term that is not today defined by the law and could thus be interpreted as “organisations”, this option would still be detrimental to the conservation work currently undertaken across the EU. Indeed, seed saving is not only carried out inside formal structures but also by private citizens who are not always organised in organisations with a formal legal entity.

Recommendations

Seed conservation networks, as formal or informal entities, including individual seed savers, hobby gardeners, and farmers, who exchange and/or market seeds with the main non-profit purpose of conservation and dynamic management of plant genetic resources, should be out of the scope of the seed marketing legislation. Furthermore, **all activities aiming at the conservation of cultivated plant diversity or adaptation of cultivars to regional agro-ecological conditions for cultural, historical, social or environmental reasons should be out of the scope of the legislation.** The sale and exchange of cultivars and varieties for the aim of conserving plant genetic resources should be out of the scope of the seed marketing legislation. There should be no obligation to register as professional operators for seed conservation actors.

Sustainable use of genetic resources, participatory plant breeding and seed marketing

Current situation

Article 5 of the ITPGRFA mandates States to “promote or support, as appropriate, farmers and local communities’ efforts to manage and conserve on-farm their plant genetic resources for food and agriculture”. This obligation should thus be reflected in seed marketing legislation, which should **recognise**

and support on farm conservation and sustainable use of cultivated biodiversity, and implement State obligations recognised by UNDROP and the ITPGRFA. The legislation should thus create pathways to the market for seeds from local and/or traditional plant varieties and for non-uniform plant populations that are the products of participatory plant breeding or farmer selection efforts⁵³.

The EU seed marketing rules establish an *ad hoc* derogatory regime, allowing the registration of so-called **conservation varieties and landraces**, which do not comply with the strict DUS and VCU criteria set out in the horizontal legislation. First carved for agricultural crop species, and then to vegetable species in 1998, the regime was significantly revised in 2008 since it had not led to a single variety registration in 10 years. The 2008 regime established by Commission Directives 2008/62 and 2009/145 provided more guidance to public authorities with regard to the swifter registration process to be established. Nonetheless, it maintained strong links to the UPOV system by requiring adapted DUS criteria based on simplified UPOV questionnaires and did not break with the mandatory requirements regarding seed lot certification. The conservation variety regime also comes with additional geographical restrictions, limiting their production and marketing to an identified ‘region of origin’. It also contains quantitative restrictions, as the quantity of seeds marketed for each conservation variety cannot exceed the quantity necessary to sow 100 hectares, or 0.5% of the seed used in the same species in the country. Some Member States have adopted a more relaxed stance on this derogatory regime, allowing for larger areas to be covered by the concept of region of origin (such as Austria), or being more lenient in filling out the simplified UPOV technical questionnaires in the registration process. Other countries have interpreted the regime quite strictly (like the Netherlands). Most of the applicants for the registration of conservation varieties remain scientific and public bodies, followed by farmer associations, private citizens, and a dwindling number of seed companies. The regime has only

led to the registration of 353 conservation varieties in agricultural crop species, half of which come from Sweden and Italy.

For vegetable species, an additional derogatory market access regime was established by Commission Directive 2009/145 for “varieties with no intrinsic value for commercial crop production that have been developed under particular conditions”, otherwise known as ‘**amateur**’ varieties. While only 159 vegetable conservation varieties are registered in the EU Common catalogue, one finds 812 amateur varieties, which shows that the latter regime is the most interesting, and also less restrictive one for the sustainable use of crop diversity. In most EU countries (but not all), the registration of amateur varieties is done on the basis of “an officially recognised description”, which is easier to compile for non-uniform heirloom varieties, landraces, or even new varieties developed for specific markets. This regime does not have the geographical limitations that accompany conservation varieties. It also benefits from the lighter seed production rules of “standard vegetable seeds”, which rely on post-marketing controls rather than pre-marketing seed lot certification rules. However, their seeds can only be sold in small packages, which is enough for the amateur garden market or for conservation purposes, but not interesting for breeders targeting larger scaled low-input or local production.

The new Organic Regulation 2018/848 recently established a new derogatory but much more flexible pathway to the seed market by the regime of “**organic heterogeneous material**” (OHM). Carved out as a complete derogation to the principles of variety registration and seed lot certification, the new regime, the contours of which have been further developed in Commission Regulation 2021/1189, is based on a notification system relying on the description of the material to be marketed, and on official post-marketing controls. While it retains the applicable seed quality criteria established under the EU seed marketing rules, it adapts them to the needs of the material and the operators engaged in its production and use⁵⁴. However, the regime only applies within the boundaries of organic production, and does not allow the marketing of plant material that is slightly less uniform than the more classical plant varieties, but not heterogeneous enough to qualify as OHM. It may thus not completely cater to the needs of landraces, or varieties that have been deleted from the national lists due to the loss of mainstream commercial interest, but could still be interesting for conservation purposes, or for the specific qualities they have⁵⁵.

