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Role of plant variety protection in sustainable development of agriculture and food security in the context of climate change

Francesco Mattina, CPVO President

The CPVR system impact on the EU economy and environment

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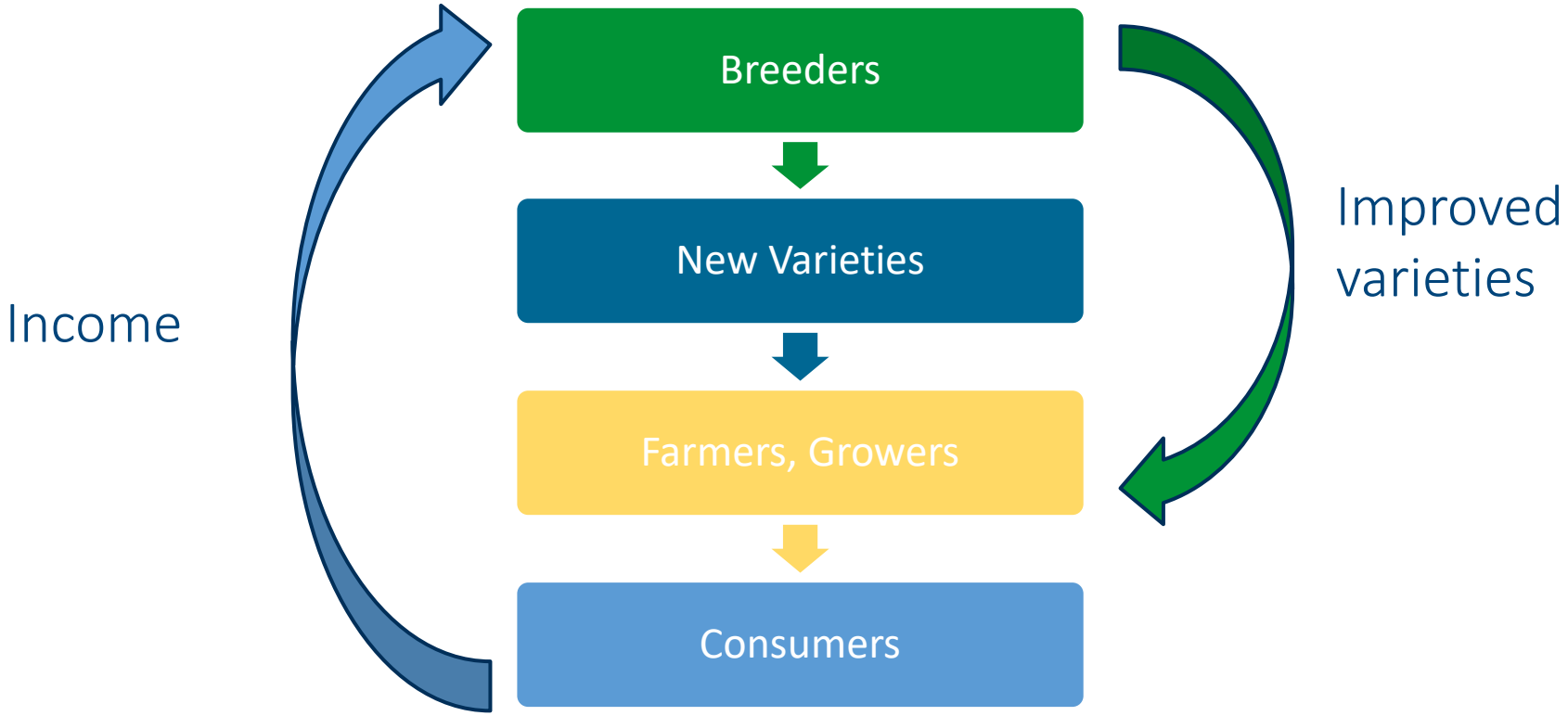
Benefits of a PVP System



