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## Research Center for Plant Protection and Certification



**CREA DC - Palermo**

## **Council for Research in Agriculture and Economics - CREA**

CREA is the main Italian public research organization supervised by the Ministry of Agriculture (MIPAAF) dedicated to agro-food supply chains with scientific expertise covering agricultural, livestock, fish, forestry, agro-industrial, nutritional and socio-economic sectors.

The institute currently consists of 12 research centers located throughout Italy, with numerous sites, laboratories, experimental farms and over 2000 employees.

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

### **CREA DC – Research Center for Plant protection and Certification**

CREA's Plant protection and Certification Research Center, in addition to its plant protection role, carries out tasks arising from EU and national regulations governing seed production and marketing.

A specific technical-administrative area dedicated to seeds, spread over 8 territorial offices (Milan, Tavazzano, Vercelli, Lonigo, Bologna, Rome, Battipaglia and Palermo) carries out the official certification and inspection activities for seed products, including the technological, phytosanitary and genetic analyses of seeds. In addition, on behalf of the MIPAAF and the Community Plant Variety Office (CPVO), it coordinates the examination tests for registration in the National Catalogue of plant varieties and for the recognition of the plant variety right of new varieties (community rights).

CREA DC, operating throughout the seed supply chain, ensures through its inspection and certification activities, the quality and traceability of seeds. Checks are carried out directly in the field to ascertain the identity and varietal purity level of seed crops; then, once the seed has been processed and packaged at seed companies, samples are taken for laboratory tests.

According to current seed legislation, seeds must be officially certified and belong to registered varieties in order to be marketed; only after the prescribed checks and verification of compliance with the minimum quality standards such as varietal and physical purity, phytosanitary status, foreign seed content and germinability an official label is issued, which, affixed to the seed packages, validates the certification and allows its sale.

## Palermo Office

The office carries out official seed certification activities in the Sicilian territory. It represents the national coordination center for registration in the National Catalogue of Mediterranean fodder species, of *Brassica carinata* and cotton. Since 2018, on behalf of the Community Office for Plant Varieties is an examination office for the issuance of Community Plant Variety Right on the species Alexandrian Clover and Pannonian Vetch. It holds the reference collection of the species: Mediterranean fodder species, cotton, *Brassica carinata* and Sicilian conservation varieties of durum and common wheat. The facility is equipped with a laboratory for seed quality analysis, a laboratory for seed phytosanitary analysis and two experimental farms, located one at the "Luparello" station and one at the office site, where post-control tests for certification purposes and registration trials are set up.



## Seed certification controls

The seed certification activity aims to verify that seed meet the legal requirements for their commercialization such as: a) identity and varietal purity (through field inspections); b) physical, biological, physiological and phytosanitary characteristics (through laboratory seed testing). There are 16 species monitored in the field, among which the main one is durum wheat followed by common vetch, field bean, Alexandrian clover, etc. Approximately 15,000 hectares of land are inspected annually. Since 2016, the sector of conservation varieties of durum and soft wheat has been added, a segment that involves 60 "seed saver" farmers who are interested in the multiplication of 23 varieties of durum wheat and 3 varieties of soft wheat. With the seed certification activity, inspections are carried out at the seed companies' factory and samples of seed lots are analyzed at the seed analysis laboratory. Finally, the post-control fields are set up for durum wheat, common vetch, hairy vetch, pannonian vetch, to verify the correct functioning of the certification process and to obtain reliable data on the condition of the seed fields to be controlled. Furthermore, field tests include checks on the stocks in kind declared by the seed companies.

## Seed analysis laboratory

The seed analysis laboratory of Palermo office analyses, every year, seed samples of cereal species (durum wheat, soft wheat, barley, oats, emmer, triticale), fodder species (field bean, common vetch, Alexandrian clover, squarrose clover, French honeysuckle, pea and fenugreek) and vegetables species. On each sample, germination, physical purity and other seed count (OSC) tests are performed in order to verify the quality requirements for seed certification. Private analyses are also carried out both on behalf of seed companies and other operators in the primary sector. Finally, it is involved in the analytical tests provided by the protocols for registration in the national varieties catalogue, in the research activities performed *in-house* and in the performance of internships for students at the University of Palermo.