⁵³ Batur, F.; Bocci, R. and Bartha, B.; Marketing Farmers’ Varieties in Europe: Encouraging Pathways with Missing Links for the Recognition and Support of Farmer Seed Systems. *Agronomy*. 2021; 11(11):2159. <https://doi.org/10.3390/agronomy11112159>

⁵⁴ For an exhaustive description of the new regime, see “Organic Heterogeneous material: a new marketing regime for diversified seed populations”, available at https://www.seeds4all.eu/app/download/10257893584/OHM_Booklet_EN.pdf?t=1663758630

⁵⁵ Batur, F. et al, op cit.



Foreseen changes

The past reform attempt did not alter the general principle of mandatory variety registration prior to the marketing of seeds in the EU. It nonetheless provided more derogatory regimes. One of them was “heterogeneous material”, the marketing conditions of which would have been established in a delegated act. Another derogation concerned “niche market material”, which would also have been developed in a delegated act, but was already limited to the sale of small quantities by micro-enterprises in the proposed Regulation. The conservation variety regime would have been replaced by a nebulous registration system based on “officially recognised description”, which did break the reference to mainstream DUS and VCU protocols. It allowed the registration of varieties deleted from national lists, but maintained the geographical restrictions currently applicable to conservation varieties.

The Farm to Fork strategy recognised that sustainable food systems relied on seed security and diversity, and announced the European Commission would “ensure easier market access for traditional and locally-adapted varieties”. In Option 1 of the future reform, there are no significant changes foreseen to

the existing conservation and amateur varieties regime, except for their alignment, and potential extension to other crop species. All the limitations of the current regime would thus still apply. Option 2 on the other hand, foresees a “modern and flexible variety registration and seed production system” for traditional varieties, and opens the door for new opportunities to market heterogeneous material or other types of plant material outside of organic production. On the other side of the spectrum, option 3 would either annihilate existing alternative pathways to the mainstream DUS-based variety registration system, or limit their breadth further. It goes without saying that this last option would be completely detrimental to the sustainable use of biodiversity and the support of farmer seed systems. While the first option would not be so detrimental, it would still not trigger the change needed to transition to sustainable and diverse food systems, failing to truly support different communities engaged in the conservation and sustainable use of crop diversity. Only the second option would support these communities and their activities.

Recommendations

The future EU seed marketing legislation should **provide more rather than less opportunities for the use and thus the marketing of cultivated plant diversity adapted to different growing conditions**, especially organic and low-input cultivation systems which are not prioritised by industrial seed developers. It is also vital that the legislation unlocks viable economic opportunities for different actors, whether small farmers, market gardeners, or any other entity engaged in the sustainable use of crop diversity through its marketing. The legislation should also implement rather than obstruct the accomplishment of its international obligations under the FAO ITPGRFA and the UNDROP, protecting and fulfilling the rights to seeds recognised therein.

In this context, there is only one way forward, the development of a tailored pathway to the market as envisaged by the European Commission's second policy option. **A single easy access regime for “diversity cultivars” building only on the description of the material through a notification process** similar to the one established for organic heterogeneous material in Regulation 2018/848 should be established for conservation/traditional/locally adaptable varieties and populations in all crop species. As Genetically Modified Organisms (GMOs) and hybrids neither can adapt to different agro-ecological conditions, nor can be conserved by seed saving, they cannot be notified as diversity cultivars. The new easy access regime, which could build on the existing Swiss “niche variety” system, should be free of charge to the supplier, and neither have DUS/VCU testing and mandatory seed lot certification, nor any quantitative or geographic restrictions, but be distinguishable for users and contain labelling provisions useful to them. Varieties currently falling and registered under the amateur and conservation varieties could be marketed under this new framework.

Variety registration, sustainability criteria and seed lot certification

How is the main pathway to the EU common seed market articulated?

Variety Registration

Current situation

The main principle of variety registration in EU seed marketing rules is rooted in the official examination of the distinctiveness, uniformity and stability (DUS) of plant varieties (in most crop species, except for fruit and ornamental plant propagating material), to which the examination of the variety's value for cultivation and use is added for cereals. National seed authorities that receive the applications for variety registration oversee the official examination of the dossiers and testing of the material. DUS testing usually requires 1 to 5 years (depending on the species and the Member State), while VCU testing requires 2 to 3 years. These two sets of testing are performed separately by competent national authorities, often in different testing sites, and contain some overlaps that could be better exploited, which is the aim of large-scale European research projects that are currently running⁵⁶. The protocols to be followed by competent national authorities for the DUS evaluation are established at EU level and mirror the CPVR system aligned with UPOV rules. The protocols for VCU testing are rather established at national level, and show considerable degrees of variation. For example, the French VCU criteria also include an evaluation of the variety's “environmental” value, usually coined “sustainability VCU”. The French examination not only looks at productivity criteria (such as yield), physiological criteria (such as plant height, flowering or harvesting), its technological use value (such as oil or protein content), but also its “environmental value”, giving extra points to the presence of resistance to diseases and other pests, as well as to lodging and winter cold, dependence on inputs (decrease of use of pesticides or fertilisers).

