



# IMPACT OF THE COMMUNITY PLANT VARIETY RIGHTS SYSTEM ON THE EU ECONOMY AND THE ENVIRONMENT

## Executive Summary



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The European Union (EU) Community Plant Variety Right (CPVR) system, administered by the Community Plant Variety Office (CPVO), provides for uniform protection of plant variety rights in the EU.

This study quantifies the economic contribution in the European Union of the CPVR system. While it is analogous to the EUIPO studies on the economic contribution of the other IP rights<sup>1</sup>, 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.

The study also considers the potential for the CPVR system to help meet the European Commission's Green Deal objectives, in particular:

- Climate neutral Europe;
- Ecosystems & biodiversity, to address protection of environment and to contribute to halting loss of biodiversity;
- Farm to Fork strategy, to ensure the production of sustainable, safe, nutritious and high quality food along the whole value chain while ensuring food security by seed security;
- R&D and innovation.

The potential contribution to the United Nations (UN) Sustainable Development Goals (SDGs) is also considered.

The study finds that the CPVR system has contributed to output growth in EU agriculture since 1995, despite the fact that input use during that period has been decreasing by 0.5% per year for arable crops and by 1% per year for horticulture (fruit and vegetables) and ornamentals. While part of this progress is due to plant breeding in general, the study calculates the proportion that can be attributed to the CPVR. The central finding with respect to output is that in the absence of the CPVR system, in 2020 production of arable crops in the EU would be 6.4% lower, production of fruit would be 2.6% lower, that of vegetables 4.7% lower, and finally,

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<sup>1</sup> See Observatory IP Contribution [studies](#).

the output of ornamentals would be 15.1% lower. Expressed another way, 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.

From a macro-economic point of view, without the added production attributable to CPVR-protected crops, the EU's trade position with the rest of the world would worsen (for some crops, the EU might even switch from being a net exporter to a net importer), and EU consumers would face higher food prices. The additional value added (that is, contribution to GDP) generated by CPVR-protected crops amounts to 13 billion EUR (7.1 billion EUR for arable crops, 1.1 billion EUR for fruit, 2.2 billion EUR for vegetables, and 2.5 billion EUR for ornamentals). Furthermore, the additional production of such crops translates into higher employment in EU agriculture. The arable crops sector employs 25 000 additional workers as a result, the horticulture sector 19 500, and the ornamentals sector 45 000 additional workers, for a total direct employment gain of almost 90 000 jobs. Considering the indirect effects, that is, the employment gain in upstream and downstream sectors (for example, farm supply or food processing) increases the employment gain by as many as 800 000 jobs.

Not only does the CPVR system contribute to employment, but the jobs created are also better remunerated than they would have been in the absence of this system. Specifically, wages of workers in the arable crops sector are 12.6% higher than they would have been in the absence of this system, while wages in the horticulture sector are 11% higher.

The farmers/growers across the EU thus 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. It is estimated that companies protecting their innovations by registering CPVRs employ more than 70 000 workers and generate a turnover of more than 35 billion EUR. While this economic contribution is modest on the scale of the EU as a whole, it is significant in certain Member States and regions within those Member States, for example the for example the Delft en Westland region in the Netherlands.

Many of the companies protecting their innovations with CPVRs are small and medium-sized enterprises (SMEs). These small companies (including physical persons who hold CPVRs) account for more than 90% of the registrants of CPVRs and hold 60% of all CPVRs currently in force.

The CPVR system makes not only an economic contribution to the EU economy, but also contributes to the fulfilment of the EU's 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. Furthermore, water use in agriculture and horticulture is reduced by more than 14 billion m<sup>3</sup>, an amount of water equivalent to 1/3 of the volume of Lake Constance.

Finally, by reducing the environment impact and resource use of agriculture and horticulture, by increasing farm incomes, and by keeping prices lower for consumers, the CPVR system also contributes to the UN's Sustainable Development Goals.