European Seed Association
Speaking up for seeds!

Learn more about Oil and Fibre crops

WHICH CROPS ARE COVERED ?

The most important oil and fibre crops are (in order of importance):

CROPS	MAIN USES	SECONDARY USE	BY PRODUCTS
Oilseed rape (winter & spring)	Oil	bio-energy	Cake / Meal (Feed)
Sunflower	Oil	Grain / Confectionary (*)	Cake / Meal (Feed)
Cotton	Fibre	Oil	Cake / Meal (Feed)
Soybean	Oil		Cake / Meal (Feed)
Flax/linseed	Fibre / Oil		
Hemp	Fibre		
Poppy (non-medicinal)	Oil / Grain (**)		Pastry

(*) = striped sunflower; use as human consumption or bird feed

(**) Grain is used in pastry

The ESA Section for Oil and Fibre crops (SOF) addresses both oil oilseed and fibre crops as regulated within the EU28 by the Seed Marketing Directive for Oil and Fibre crops: 2002_57.

Key figures and estimated value on Oil and Fibre crops

The total area of production of oilseed crops in the EU is around 11 million hectares. Fibre crops are produced on approximately 400.000 hectares. The area of seed production is around 100.000 hectares.

The value of the seed used for the production of oil and fibre crops in the EU28 is estimated at approximately 400 million Euro. The estimated value of commodity production is more than 11 billion Euro (farm gate level).

FIGURE 1: COMMODITY PRODUCTION

CROPS	MOST IMPORTANT COUNTRIES
Oilseed rape (winter & spring)	FR, DE, PL, UK, RO (*)
Sunflower	RO, ES, BUL, FR, HU (*)
Cotton	GR, ES (***)
Soybean	IT (200.000), RO, FR, HU, AT (*)
Flax/linseed	FR, BE, NL (***)
Hemp	FR
Poppy (non-medicinal)	CR, HU, DE

FIGURE 2: AREA OF GRAIN PRODUCTION X 1.000 ha

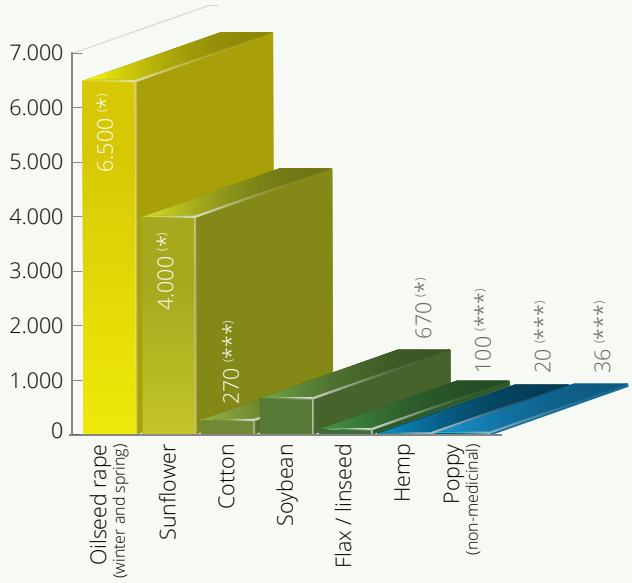


FIGURE 3: AREA OF SEED PRODUCTION X 1.000 ha (**)