These stringent requirements are however not suited to the needs of all breeding programmes, especially organic ones, or those that cater to the needs of organic or low-input production. Indeed, **the “pursuit of homogeneity in open-pollinated cultivars for**

⁵⁶ The Horizon 2020 Innovar project looks into these synergies, as well as the INVITE project; see respectively: <https://www.h2020innovar.eu/> and <https://www.h2020-invite.eu/>

registration purposes may come at the cost of quality and taste, [at an increased cost for breeders as homogeneity requires more breeding generations]⁵⁷.

Organic breeding is further challenged due to a smaller market it represents compared to conventional breeding, and its financing is a profound challenge. This is why the Organic Regulation 2018/848 included in its Preamble a commitment by the European Commission to launch temporary experiments under the EU seed marketing rules to see how these rules could be modified to better take into account the needs of these specific varieties. These experiments will launch officially in July 2023 for a limited number of crop species⁵⁸.

Furthermore, for many species where clones of varieties are produced, sharing the exact same DNA (such as potato or fruit) the establishment of the **identity of the variety** is not clear. This leads to varieties being listed in EU catalogues under the wrong name.

The **costs of registration** greatly vary between Member States, creating an uneven level-playing field across the EU, and are considered to be a considerable barrier for SMEs⁵⁹.

Foreseen changes

The past reform attempt did not alter the principle of mandatory variety registration prior to the marketing of seeds in the EU, except for the foreseen derogations of “heterogeneous material” and “niche market material” mentioned above, and thus did not fully cater to the needs of different breeders.

In the current reform process, while both options 1 and 2 maintain the objective of facilitating the registration of organic varieties (whether solely through the temporary experiments, or by potential additional provisions), option 3 maintains a strict stance on exceptions to the

mainstream regime. This option does not foresee the adaptation of the current regime to the needs of operators like organic breeders or SMEs.

On the contrary, option 1 mentions the adoption of “climate change mitigation and biodiversity measures”, a nebulous action point which is not translated into specific policy actions, but could be linked to a renewed variety registration regime. Option 2 foresees the adoption of “mandatory sustainability criteria in variety registration”, without specifying whether those apply to all crop species, or whether they would be integrated into existing VCU testing protocols, like it is the case in France.

Recommendations

There must be a clear distinction between the regimes granting intellectual property rights (plant variety rights) and those allowing access to the market. EU seed marketing rules should support the development of varieties and production of seeds that are adapted to cultivation under low-input conditions and are resilient in the face of extreme weather conditions or pests and diseases. This support is central to the transition to sustainable food systems.

As a result, the **registration** of non-DUS varieties needs to be allowed in a stand-alone diversity cultivar regime based on a listing or notification system. It should also be allowed in the mainstream variety registration regime through formal support for the temporary experiment for organic varieties, relaxing the link between EU seed marketing rules and the intellectual property regime that is plant variety protection. For species where clones are commonly used, the determination of varietal identity must be financed by the public sector and should be accompanied by a compulsory listing (at both national and EU levels).

Furthermore, “**sustainability**” or “climate proof-ness” cannot be reduced to single traits, such as drought tolerance. Instead, it is necessary to take a holistic approach, looking at the variety as a whole: Does it perform well under low-input conditions? Does it contribute to increasing the genetic diversity on the field? Rather than focusing on single (efficiency) traits, which are unfit to assess the sustainability of agricultural production, DUS and VCU testing should take place under low input or organic conditions for conventional as well as organic varieties to make sure that new varieties really contribute to sustainabili-

⁵⁷ LIVESEED Project, Guidelines for adapted DUS and VCU testing of organic varieties, p. 17 (available at <https://www.liveseed.eu/wp-content/uploads/2021/02/D2.4-LIVESEED-Guidelines-for-adapted-DUS-and-VCU-testing-of-organic-varietie.pdf>)

⁵⁸ For vegetable crop species, only carrot and kohlrabi are concerned by Implementing Directive 2022/1648 on derogation for organic varieties of vegetable species suitable for organic production, while for agricultural crop species, the provisions of Implementing Directive 2022/1647 on derogation for organic varieties of agricultural plant species suitable for organic production apply to barley, maize, rye and wheat.

⁵⁹ ICF Study, p.20.

ty. Any additional sustainability criteria can only be welcomed if they follow a holistic sustainability approach and look at the entire life cycle of the seed and plant, rather than assessing limited characteristics of a product or a single trait thereof. Sustainability assessments must not be used to allow varieties that are bred for herbicide tolerance, or reinforce dependence on high inputs, to be labelled as sustainable. On the contrary, they should lead to reducing the dependence on pesticides and synthetic fertilisers. VCU testing should include holistic sustainability criteria, taking into account the entire life cycle of seeds and plants. Sustainability assessments added into the seeds marketing legislation cannot and must not replace risk assessments in the GMO legal framework for products developed using new genetic engineering.

