



Learn more about Vegetables

WHICH CROPS ARE COVERED ?

There are more than 50 vegetable species in the world belonging to different botanical families. Depending on the species, the part of the plant which is consumed can be the **root** (carrot), the **bulb** (onion), the **stem** (asparagus), the

leaves (salads), the **flower-buds** (cauliflower) or the **fruit** (tomato).

Seed of vegetable varieties is distributed primarily to professional growers producing fresh vegetables and food processors as well as to hobby

gardeners through the consumer retail sector. In addition seed is marketed to plant raisers who grow young plants from seeds for the professional and hobby sectors.



The ESA Section for Vegetables and Ornamentals (SVO) addresses vegetables and ornamentals covered by the Seed Marketing Directive for vegetables: 2002_55 as well as ornamentals. This factsheet however only covers vegetables.



Each vegetable species comes with a wide diversity of shape, colour and flavor linked to the specific local consumption habits, which in turn are **influenced by the innovations** brought by **seed researchers**. Round or half-long radish, white or orange flesh melon, batavia or butterhead lettuce, are all **consumer preferences** which the industry takes into account.

Vegetables are also grown under a variety of climatic and agro-nomic conditions and methods that **require adapted varieties**. Tomatoes produced in open-field, in plastic tunnels or in glass-greenhouses have very different and specific agronomic features.

This **wide array of types and cultivation methods** is a powerful driver for the breeding

companies to explore the biodiversity of each crop and **enrich** it by introducing new features in their varieties.

Ultimately, the vegetable seed sector brings to the market **every year hundreds of new varieties** that are adapted to specific local needs and that **benefits farmers and consumers** alike.

Examples of important species are:

Artichoke	Corn salad / Lamb's lettuce	Melon
Asparagus	Courgette	Onion / Shallot
Aubergine / Egg plant	Cucumber / Gherkin	Parsley
Broccoli	Endive	Pea
Cabbage (white)	Fennel	Pepper (sweet / hot)
Carrot	French bean	Red Beet
Cauliflower	Leek	Spinach
Chicory / Radicchio	Lettuce	Tomato

Key figures and estimated value on seed and vegetables production

The estimated value of EU vegetable seed market is 800 million Euro. This seed produces vegetables with a value of 27 billion Euro at end user (consumer) level. The (EU) vegetable seed market is showing a steady growth of 3-8% per year depending of the crop.



Research and innovation

Breeding of vegetable species has changed rapidly during the last century. From the simple process of local mass selection and reproduction of individual plants, it has evolved into a more complex discipline that involves several scientific domains.

The basic selection of breeding lines and the creation of new crosses primarily takes place in the field, the crop's natural habitat, and is still the most essential activity in the creation of new, improved varieties of vegetable crops.

Over the past decades, breeders have made use of ever more sophisticated laboratory techniques to target more precisely specific traits (molecular markers), identify organoleptic characters (biochemistry), test against pests (plant pathology) and speed up biological processes (cell biology).



Vegetable breeding has made a significant contribution to the continuous growth of vegetable consumptions in the EU. Breeding companies constantly assess the requirements of the entire food chain, bringing farmers optimal and sustainable seed solutions and satisfying the expectations of distributors and consumers.

Farmers

Breeding companies continuously focus on solutions for farmers/growers to optimize their production systems through higher yields per unit, crop mechanization and better adaptation of varieties to local soil and climate conditions.

Sustainable solutions

Breeding for biotic stress factors as disease & pest resistances play an important role in vegetables. New varieties with better disease resistances minimize the use of pesticides. Breeding for abiotic stress factors as temperature, water and nitrogen uptake results in a more efficient use of resources such as soil, water, heating energy and fertilisers.

Distribution



Packers, wholesalers and retailers bring products to the consumers. Breeding has resulted in many cases in the extension of the natural shelf life of vegetables at the end consumer point. This is a critical element in the reduction of wastage alongside the food chain and at the consumer's home.



Consumer traits

An important element of success of breeding has been the enlargement of the vegetable product range assortment available to the consumer in the supermarket. Look at today's range of tomatoes in your favourite supermarket: mini-cherry, cocktail or beef, yellow, pink or red, round or elongated, loose or in clusters, there can be more than 30 categories on the shelf!



What is the Seed Industry in Europe?

ESA has more than 30 national seed associations in 28 countries as members and more than 50 seed companies as direct ESA company members. In relation to Vegetables and Ornamentals 24 Association members (indicated on the map with: , , etc.) are active involving more than 1200 companies on national level.

ESA has 15 companies (indicated on the map with: , , etc.) as direct members active in Vegetables and Ornamentals of which 11 family owned private companies, 1 cooperative and 3 companies noted on the international stock exchange.

[Click here](#) or on the map below for further details on these associations and companies.

