

From Farm to Fork:

A track record of developing safe plant varieties for EU agriculture and consumers

Plant breeding has a track record of safe development established through multiple years of field trials and testing to develop plant varieties which benefit farmers, food processors and producers, consumers, and the environment. Seed quality and health of these new plant varieties is guaranteed by official controls of seeds before entering the market.



Each year, approximately

4,000 NEW VARIETIES



are listed to be available to the market, expanding the options for farmers and enabling the production of a wide range of food, feed, industrial, and other valuable products.

In total over

53,800

DIFFERENT VARIETIES



are available to farmers and vegetable growers in the EU.

From research & breeding to commercial varieties



Regardless which specific tool or method is used for breeding, new variety candidates are going through detailed screening followed by multiple years of field trials and testing, to develop **new plant varieties** that reliably and consistently produce **safe, nutritious & good tasting food**, rich animal feed or any other valuable characteristic for human, animal or industrial use.

During this process, new variety candidates are tested for:

- Geographic and agricultural/horticultural production systems and environmental adaptation, including disease resistance, performance characteristics on farm/in the field, relative to existing commercial varieties;
- Processing characteristics appropriate for that crop, such as milling quality, sugar yield, malting quality or storage characteristics;
- End-user characteristics such as protein content or bread-making characteristics, oil quality, cooking quality for potatoes or flavor characteristics.

Ensuring Seed Quality, Performance & Identity



For every new plant varieties, the **production and marketing of plant reproductive material (PRM)** like seeds is regulated by the legal framework for EU Seed Marketing. The legal requirements ensure the **identification, performance, and quality** of the plant material sold to end users. The legislation covers variety registration, certification, and adherence to quality standards for seeds on the market.

New varieties must be **distinct, uniform and stable ('DUS')**, and additionally – for agricultural crops – have **value for cultivation and use ('VCU')**. The first three parameters relate to the variety's identity; the latter to its performance. Seed certification includes field inspections, seed sampling and testing, and results in an official label confirming the product's quality. Specific requirements for packaging, sealing, labelling and documentation also apply.

As to the length of time during which the **registration/ marketability** of a variety is valid, the maintenance of a variety in the form of basic seed (maintenance breeding) is required. With this the genetic identity and purity and the quality of a released variety is maintained.

Ensuring Plant Health

The **EU's Plant Health Regulation** on protective measures against pests of plants establishes rules to determine **phytosanitary risks** and the different measures to reduce those risks. It is intended to ensure a high level of phytosanitary protection and can contribute to **avoid chemical or other crop protection measures** later in the production on farm. In some cases, this is also important for **public health** as some pests and diseases – or substances produced by these pests- can also seriously affect humans (e.g. fungal toxins).

Additional Rules

(if applicable)

Next to these principal requirements that are applicable to all agricultural and vegetable plant varieties and seeds, there are several additional requirements that apply under specific circumstances, e.g., there are detailed rules for transgenic organisms/GMOs as well as for Novel Foods or seeds for organic farming.

Official Controls

The EU Official Controls Regulation provides an additional framework to verify that operators comply with **agri-food chain rules**. It aims to assure compliance with inter alia **food and feed safety rules** at any stage of production, **plant health requirements, organic standards and plant protection product** legislation and includes regular plant health and safety checks of food and feed.

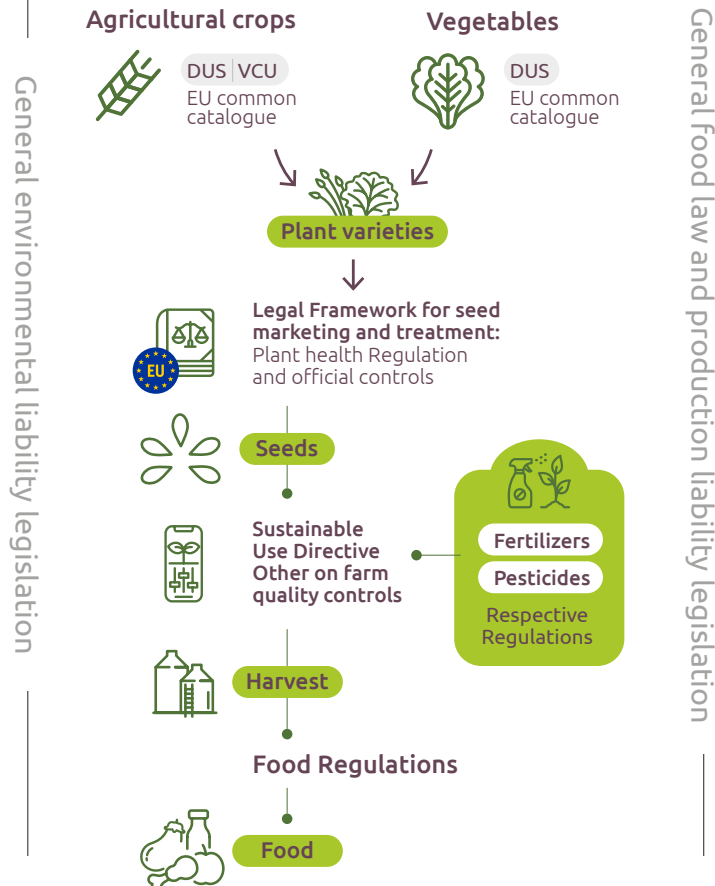


The extensive legal framework around plant varieties and seeds

Seed specific rules and private standards and stewardship



Standard Regulations for all plant varieties, seeds and resulting products



Additional rules (if applicable)



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