Another important element that is not currently foreseen in this reform relates to the **information made available** to seed developers and users in the national lists and EU common catalogues. Some national authorities publish quite an extensive amount of information relating to registered varieties, such as their nature (open-pollination or hybrid), their characteristics, region of development or predilected cultivation conditions. Others only include minimal information on the variety's name, the maintainer and the date of its inclusion on the list. The latter is also the case of the EU common catalogue, which is very seldomly updated, since the frequency in which the European Commission receives information from national authorities greatly varies, in the absence of a formal obligation to do so frequently. The information contained in the national lists and catalogues should thus be better streamlined. It should also include additional items that are useful to know for variety developers and seed users, such as the techniques used to develop the material, the existence of patent or plant variety protection that restrict its use, the agronomic conditions for which it was developed or under which it performs best, and any other useful information, which could relate to the variety's nutrition or transportation qualities.

Seed certification procedures

Current situation

Once a variety is registered or listed, or if the supplier is accredited, according to the requirements of the EU seed marketing rules, a number of stringent seed production rules also ought to be followed. Most EU seed marketing Directives foresee different categories of seeds, whether basic, pre-certified or

certified, but all operate under the **main tenet that only certified seeds should be marketed in the EU**. This means that the compliance of seed lots with the quality criteria set out in the EU seed marketing rules is controlled by competent national authorities prior to the marketing of the lots. Each Directive thus sets out the conditions that need to be complied with in order to get the seeds certified, which generally entail conditions relating to varietal identity and purity, the cultural conditions of seeds, and minimum distances from neighbouring plants to avoid undesirable foreign pollination. Compliance is checked by authorities through field inspections at different stages of production.

There are nonetheless a number of **exceptions to this rule**. The ornamentals sector does not rely on seed lot certification (nor variety registration), but focuses on the responsibility of operators. In the case of vegetable seeds, even if seed lot certification is still viewed as a general principle, it is allowed to market standard seeds. The quality of standard seeds is not checked prior to their marketing, but afterwards, through random inspections and examinations. Most of the vegetable seed on the EU market today is actually of standard quality, and even in mainstream industrial production, certified vegetable seeds are not the norm. Another exception to the dominance of certified seed is found in the world of fruit propagating material, where so-called CAC material (Conformitas Agraria Communitatis) can also be marketed. It should nonetheless be noted that fruit propagation certification schemes are favoured across the EU, and that the health requirements that apply to fruit material tend to be quite strict due to the higher number of pests and diseases they are vulnerable to.

Foreseen changes

The past reform proposal had foreseen to allow the sale of standard seed for the derogatory regimes of "heterogeneous material", "niche market material" and varieties with "officially recognised description". However, this possibility was still viewed as an exception to the main rule, and was accompanied by certain conditions, as well as important delegated powers to the European Commission to list the genera or species for which this exception would not apply.

There are little to no formal mention of seed production rules in the policy options put forward in the current reform process, except the aforementioned nebulous reference to a "modern and flexible seed production system" in Option 2.



Recommendations

Building on the experience with standard vegetable seed, and also the regime of organic heterogeneous material, there is nothing that stands in the way of **allowing a parallel seed production pathway that breaks with the principle of mandatory seed lot certification**. Given that the users of seeds are much better informed and knowledgeable about the different categories of seeds, it should be **possible to market standard seeds in all crop species, provided that such status is clearly indicated on the label**. This would alleviate the burden currently residing on public authorities' shoulders, which are struggling with budgetary cuts, and would ensure a transparent and diversified seed offer on the EU market.

As a result, **labelling and packaging rules should be properly reformed** to take into account the new realities, needs and priorities of seed users in the 21st century. They should consider the variety of means through which useful information can be given on the content of seed packages, and the reputational damages that can be caused by wrongful or misleading information. They should also be proportionate to the risks borne by seed users, which are quite different in smaller more local and community-based scales, compared to the international anonymised market. There should be derogations to the official sealing and

the official label that are traditionally affixed to seed packages according to the EU seed marketing rules. These can follow the approach adopted by Commission Regulation 2021/1189 relating to the marketing of OHM (Article 7). With regards to the official seal, the stringent rules should not apply to the sale of small packages. In the same vein, for smaller-scale marketing operations, the label affixed to seed packages should be legible and visible, contain detailed useful information for purchasers, and should not be made mandatory for small packages, provided the purchaser is informed about the species and denomination of the cultivar or the variety.

Governance

How should the role of public authorities be attributed, and a transparent democratic oversight process be established?

Controls under official supervision

Current situation

The EU seed marketing Directives rely heavily on the pre-marketing control of varieties and seed lots through official examinations by public authorities that entail testing, trials and field inspections. The **costs of this regime** are thus quite high both in terms of financial and human resources. The regime is thus heavily subsidized in certain countries, as very little competent authorities can actually fully recover the costs of such controls in the fees they collect from the users of the system. This reality was confirmed in the different studies contracted by the European Commission on the seed marketing acquis.