Source: European Seed Certification Agencies Association

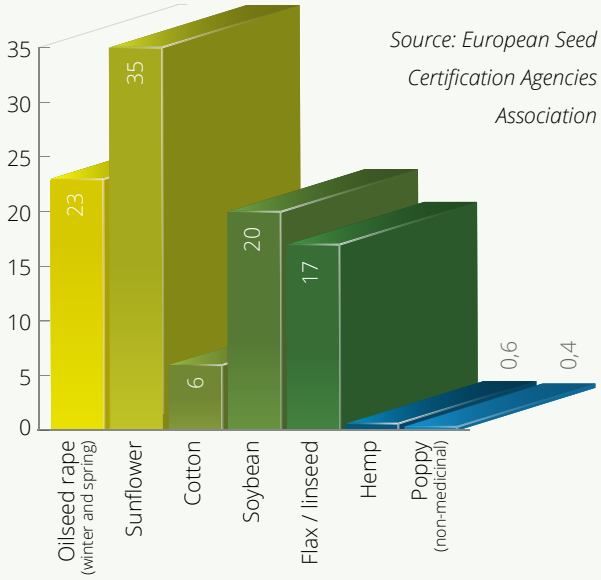
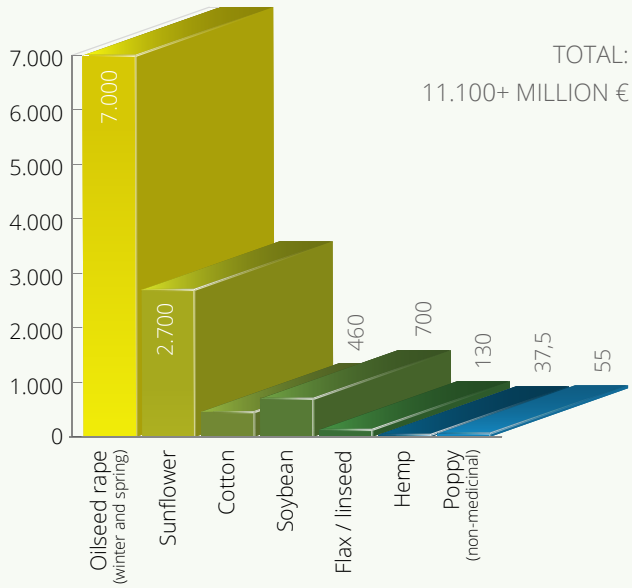


FIGURE 4: VALUE X MILLIONS €

TOTAL: 11.100+ MILLION €



Sources: (*) Coceral 2015 (**) European Seed Certification Agencies Association (***) ESA estimation 2014

Research and innovation

All breeding programs for field crops have essentially 3 primary objectives:

High and stable yield remains the main driver for the farmer income.

Improved Quality. Factors that define "quality" differ for each crop. For example, in cotton, fibre length, strength, fineness and color define "quality"; in oilseeds, oil content and in some cases fatty acid profile define "quality". Improved commercial quality must be reflected in farm-gate price or quality will have little influence on a farmer's variety selection.

Adaptation to Local Stress. This is a catch-all category and may apply to biotic or abiotic stress. In most cases, resistance to one or more diseases is among a breeder's primary objectives. "Stress" can also apply to the length of growing season. In an area with short growing season, early maturity will be a primary breeding objective. Resistance to abiotic stress (drought, temperature, salt, etc) is getting more important due to global warming.

A fourth objective could be listed in some cases: Specialty traits. However, these are generally for a niche market.

Methods

Breeding techniques are constantly developed. Doubled haploids is a technique frequently used in oilseed crops to reach homozygosity without the need for generations of self-pollination. Most crops utilize molecular genetics in various ways. Genetic finger prints are used to identify genotypes that are genetically diverse (i.e. good candidates to cross for discovering improved genetic combinations), even if they look similar. "Marker Assisted Selection" is useful when molecular genetic markers can be associated with pest or disease resistance or other useful, but difficult to measure traits. Increasingly, "Genomic Selection" is used to detect and assemble desirable combinations of a large number of alleles with small individual effects.

Achievements

Achievements through breeding are generally measured in decades. Genetic gain in yield has been measured in many crops and in many areas by comparing in a single test varieties that have been released over a period of years (i.e. comparing obsolete varieties with modern varieties). In general, this gain is around 1 to 3 percent per year, but the gain is rarely linear over short periods of time. Rather, there are apparent yield plateaus (no improvement in yield among varieties released over several years), followed by a sudden jump as breeders discover new alleles or new combinations of alleles that perform better than their predecessors.

Improvements in "quality" generally occur as a result of 1) new methods for measuring a quality parameter, or 2) the industry defining a new quality parameter (e.g. health benefits of novel fatty acid profile). Once these new objectives are quantified and monetised, breeders have been fairly quick (still sometimes a decade or more, but "quick" in breeding terms) to address the new breeding targets.

Breeding for disease and insect tolerance is a continuous battle because the pest or pathogen is changing to overcome the genetic resistance. In many cases, sophisticated resistance gene stacking and/or gene rotation is required to stay ahead of pest/pathogen evolution.

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 Oil and Fibre crops 24 Association members (indicated on the map with: AT, BE, etc.) are active involving more than 1100 companies on national level.

ESA has 13 companies (indicated on the map with: 1, 2, etc.) as direct members active in Oil and Fibre crops of which 4 family owned private companies, 4 cooperative and 5 companies noted on the international stock exchange.

Click here or on the map below for further details on these associations and companies.

European Seed Association
Rue du Luxembourg 23 1000 Brussels, Belgium Phone: +32 2 743 28 60 secretariat@euroseeds.eu www.euroseeds.eu