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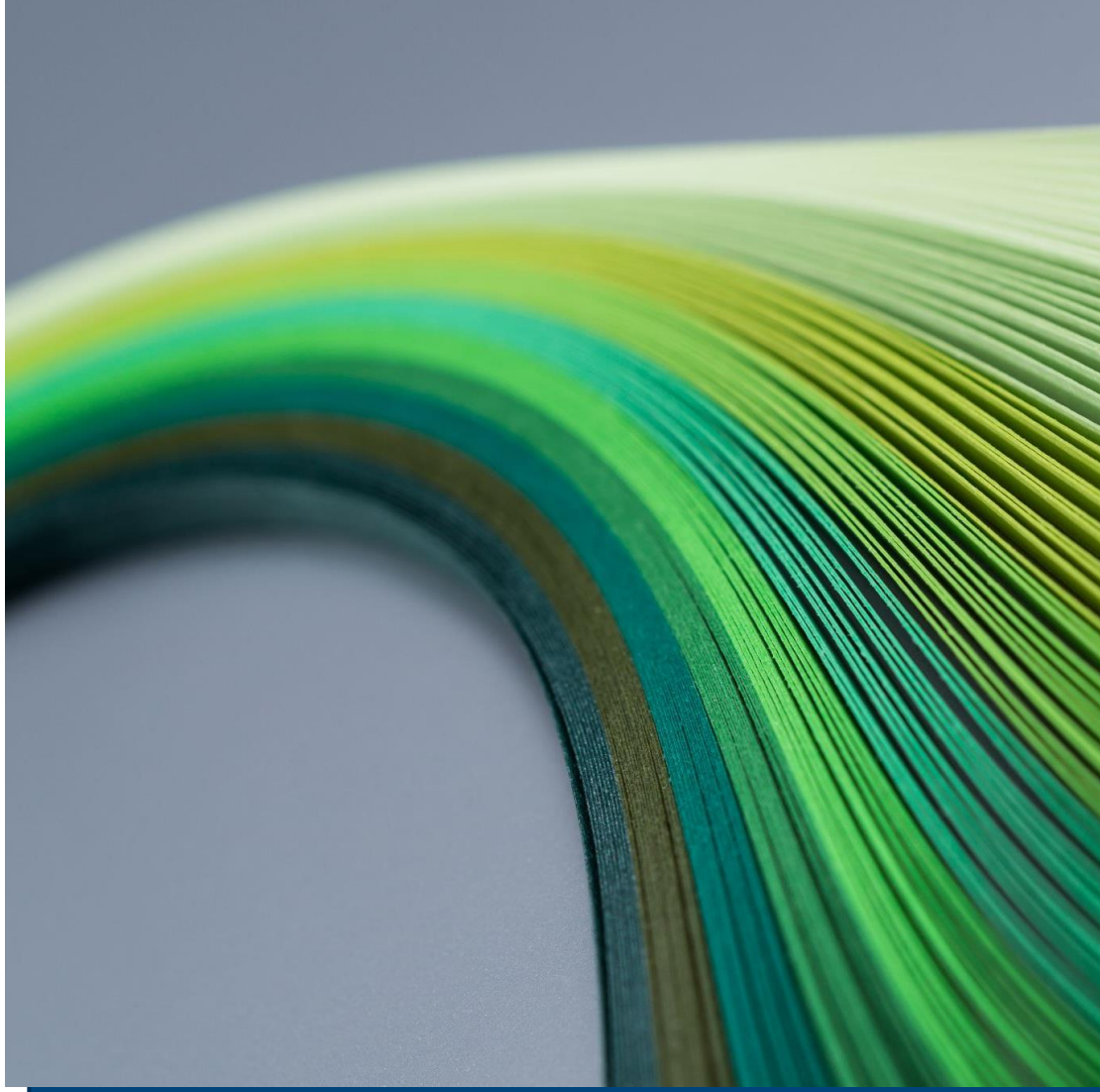
Supporting varietal innovation

- The CPVR system supports varietal innovation by remunerating years, decades of investment in research and innovation
- On average, breeders invest up to 20% of their annual turnover in further R&D, one of the highest rated among research-intensive businesses (CPVO-EUIPO, 2022)



The study

- Study on the impact of CPVR on the EU economy and environment
- Developed by the European Observatory on Infringements of Intellectual Property Rights with the CPVO
- It considers specific aspects of agriculture and horticulture, such as the contribution of the PVR system to the global competitiveness of EU farmers and growers

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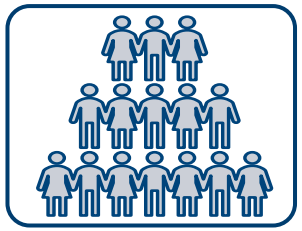
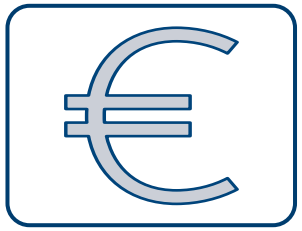
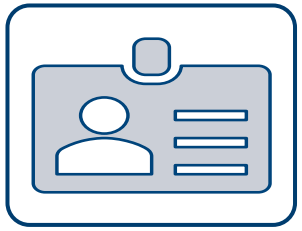
Key findings: economic contribution



The additional production brought about by plant variety innovations supported by the CPVR is sufficient to feed an additional 57 million people world-wide (arable crops), 38 million in the case of fruit, and 28 million for vegetables



The additional value added (that is, contribution to GDP) generated by CPVR-protected crops amounts to 13 billion EUR



Additional production resulted in higher employment in the EU agriculture, and better remunerated

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Key findings: farmers, breeders, SMEs

The farmers/growers across the EU benefit from the innovations supported by the CPVR system

The breeders which carry out the R&D leading to those innovations also generate employment and economic activity

Many of the companies protecting their innovations with CPVRs are **small and medium-sized enterprises (SMEs)**. They account for more than **90%** of the **applicants** of CPVRs and **hold 60%** of all CPVRs currently in force (including physical single person)

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Key findings: environmental objectives

The **annual greenhouse gas (GHG)** emissions from agriculture and horticulture are reduced by 62 million tons per year. This corresponds to the total GHG footprint of Hungary, **Ireland** or **Portugal**.