An additional problem witnessed today in governance and control relates to the **limited availability of field trials under organic conditions**, which means that the varieties examined by authorities are not cultivated in the conditions they were developed for, putting them at a great disadvantage compared to those bred for conventional production settings.

Foreseen changes

The past reform attempt was part of a package that not only comprised of the EU Plant Health Regulation, but also the Official Controls Regulation (OCR). As a result of the withdrawal of the seed marketing proposal by the European Commission, the EU seed marketing rules currently do not fall under the OCR, which has since then been adopted. The OCR streamlines the responsibilities within Member States authorities, but comes with additional complexity and probable administrative burden for national competent authorities, which would lose some of the flexibility awarded by the seed marketing rules⁶⁰.

One of the central tenets of the OCR is also to allow so-called “**controls under official supervision**”, whereby competent authorities accredit and authorise private operators to carry out the necessary operations

in their own facilities, all the while being controlled by public authorities. In this vein, the past reform attempt allowed for these supervised controls to take place.

In the current reform process, alignment with the OCR would be full in Option 3, but more moderate in Options 1 and 2.

Recommendations

Controls and testing (variety and seed lot quality) should **not be privatised, but stay in principle with public authorities, unless it would be impossible for these authorities to test the varieties and material in the growing conditions they have been bred or produced for (such as organic conditions)**. This delegation of controls cannot in any way disadvantage smaller operators not able to warrant the necessary accreditation from competent authorities to carry out the testing themselves. Operators should still be able to rely on public authorities' knowledge and time, which risks to diminish in case controls are increasingly privatised.

Subsidiarity, competence, and participation

Current situation

The Directives currently uphold a **high level of subsidiarity** in their application. EU Member States can and have been flexible, interpreting the legislation in a more adapted fashion for farmers and gardeners engaged in small-scale or non-commercialised operations as exemplified above. While the European Commission retains the power to adopt technical acts in all the EU Directives, the delegation of power remains quite limited today, and is mostly retained by national authorities.

Foreseen changes

The past reform attempt proposed a single Regulation to cover all crop species and included a substantial number of delegated acts.

In the current reform process, the **recourse to a Regulation** as a legislative instrument is foreseen in Option 3 and could be a possible path in Option 2. As Regulations need to be directly applied by Member States, word for word in the whole EU rather than

⁶⁰ ICF study, p.12.

transposed and interpreted into national laws, this could wipe away many of those exemptions won at the national level. The new Regulation(s) would furthermore replace 12 existing directives, where some, e.g. for cereals, are much more restrictive than others, and all are tailored to the specific needs of regulated crop species. If the new framework proposes to bring all requirements up to the level of cereals, this would mean that some currently more lightly regulated sectors, such as the ornamentals or vegetable seed segments, would see a big restriction in operators' freedom to work.

The past reform attempt also considerably shifted the **current balance in the delegation of powers between national authorities and the European Commission**, and considerably limited the involvement of the European Parliament as a co-legislator in the European law-making process. The number of delegated acts that were to be adopted by the latter institution was so high that the decisions of both the European Parliament's Environment and Agriculture Committees to reject the 2013 proposal referred critically to the text being a "black box".

Recommendations

The future legal framework should **retain the crop-specific aspect of the Directives instead of a single or several Regulations**. This would allow Member States to be more sensitive to their local contexts, as well as biodiversity and farmers' rights, and adapt the legislation to agro-climatic conditions and the social fabric of their territories, in the spirit of subsidiarity.

The future legislative framework should also **limit the number of delegated acts to be developed by the European Commission, and already delineate the scope of the legislation**. It should establish the main tenets of procedures related to variety registration, seed lot certification and controls in the Basic Act, allowing for true oversight by the European Parliament.

Furthermore, crop diversity actors, peasants & the organic movement should be actively **included in all governance and decision-making processes** that relate to the marketing of seeds. A modern EU seed marketing framework would set up participatory and inclusive democratic governance mechanisms to follow the implementation of the seed marketing rules, and improve them through constructive dialogue between authorities and all stakeholders.

4



Impacts of the EU seed reform

Impacts on Farmers

Currently, the EU seed marketing Directives are tailored to the needs of the seed industry and large-scale commercial crop production. Small and medium-scale farmers are disadvantaged by the system in a twofold way:

- on the one hand, they lack the seeds adapted to their needs, as the mainstream regime pushes breeders to make choices in their variety portfolios, and concentrate on the marketing of seeds that can be grown in several countries;
- and on the other hand their own seed systems are restricted because they are considered to fall under the same laws as industrial seed and crop production.

