

## **ADVANCES IN MORPHOLOGICAL CHARACTERIZATION OF THE BRAZILIAN COLLECTION OF ARRACACHA (*Arracacia xanthorrhiza* Bancroft).**

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Morphological characterization of 178 arracacha accessions maintained at the National Vegetable Crop Research Center (Embrapa Hortaliças) Germplasm Bank (161 F1 hybrids, 10 native cultivars from the Ecuadorian Andes, and 7 Brazilian varieties widely cultivated in Brazil) was conducted in Embrapa Hortaliças in two stages. In the first stage, accessions were grouped into 49 morphotypes according to visible morphological similarities. Each morphotype comprised a group of accessions that appeared to be of the same phenotype but not necessarily of the same genetic composition. In the second stage, eight qualitative characters of the upper part of the plants, which were believed to give better resolution of the crops, were recorded. The data were then studied using cluster analysis and ordination methods of the Numerical Taxonomic System Program (NTSYS). The most important result of the cluster analysis was the identification of 49 morphotypes, which confirmed morphotypes identified previously by visual grouping. The principal component analysis indicated the following traits as the main characteristics differentiating the arracacha accession into morphotypes: leaf color, pinna insertion pigmentation, petiole waxy, predominant stem/cormel flesh color, secondary stem/cormel flesh color, and distribution of secondary stem/cormel flesh color. Data indicated that about 73 percent of the arracacha accessions maintained at Embrapa Hortaliças Germplasm Bank are probably duplicates. Apparent duplicates within each morphotype are now being intercrossed to obtain seed specimens for a long-term conservation program. This program should help reduce the cost of conserving Brazilian arracacha diversity for future generations.

**Key words:** Germplasm, Conservation, Characteristics, Morphotypes