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Obtaining F1 hybrids from the genetic material of landrace bell artichokes, cleaned up and selected

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Introduction

The artichoke (*Cynara cardunculus* var. *Scolymus* L.) is a horticultural species in the family *Asteraceae* (*Compositae*), is reared on a global area of 120 thousand hectares (FAOSTAT 2009, http://faostat.fao.org) and in Italy alone covers more than 42% of the global area. Leader who is also registered in terms of production, in fact over 39% of international product, amounting to 1,244,067 tons, is represented by our national production. The main producers are Spain than Italy (16%), Egypt (14%) and Argentina (7%) which together account for more than 76% of world production. The situation there is national data provided by ISTAT (ISTAT 2010; http://agri.istat.it), over 96% of the national area planted to artichokes in 2010 is covered by only four Italian regions: Puglia (33.4%), Sicily (29.5%), Sardinia (26.6%) and, finally, Campania although only 4.6%. In terms of production, the same regions in a position of national leader and together cover approximately 92% of Italian production.

The definition of the concept of quality in the cultivation of the artichoke contribute different aspects of extrinsic and intrinsic characteristics that include the head and the heads secondary center along all sectors of the food chain. As regards the former, are of considerable importance to the environmental conditions, geographical and agricultural conditions in the second case, however, are the basic biochemical characteristics, nutraceutical and physical of the head.

The genetic material brought up by the Italian artichoke growers, in fact, is mostly represented by a large number of ecotypes or clones, vegetatively propagated and whose name generally refers to areas of origin. However, this local biodiversity is still poorly understood, so that is causing confusion in the terminology and classification of germplasm available[1].

Therefore the objective of this research is to improve the quality of the artichoke fields, through the study of genetic variability of ecotypes have been recovered, the phenotypic characterization of the same, the recovery of virus propagation material and to end the production of F1 hybrids's obtaining genotypes with all the necessary requirements for enrollment in the National Register.

Materials and methods

Materials

In six locations in the Campania region have been recovered seven ecotypes in the form of vegetative material (offshoots): 1. Bianco di Pertosa; 2. Capuanella; 3. Castellammare; 4.Montoro; 5. Pascaiola; 6. Pietrelcina; 7. Tondo di Paestum. *Ex situ* tests have been set up at the CRA-Research Centre for Horticulture in Pontecagnano (SA) and *in situ* tests at farmers who have been willing to cooperate with this research.