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EFFECTIVENESS OF PHENOTYPIC SELECTION OF "BROCCOLO FIOLARO" (*BRASSICA OLERACEA*) ASSESSED BY MOLECULAR MARKERS

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"Broccolo fiolaro" is a typical vegetable produced in a restricted hill country area around Creazzo, Vicenza-Italy. The cultivation of this vegetable dates back to some centuries ago, but at present very few farms are still involved in the production. Broccolo Fiolaro is a botanical variety of cabbage highly valued for its agromonic and organoleptic features.

Four "Broccolo Fiolaro" lines were derived by phenotypic selection carried out on 200 plants growing into the field far away each others. During the winter season the tuft size, leaf size and shape were recorded. At the spring time the earliness in stem development and the number of branches were observed. For each population, the most uniform (15-20) plants were selected and left to free pollination.

Their progeny was analyzed by molecular markers (SSR and AFLP) and compared with 8 cabbage populations in order to evaluate the genetic structure and similarity among and within populations. Rapa "Chiampo" (Brassica rapa) was considered as an outgroup. Up to now 12 SSR primer pairs were used and the preliminary results point out low genetic variability within the four "Broccolo Fiolaro" selections. On the contrary other Broccolo types such as "Bassano", "Riccio di Sarno" and "Liscio di Napoli" as well as Brussel cabbage and the outgroup show allele polymorphism at the loci analyzed and high genetic variability.

It seems that phenotypic selection was effective in the reduction of genetic variability within the selections of Fiolaro type.