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P3.26 - Study of genetic variation in yarrow accessions from Iran

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To study the genetic diversity of 37 Achillea millefolium accessions we used RAPD and ISSR markers. Nine RAPD primers and seven ISSR primers have shown good polymorphic. The Jaccard’s similarity indices (J), based on RAPD and ISSR profiles, were subjected to complete linkage analysis. The dendrogram generated revealed six groups. The principle coordinate analysis (PCoA) data confirmed the results of the clustering. Application of Mantel’s test for cophenetic correlation to the cluster analysis indicated the low fitness of the accessions to a group (r = 0.6). The results of the clustering showed that A. millefolium subsp. elbursensis is separated from other genotypes in the dendrogram, this subsps is endemic of north of Iran. Essential oil obtained from dried plants of this subsps was more than (0.31%) other genotypes. The results of the clustering analysis, based on RAPD and ISSR markers, corresponded closely with the geographical origins of the genotypes. The results of the present study will provide the basic information for effective conservation of these genotypes for selection and breeding programs.

P3.27 - Discrimination of Portuguese and Spanish olive cultivars using microsatellite markers

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Olive cultivation is one of the oldest agricultural activities in the Iberian Peninsula. Nowadays, Spain and Portugal contain a highly diversified genetic patrimony within this species. The correct identification of the olive cultivars is very important for the conservation of genetic resources, and for the development of a competitive and sustainable olive production system. In addition, it also serves research and scientific purposes.

In this work, four microsatellite markers previously described as highly recommended for olive cultivar identification, have been selected to carry out SSR screening on 22 olive accessions. Among the above mentioned accessions, 11 are originals from Spain, and 11 are originals from Portugal. A CTAB-based protocol has been employed for DNA extraction from young leaves. For the detection of alleles, microsatellites were amplified by PCR and analyzed on a capillary automatic sequencer. Genetic relationships were studied by observing the UPGMA tree obtained after calculating Dice genetic distances. Results showed that the selected microsatellites markers were able to discriminate among the studied accessions. Cultivars were separated through four important clusters while ‘Arbequina’ cultivar was completely separated from the remaining accessions showing a very low similarity coefficient. Furthermore, three accessions have presented an identical allelic profile and were considered as the same cultivar. The factorial analysis of correspondence has demonstrated that there is no separation between Portuguese and Spanish cultivars according to its origin, and this is probably due to the geographical continuity of the Iberian Peninsula.

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