## Plant pathology laboratory

The laboratory works in support of certification and registration testing. It carries out diagnostic tests on bacteria, fungi and viruses on seeds and vegetable matrices of herbaceous, tree and vegetable species. It is a laboratory accredited by the Sicily Region for the detection of quality pathogens. It develops the following lines of research: biological control of seed-transmissible fungi responsible for the "fusarium foot root" of cereals; evaluation of antagonistic microorganisms for the promotion of vegetative development and the control of root system diseases of agricultural and vegetable species.



## Listing in the variety catalogue

The Palermo office is actively involved in the national variety experimentation network for the registration of new varieties of agricultural species in the National Catalogue. In particular, it is the national coordination center for trials on Mediterranean fodder legumes (field bean, lupin, Alexandrian clover, persian clover, crimson clover, vesicular clover, underground/subterranean clover, common vetch, hairy vetch, pannonian vetch, sainfoin, etc.). It is also a national coordination center for the registration trials of Cotton and *Brassica carinata*.

The purpose of the trials is to assess the distinctness, uniformity and stability characteristics of the candidate varieties. The agronomic and use value of the varieties, resistance to biotic and abiotic stress, potential yield and adaptability to different growing areas are also carried out. Coordination activity also includes the collection and processing of agronomic trial data from the other trial sites and the drafting of a report that is submitted to the Seed Commission to assess the possible registration of candidate varieties in the national catalogue.

Experimental trials to determine the fall dormancy character of alfalfa are also carried out at the site.

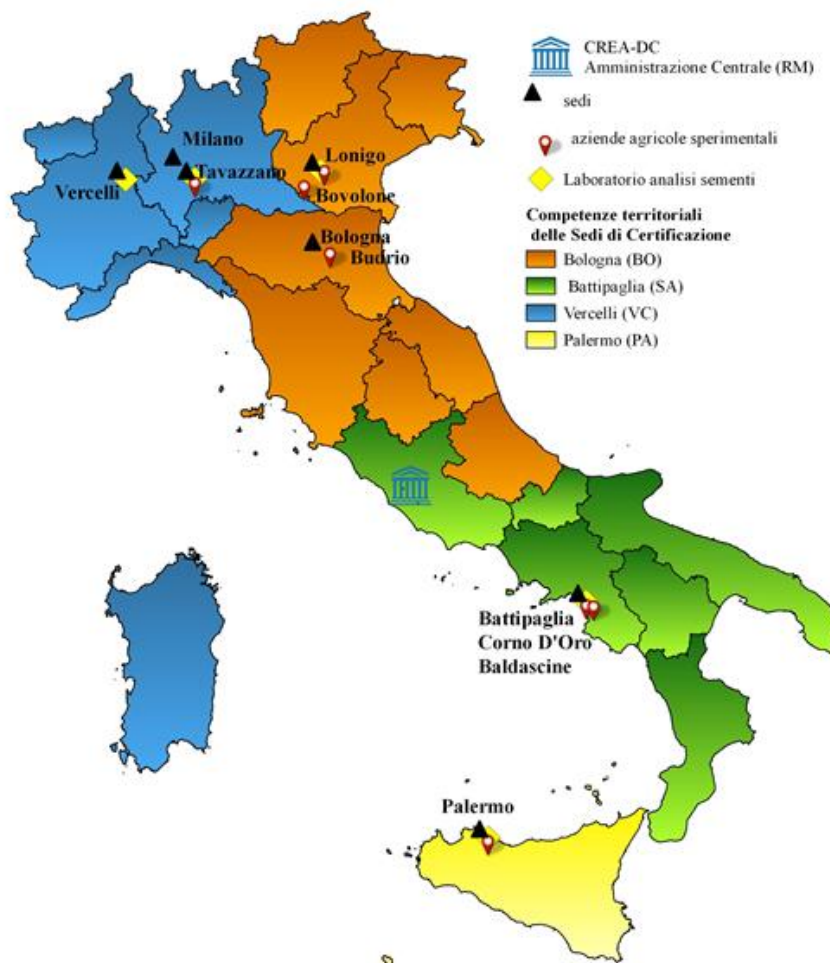


## Research and experimentation



Research and experimentation activities are oriented towards the preparation and implementation of projects of European, national and regional relevance. The topics covered mainly concern varietal characterization through field and laboratory tests, the protection of agricultural biodiversity, the monitoring and control of widespread plant diseases in the Sicily, the technological seed testing and the development of analytical

protocols for the identification of pathogenic organisms.



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