Water use in agriculture and horticulture is reduced by more than **14 billion m3**, an amount of water equivalent to 1/3 of the volume of **Lake Constance**

By reducing the environment impact, increasing farm incomes and keeping prices lower for consumers, the CPVR system also contributes to the **UN's Sustainable Development Goals**

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Success stories in the EU

Success stories: Instituto Murciano de Investigacion y Desarollo Agrario y Medioambiental

- The Institute developed new grapevine varieties that possess improved agronomic and oenological qualities, thereby enhancing the production of quality wine and promoting sustainable viticulture
- New **climate-resistant sustainable varieties** better adapted to the negative climate change effects of high temperatures and water scarcity

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Success stories: Instituto Murciano de Investigacion y Desarollo Agrario y Medioambiental

Dr. Ruiz (from the Molecular Genetics Improvement Team) describes the Institute as *the pioneering national public center registering new varieties of both wine grapes and table grapes*.

- **Financing:** *in most cases by the European Regional Development Fund (80%-60%) and the Region of Murcia (20%-40%), will contribute to the development of sustainable and environmentally friendly viticulture*.
- **Time:** *The time that has taken from the starting of the breeding program (1997) to the acceptance of the use of these new varieties for the production of wine in the Region of Murcia (2022) has been 26 years.*

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Success stories: Instituto Murciano de Investigacion y Desarollo Agrario y Medioambiental

- **Return on investment**:

The financial viability of this 27-year-long breeding program was fortified ***through the protection of the new varieties at the European level, achieved via Community Plant Variety Rights****.*

See more here:

Plant breeding Success Stories: Instituto Murciano de Investigación y Desarollo Agrario y Medioambiental (IMIDA) | CPVO (europa.eu)

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Success stories: Nova Siri Genetics (NSG)

- Nova Siri Genetics (NSG) is an Italian SME research and breeding company for new strawberry and small fruit varieties, founded in 2005 in Basilicata, a region in southern Italy
- Today we face a major challenge: to produce food while protecting the environment and the health of consumers. **The introduction of resistant plants makes it possible to produce with low environmental impact cultivation techniques and with a considerable reduction in the use of pesticides.** (NSG)

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Success stories: Nova Siri Genetics (NSG)

- As a research company for innovative varieties, the use of the Plant Variety Protection System is crucial to prevent them from being used in a way that is not allowed in the countries where they are distributed
- NSG protects its varieties not only in the EU but also around the world, coherence of protection systems is crucial to be able to have an international outlook
- CPVO needs to be a focal point to stay abreast of evolution of the systems and to support breeders in coming closer to the CPVR system

See more here:

Plant Breeding Success Stories: Nova Siri Genetics | CPVO (europa.eu)

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Success stories: Inside Sjaak van Schie B.V.: An Interview with Fidélio Alegria, CEO

- **CPVO**: What innovative techniques and sustainability practices does Sjaak van Schie B.V. employ in plant breeding and propagation?
- **Fidélio Alegria:** […] In terms of sustainability, we use the biological Integrated Pest Management (IPM) technique, **relying on natural enemies and green agents, with chemicals used only in exceptional cases**. We aim to **reduce our annual footprint by 5% by focusing on energy, water, and chemical reduction, as well as waste management**.

See more here:

[Inside Sjaak van Schie B.V.: An Interview with Fidélio Alegria, CEO | CPVO (europa.eu)]

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Success stories: Fitzgerald nurseries

- FitzGerald Nurseries focuses on ornamental plants,
- Beotanics specializes in various vegetable crops and technology,
- and Nativaland is dedicated to sweetpotato cultivation through a joint venture.

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Success stories: Fitzgerald nurseries (Interview)

- **CPVO:** How is your organization adapting to environmental challenges brought about by climate change?
- **FitzGerald Nurseries:**
- At Nativaland, we are deeply invested in learning and managing various weather conditions. We study **sweet potato cultivation across different climates worldwide**, which is a significant but often unseen commitment of resources.
- This year, we made a substantial investment in **new environmental control chambers** to allow early harvests, crucial as autumns become increasingly wet.
- This ensures that our propagation seed roots remain resilient and productive.
- We're also focused on improving soil quality across all our production areas. Our footprint in fertilizer, chemical, and energy usage is already very low, particularly in the production fields, but we are continually striving to reduce it further. Currently, adding value to waste is a major project for us.

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Success stories: Fitzgerald nurseries

- For Beotanics and FitzGerald, we've recently invested €1 million in a **new propagation greenhouse equipped with insect protection and a high-quality ebb and flood water recirculation system**.
- This system ensures 100% recirculation and treatment through ultrafiltration, significantly **reducing fertilizer, chemical, and water usage**. We're also targeting advanced technologies and genetics in **climate-resilient crops** through participation in two EU Horizon 2020 projects: Smart Protein and Valpro Path.

See more here:

An In-Depth Conversation with FitzGerald Nurseries: Innovation, Biodiversity, and the Future of Agriculture (Part 1) | CPVO (europa.eu)

An In-Depth Conversation with FitzGerald Nurseries: Innovation, Biodiversity, and the Future of Agriculture (Part 2) | CPVO (europa.eu)

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