

## Analysis of Intra-Varietal Diversity for Some Lebanese Grapevine Cultivars

**Authors :** Stephanie Khater, Ali Chehade, Lamis Chalak

**Abstract :** The progressive replacement of the Lebanese autochthonous grapevine cultivars during the last decade by the imported foreign varieties almost resulted in the genetic erosion of the local germplasm and the confusion with cultivars' names. Hence there is a need to characterize these local cultivars and to assess the possible existing variability at the cultivar level. This work was conducted in an attempt to evaluate the intra-variatal diversity within Lebanese traditional cultivars 'Aswad', 'Maghdoushe', 'Maryame', 'Merweh', 'Meksese' and 'Obeide'. A total of 50 accessions distributed over five main geographical areas in Lebanon were collected and submitted to both ampelographic description and ISSR DNA analysis. A set of 35 ampelographic descriptors previously established by the International Office of Vine and Wine and related to leaf, bunch, berry, and phenological stages, were examined. Variability was observed between accessions within cultivars for blade shape, density of prostrate and erect hairs, teeth shape, berry shape, size and color, cluster shape and size, and flesh juiciness. At the molecular level, nine ISSR (inter-simple sequence repeat) primers, previously developed for grapevine, were used in this study. These primers generated a total of 35 bands, of which 30 (85.7%) were polymorphic. Totally, 29 genetic profiles were differentiated, of which 9 revealed within 'Obeide', 6 for 'Maghdoushe', 5 for 'Merweh', 4 within 'Maryame', 3 for 'Aswad' and 2 within 'Meksese'. Findings of this study indicate the existence of several genotypes that form the basis of the main indigenous cultivars grown in Lebanon and which should be further considered in the establishment of new vineyards and selection programs.

**Keywords :** ampelography, autochthonous cultivars, ISSR markers, Lebanon, *Vitis vinifera* L.

**Conference Title :** ICGPB 2020 : International Conference on Grapevine Physiology and Biotechnology

**Conference Location :** Barcelona, Spain

**Conference Dates :** December 17-18, 2020