Morphological, Chemical and Anatomical Indices of Seeded Mango Strains Mangifera indica L. Grown in Basrah Governorate

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Summary

The present study was conducted on seed strains of mango grown in Basrah region during the growing season of 2016.to investigate some morphological and biochemical anatomical characters of 13 strains. Evaluation characters included: 8 physical and 11 chemical characters of leaves, 9 flower characters, 9fruit characters, 6 anatomical characters and leaves protein pattern. Cluster analysis was used to determine the degree of similarity between seeded Mango strains. Results showed that strain 11 receded highest significant increases in leaf fresh and dry weights, leaf length and width, petiole length and thickness, total protein and nitrogen concentration of leaf, inflorescence weight, number of flower panicles of inflorescence, fruit length and diameter, and thickness of palisade layer of laef. Strain 1 receded highest significant increases in leaf dry matter percentage, total soluble carbohydrate , chlorophyll b and total chlorophyll concentration, inflorescence diameter, seed weight, cuticle layer thickness ,and palisade cell length of leaf. Strain 10 gave significant increases in fruit and pulp fresh weight, volume, and fruit weight to seed ration. Strain 13 receded significant increases in pollen grain viability, fruit content of vitamin C, and palisade cell. Strain 9 receded significant increases in leaf thickness, and carbohydrates to nitrogen ratio, and phosphorus concentration of leaf. Strain 12 receded significant increases in leaf water content, fruit length to diameter ration, and spongy cell length. Strain 2 gave significant increases in leaf chlorophyll a pigment concentration, epidermis layer thickness, and vascular bundle diameter of leaf. Strain 8 gave significant increases in potassium concentration of laef, number and length of flowers per inflorescence, and inflorescence length. Strain 4 gave significant increases in epidermal layer thickness, and palisade cell length of leaf. Strain 5 and 3 and 7 recorded significant increases in leaf thickness, in florescence panicle thickness and epidermis layer thickness of leaf respectively. Leaf protein pattern on SDS- PAGE revealed differences in band number ranging from 4 to 5 bands, location and band molecular weights ranging from (35.417 - 229.762) k. Dalton ,leading to variations in protein quantity and quality among the studied seeded mango strains. Cluster analysis of all studied characters showed that all mango strains occurred two main groups recording a high similarity value of more than 0.90. Results of the stndied characters. Ecotypes are genetically related.