
Plant protection and Certification Research Center



CREA-DC - Bologna office

CREA - Council for Research in agriculture and analysis of the Agricultural Economy

The Council for research in agriculture and analysis of the agricultural economy CREA is the main Italian research organization involved to agri-food supply chains with scientific expertise ranging from the agricultural, livestock, fish, forestry, agro-industrial, nutritional and socio-economic sectors. CREA operates under public law and is supervised by the Ministry of Agriculture. CREA currently consists of 12 research centers located throughout Italy, with several offices, laboratories, experimental farms and over 2,000 employees.

Each center specializes in its own area of expertise; **Plant protection and Certification Research Center** is the national reference for the protection of plants from harmful organisms, for the certification of seeds and for descriptive and agronomic tests for listing of new varieties in the National Register.

CREA-DC – Plant protection and Certification Research Center - Seed Certification Area

The **Plant protection and Certification Center** of CREA, in addition to the role of plant protection, it carries out the tasks arising from the international and national regulations governing the production and marketing of seeds.

A specific technical-administrative area dedicated to seeds, spread over 8 territorial offices (Milan, Tavazzano, Vercelli, Lonigo, Bologna, Rome, Battipaglia, Palermo) acts **official certification** and **controls of seed products** and performs technological, phytosanitary and genetic analyzes of seeds. Furthermore, on behalf of the MIPAAF, it coordinates the examination trials for listing of new varieties in the National Register of varieties and on behalf of the Community Plant Variety Office (CPVO) for the release of



European plant rights on new varieties of several species.

CREA DC, operating on the entire seeds process, guarantees the quality and traceability of the seeds through its control and certification activity. Field inspections are carried out to ascertain the identity and the level of varietal purity of the seed crops; subsequently, laboratory analysis is performed over samples taken once seeds have been processed and packaged by the seed companies.

According to the current seed legislation, seeds, in order to be marketed, must be officially certified and belong to varieties registered in the national or European catalogues. After the prescribed control and verification of compliance with the minimum quality standards such as varietal and / or physical purity, phytosanitary status, content of foreign seeds and germinability, an official label is issued. This official label, affixed to the packaging of the seeds, certifies that the seeds was subjected control and allows them to be marketed.

Bologna office

The mission of Bologna office is centered on the **seed certification** and on the **listing of new varieties in the Italian catalogue**; moreover, it is also a partner in various national and European **research projects**.



The Office has an experimental farm where field varietal tests are conducted. The experimental farm located in the municipality of Budrio (BO), has an area of about **24** hectares, is irrigated, has a medium silty-clay soil (25% sand 25% clay 50% silt) and is equipped with all the equipment to be able to conduct experimental trials.

Seed certification

The Bologna office has an intense seed certification activity. **8 Italian regions** are under its control. **56** species are subject to certification in the field; alfalfa, durum wheat, common wheat, soybean and sugar beet are the most representative species.



The seed certification activity can be divided into 4 phases: *field inspections*, sampling during the *mechanical selection inspections*, *laboratory analysis* on

seeds and, finally, *post-control*. In the last five years, annually they carried out on average over 14,000 field inspections for a total area of approximately 130,000 hectares; 25,000 lots of seeds sampled and checked at the seed companies during processing, and finally, at the Budrio experimental farm, about 300 post-control plots were sown relating to some vegetable species and cereal populations and conservation varieties. The certification activity of the Bologna office covers **60%** of the activity carried out at national level on the entire seed production chain except laboratory analysis.

In addition to the mandatory certification, the Bologna office also carries out an intense activity of private seed certification (field inspections, seed sampling for ISTA analysis, GMO monitoring) on different species following which certificates are issued and accompany the seeds during their handling and marketing.

Listing in the Italian Variety Catalogue

The seed area of CREA-DC, on behalf of Mipaaf, performs the tests to ascertain the requirements for registration in the National Register of new varieties of agricultural and horticultural species. The Bologna office is responsible for coordinating the registration for the following species: sugar beet, safflower, rapeseed and other minor oil-bearing brassicas, sunflower, flax, soyabean, sorghum and sudan grass and their hybrids.



The coordination activity consists in receiving the seed samples from the breeders, split them into sub-samples which are then sent to the network of companies where descriptive, agronomic or laboratory analysis (for qualitative or molecular characterization) tests are performed; Afterwards, the activity continues with the receipt and processing of the data obtained from the trial network and the drafting of a final report that will be sent to the Ministry in

order to be able to express an admissibility judgment for registration of the new varieties in the national catalogue.

In this context, the descriptive tests are performed out at the Budrio experimental farm for the following species: spring sowing sugar beet and rapeseed, safflower, sunflower, *sorghum bicolor* (forage and grain), soyabean and fodder legumes (alfalfa, clovers, birds-foot trefoil, fodder peas, etc.). The Budrio experimental farm hosts, for some species, plots of the agronomical trial network for the agronomic evaluation of the new varieties. Overall, more than **1,500** plots are sown and evaluated every year in Budrio experimental farm.

The Bologna office is also equipped with a modern cold room where the **Reference Collections** of the species for which it is coordinator are kept. The Reference Collection consists of the seed samples of the varieties registered at nationally or European level or subject to plant rights. The reference collection is the fundamental element to be able to perform a descriptive test that meets the requirements of the national and international testing protocols.

In 2022 the Bologna office applied to become an Examination Office on behalf of the Community Plant Variety Office (CPVO) for the issue of European plant rights for soyabean.



Research activity

The research and experimentation activity of the Bologna office is oriented towards the themes of the morpho-physiological characterization of varieties and seed technology, through field tests. As part of the agricultural experimentation activities, Budrio experimental farm participates in the National Network for *post - registration* trials for the Sunflower and Rapeseed varieties.

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