

DISTINCTION OF SPECIES OF THE GENUS *Persea* THROUGH DNA POLYMORPHISMS

Part One

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Avocado belongs to *Persea americana* species, from which three races are recognised: *P. americana* var. *drymifolia*, *P. americana* var. *guatemalensis* and *P. americana* var. *americana*. These races have different origin, morphology and isoenzyme profiles. There are kinship and differentiation relationships among *Persea americana* with other species, established through other biochemical and DNA markers. In order to know the diversity of collected material, the genetic relationship among accessions is required; and to consider that nowadays the reclassification of the species of *Persea* subgenus *Persea* is in discussion, the molecular techniques of DNA analysis can offer the distinction amongst and within species of *Persea*. The main goal is to establish the genetic affinity of *Persea* analyzing 9 species: *P. americana*, *P. steyermarkii*, *P. schiedeana*, *P. lingue*, *P. nubigena*, *Persea gigantea*, *P. floccosa*, *P. cinerascens* and *P. indica*, using the techniques of RAPDs and ISSR. The products of PCR were separated in acrylamide gels and revealed with silver salts. To know their genomic relationships, the DNA fingerprints were analyzed with multivariate statistics. These analyses congruently grouped in a dendrogram the accessions according to their own characteristics of the species. The study revealed little genomic relationship of *P. indica* and *P. lingue* with the remaining species; and also separated genotypes of *P. americana* and an interspecific hybrid one, as well as the species that supposedly gave origin to the Guatemalan race.