The time-consuming and costly process of variety registration reinforces and cements the focus on a limited number of lucrative and uniform varieties tailored to favourable agricultural production conditions on a large scale. The already much-less profitable breeding efforts in low-input or locally adapted varieties are further de-incentivised. The Directives thereby **fail farmers who operate outside industrial agriculture, for example, farmers working under agroecological or certified organic conditions, farmers working with open pollinated seeds, and farmers working in small acreages with close ties to final consumers, as they simply lack access to sufficient seeds adapted to their needs and local production environments.**

The lack of attention to the different layers of seed systems does not only hinder the value production at regional levels, but also has detrimental impacts on the environment at large, and on the conservation and sustainable use of genetic diversity, as warranted by international law.

Should the future seed marketing reform **exempt the exchange and sale of seeds between farmers from the scope of the EU rules**, notwithstanding whether these operations take place between individuals or within an association, the foundations of farmer seed systems would be maintained. This would not only contribute to the implementation of State obligations under the FAO ITPGRFA and the UNDROP, but also contribute to the conservation and sustainable use of crop diversity, reinforce the social and economic fabric of the European countryside and empower rural communities.

Furthermore, by **enacting a simple and easy access pathway for the marketing of diversity cultivars and adopting more lenient seed production rules**, the future EU seed marketing rules would promote entrepreneurship, acknowledging the role of farmers as breeders. It would also enlarge the offer of seeds on the market that are adapted to different growing conditions.

Last but not least, by enacting **comprehensive transparency requirements in national variety registers and the EU common catalogue** with regards to information that is truly useful for both seed developers and users, accompanied by proportionate yet modern labelling requirements for seed packages, the reform could help **farmers make the most informed decision**, without relying on official examination of varieties or seed lots, bringing the EU seed marketing rules fully in line with the 21st century.



Impact on Small and Medium seed enterprises

The current EU seed marketing rules favour the already market-dominating big seed companies at the expense of the SMEs. The **variety registration system is more burdensome than it would need to be due to its close links to the regime granting intellectual property rights**. The ICF background study highlighted that “the current regulation largely underestimates the disproportionate burden that certification and variety registration imposes on SMEs and non-profit organisations with commercial activities”⁶¹. This benefits larger players, which focus on few lucrative varieties and those companies who use intellectual property rights to exclude others from using the protected variety. The legislation thereby **artificially restricts market access hindering new entrants to the market and disadvantaging smaller seed companies**.

That is why the future seed marketing reform should allow for **more flexible variety registration and seed production requirements, providing for differentiated obligations for different markets**, and take into account the potential discriminatory effects that allowing “controls under official supervision” by accredited operators may have on smaller entities. Only then could there be a level playing field across the different operators of European seed systems.

Impact on consumers

Both hobby gardeners buying seeds and final consumers buying food are affected by the EU seed marketing legislation. Even though the EU seed marketing Directives are meant to ensure agricultural productivity, they currently also **regulate what hobby gardeners can grow in their gardens and on their balconies**. Thereby they restrict the diversity of seeds available to hobby gardeners, even though the incentives, motivations and risks of amateur gardening differ widely from those of commercial producers. As the ICF study published in April 2021 demonstrated, amateur gardeners engage in gardening to grow edible produce, for enjoyment, and to improve the appearance of their gardens instead of for profit.

For hobby gardeners, pre-marketing DUS tests and seed lot certification simply make no sense, as they need and look for other criteria when buying seeds for their gardens or pots. The health and quality of seeds can be ensured by the combination of market forces (which would increase owing to new entrants and the increasing activities of SMEs and non-commercial actors if the rules are revoked), the Plant Health Regulation, and consumer protection legislation. The

⁶¹ ICF Study, p.20.

diversity of choice of varieties which amateur gardeners wish to have, in particular the availability of varieties with cultural or historical significance, can only be achieved by revoking the current rules for them.

Over the last decades, by **narrowing down the cultivated plant diversity grown in Europe, the seed legislation also affected the offer of grains, fruits and vegetables available for consumption.** As more plant-based diets are an important building block of sustainable food systems, it is crucial to have a great variety of nutritious and tasty plants. A broader offer of legumes and winter hardy vegetables can help shifting diets and reducing the negative impact of our food system on the environment. Regionally important plants and traditional varieties need to stay available or become available again to secure access to culturally appropriate and usually healthier food.

Should the future seed marketing reform exclude the sales of seeds to amateur gardeners from the scope of the legislation and only rely on stringent labelling rules for the amateur gardening sector, **hobby gardeners would finally regain access to the full richness of crop diversity in their gardens.** By supporting the use of the system by different actors, whether organic plant breeders, farmer-breeders or entrepreneurial individuals or entities engaged in the conservation of biodiversity, the **future rules could diversify the food in consumers' plates, directly contributing to the necessary transition to sustainable food systems.**

5



Conclusions

The EU seed marketing legislation needs a fundamental reform to re-balance the industrial crop production system with more local and low-input production systems such as agroecological and organic production. It also needs to make the European Green Deal a reality, supporting more sustainable agricultural practices, reversing the loss of crop biodiversity and diversifying the food in consumers' plates.

