Mitigate Climate Change Effect on Citriculture

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Citrus are one of the most important fruit crops worldwide, due to harsh climate conditions, there is a fluctuation in citrus production and annually drastic yield lose, because rising temperature and water shortage, which causes weakening growth, flowering, and productivity. There are different steps required to maintain citrus orchards productivity under climate change conditions like, using proper management practices that include providing a suitable form of the nutrients with adequate requirement and maintain soil moisture, also, application of Ca, K, B and Mn adapt tree behavior under stress through controlled stomata conductivity under heat/high-temperature stress, its activates physiological and metabolic processes which maintain a high water potential in tissues, that improve tolerance to heat stress, as well as the use of N, K, Ca and Mg minimize the toxicity of Reactive oxygen solutes. Also, select proper rootstocks tolerant for drought and heat stress like Rangpur lime (*C. limonia*), and Rough lemon (*C. jambhiri Lush*.), minimizing the adverse effects of rising temperature and drought stress, and other biotic and abiotic stresses, increasing tree growth and production. As well as Plant growth regulators like cytokinins (CK), abscisic acid (ABA), salicylic acid (SA), Jasmonic acid (JA), and Proline, could play a significant role in tolerate abiotic stress, therefore, exogenous application of PGRs increases the water potential, chlorophyll content, and increases productivity of citrus trees. Therefore, using proper agricultural practice, exogenous application of plant growth regulators, with tolerant rootstocks considered inevitable for the sustained production of citrus under harsh climate conditions.

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