First of all, **the scope of the legislation should be rigorously limited** only to include large-scale commercial activities for professionals, and only in crop species that are relevant for those activities. It should absolutely not apply to the sale of seeds to non-professional users, nor to biodiversity conservation efforts, whomever these are carried out by, nor to the sale and exchange of seed by farmers within their seed systems.

The new legislation should also **revisit the procedures of variety registration and seed lot certification** to truly break away from the regime of intellectual property rights it is today based upon. The conditions to access the seed market cannot be the same as those that allow monopolies over plant varieties. The products of organic breeding should be able to find their way into the market through the mainstream variety registration system. A new, simple and efficient pathway to the seed market should be designed for “diversity cultivars” that cater to the needs of agroecological

and low-input farmers, and could develop different value chains across our food systems. Breaking with the current system, **seeds adapted to the needs of organic, agroecological and low-input agriculture should easily find their way into the market. They should be supported to lay the foundations of the necessary transition of our food systems towards more sustainability.** The legislation should not build sustainability criteria based on an analysis of traits considered to be more beneficial to the environment, but rather adopt a holistic approach to sustainability, taking into account the production systems in which the seeds are cultivated in, and also include social considerations linked for instance to human rights, rural development, health or nutrition.

Last but not least, the **new regime should be clear and not too complex to navigate for all actors of our seed and food systems and allow full participation of these actors.** It should ensure that everyone has access to all useful information, ensuring transparency on the development and production of commercialised seeds. Its governance should be designed to be more transparent, participatory and democratic, with strong oversight from public authorities at different levels, and inclusion of all seed actors.

A LEGISLATION WITH LIMITED SCOPE ...

- Limiting the legislation only to large-scale commercial activities for professionals, and only in crop species that are relevant for those activities
- Excluding the sale of seeds to hobby gardeners, biodiversity conservation efforts, or sale and exchange of seed by farmers from the scope of the legislation

... WITH FLEXIBLE PROCEDURES FOR VARIETY REGISTRATION & SEED LOT CERTIFICATION ...

- Separating conditions of market access from requirements linked to intellectual property rights
- Allowing marketing of non-DUS varieties and populations in a simple & easily accessible regime for "diversity cultivars"
- Allowing the marketing of non-certified standard seed in all crop species, with post-marketing quality controls

... SUPPORTING ORGANIC & LOW-INPUT AGRICULTURE ...

- Adopting a holistic approach to sustainability in the evaluation of varieties
- Providing formal support for the temporary experiment on organic varieties and investing in official testing under organic conditions

... IN A MODERN, TRANSPARENT AND INCLUSIVE APPROACH

- Providing transparent labelling and information that allows farmers, breeders and seed users to access information that is relevant for them (identity, characteristics, breeding techniques, exclusive rights)
- Recognising the detrimental impacts that the privatisation of controls could have on SMEs that rely on public expertise and guidance
- Allowing for the adaptation of the seed marketing rules to the different national and local seed production contexts, maintaining flexibility in the hands of Member States
- Setting up participatory and inclusive democratic governance mechanisms to follow the implementation of the seed marketing rules, and improve them through constructive dialogue between authorities and all stakeholders

Appendix

Linkages of EU Seed Marketing Rules with other legislation

Plant Variety Protection

Plant variety protection (or plant breeders rights) is often confused with EU seed marketing legislation. The former is a type of intellectual property right that rewards innovation in plant breeding, while the latter only governs the access to the seed market. The confusion comes from the fact that both legislation rely on the same (DUS) criteria to both protect and register plant varieties. To get protection, breeders need to show that their varieties are novel and DUS-compliant. To access the market seed operators do not need to prove novelty but need to show that their varieties are DUS compliant, with additional requirements related to VCU in cereals. There are no derogations or parallel regimes for plant variety protection, while the EU seed marketing legislation allows the registration of conservation and amateur varieties, and more recently, the notification of organic heterogeneous material. While variety registration under the seed marketing legislation is needed to be allowed to market seeds of the variety in the EU common market, plant variety protection gives the right-holder/breeder exclusive rights over the reproduction and use of the protected variety, which are subject to consent and the payment of royalties.

Plant Health & Official Controls

The past reform attempt of EU seed marketing rules was part of a package that also comprised the EU Plant Health Regulation 2016/2031 and the Official Controls Regulation 17/625.

The **Plant health** Regulation does not only apply to the marketing of seeds, but to their “movement” more generally, and includes not only the sale but also the exchange of seeds. Changes made to the EU seed marketing Directives, including leaving certain activities out of the scope, will thus not have any

effect on the protection of plants and seeds from harmful pests and diseases. The EU seed marketing rules contain general obligations for operators to ensure that “seeds are substantially free from pests”, as additional quality criteria. These supplement the more stringent plant health rules.

The **Official Controls** Regulation (OCR) streamlines the responsibilities of Member States in the agro-food chain in several sectors (including animal welfare and plant protection products). Currently, the main tenets of the Regulation do not apply to official testing and control done by competent authorities with regards to seed marketing, which follow the procedures set out in the EU Directives. The OCR does apply in matters related to plant health, and also GMOs. It takes a risk-based approach with greater cooperation between different authorities and operators. Based on an extensive obligation for all operators to register themselves, the OCR relies on the delegation of official control tasks to third parties, and on “controls under official supervision”, whereby operators can carry out the procedures in their own holdings. Should the OCR be fully integrated as it stands today into the seed marketing rules, competent seed authorities could have higher administrative burden, and would lose the flexibility they have today, not benefitting from a targeted approach to controls over the identity of varieties and the quality of seeds to be marketed.

Organic Regulation

All derogations made to the EU Seed Marketing Directives by the Organic Regulation 2018/848 will continue to be valid in the new reform. This means that the regime for the notification and marketing of organic heterogeneous material (OHM) cannot be changed in the current EU seed marketing reform. The only exception to this rule relates to the seed quality criteria contained in the seed marketing rules,

to which Commission Regulation 2021/1189 refers to. Should the quality criteria of the marketing Directives be changed, these would automatically be reflected in the OHM regime.

The Organic Regulation's preamble also referred to the launch of a temporary experiment to facilitate the registration of organic varieties, which was done under Implementing Directives 2022/1648 and 2022/1647 for certain crop species. The results of the experiments need to be fully integrated into the seed marketing acquis to ensure coherence between the two. This is paramount to reaching the goal set out by the Organic Regulation to end derogations on the use of conventional seeds in organic agriculture by 2035.

GMO legislation

Seed marketing rules are indirectly impacted by other food and feed safety legislation, which govern amongst others the import, cultivation, traceability and labelling of genetically modified organisms (GMOs) (Directives 2001/18 and 2015/412; Regulations 1829/2003 and 1830/2003). While both bodies of law have different objectives, with the GMO legislation governing the assessment and management of risks inherent to the import and cultivation of GMOs, and the seed marketing rules governing access to the seed market, there are linkages between the two. Once the GM event is authorised in the EU, varieties containing the event need to be registered according to seed marketing legislation to be sold. Information on the GM nature of these varieties is contained in the seed marketing catalogues.

The legislative process to develop a framework for “new genomic techniques”, such as Crispr-Cas9, was launched in November 2019 at the exact same time as the reform of the EU seed marketing rules, with the Council requesting studies from the Commission on both subjects. A proposal is also expected on this topic in 2023, at the same time as the seed marketing legislation. Potential convergence between the two reforms is thus important to address.

The first linkage relates to the transparency of breeding techniques used to develop varieties in seed marketing catalogues, even under the new regime for new genomic techniques, no matter how they are regulated. Breeders, farmers and other seed users need to know which breeding techniques were used to produce the varieties they consider buying.

Secondly, the Commission considers adding sustainability criteria in the variety registration procedure and in the authorisation process of new genomic techniques. One approach that was put forward relies on an assessment of the traits of the varieties to be registered (under seed marketing legislation) or authorised (in the initiative on new genomic techniques). This means that a checklist of positive traits would be established to assess sustainability (i.e. the use of water, pesticides). Such an approach not only misses the environmental sustainability mark by not looking at the cultivation system that these varieties will be used in, but it also disregards another important component of sustainability, that of its social dimension. Furthermore, this restrictive approach needs to be assessed in view also of the flagship initiative of the European Commission under the Farm to Fork Strategy, i.e. the **framework for sustainable EU food systems**, for which a proposal is also expected in 2023, but later during the year. This framework takes a holistic approach to sustainability, viewing not only its environmental, but also social and economic dimensions, and is likely to establish general objectives and principles to be followed by any and all legislation impacting the EU food system. The framework also foresees some concrete policy measures, which include the adoption of sustainability requirements on food products and sustainability labelling. For now, it is unsure whether these measures will be voluntary or mandatory. What is clear is that any approach to sustainability in the EU seed marketing legislation (and also the initiative on new genomic techniques) should be aligned with the framework legislation's holistic vision. This is not likely to be the case, should the emphasis remain on the specific traits of varieties, rather than an assessment of their production cycle and cultivation systems.



List of Acronyms

CBD	Convention on Biological Diversity
CPVO	Community Plant Variety Office
CPVR	Community Plant Variety Rights
DUS	Distinctiveness, Uniformity and Stability
EPO	European Patent Office
EU	European Union
FAO	United Nations Food and Agriculture Organisation
GMO	Genetically Modified Organism
IPR	Intellectual Property Rights
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
OCR	Official Controls Regulation
OHM	Organic Heterogeneous Material
PHR	Plant Health Regulation
PPM	Plant Propagating Material
PRM	Plant Reproductive Material
PVP	Plant Variety Protection
SME	Small and Medium Enterprise
UNDROP	United Nations Declaration on the rights of peasants and people living in rural areas
UPOV	Union for the Protection of Plant Varieties
VCU	Value for Cultivation and Use



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