reactive explant. CN consists of the embryo axis where cotyledons, main stem and root are inserted. In this study, mature seeds of the polyembryonic cultivar 'Ataulfo' and the monoembryonic cultivar 'Irwin' were used. Seeds were placed onto germination medium supplemented with 0, 1, 2 or 3 mg L^{-1} of thidiazuron (TDZ). After 3 weeks of culture the percentage of CN showing adventitious shoot regeneration and the number of buds/shoots per regenerating explant were significantly higher ($p \leq 0.05$) in the TDZ treatments compared with the treatment without TDZ. No statistical differences were found among the three TDZ concentrations for any of the parameters assessed. For the two genotypes studied, regeneration rates reached approximately 90% when TDZ was applied. Furthermore, TDZ treatments induced high-frequency of regeneration patterns, up to more than 6 buds/shoots per regenerating explant. Taking into account mango recalcitrance, our results represent a significant improvement for in vitro plant regeneration/mass propagation of this species.

Climate change multi-risk assessment for mango cultivation in Sicily, Italy by using bayesian network

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Ensuring food security poses a significant challenge for organizations and consultant companies involved in the agriculture industry or responsible for food programs. This challenge is particularly relevant in Sicily, Italy, which has a semi-tropical climate. Given the favorable weather conditions for mango cultivation and other tropical crops, it becomes crucial to consider measures for safeguarding against potential climate change impacts in the future. Climate change is expected to bring changes and increased risks in terms of temperature, extreme events, soil salinity, and irregular rainfall. Amidst this looming threat, there is a growing demand for a fresh approach and supportive tools to manage risks and mitigate potential damages in policy-making and decision-making circles. In this study, we employ a robust method known as Bayesian Network (BN) to effectively capture and model multiple risks under various future scenarios. By exploring 'what-if' situations, such as the maximum levels of climate-related variables, the projected BN model is trained and validated using spatially-resolved data from the Messina region in Sicily. This approach enables us to understand the dynamic variations in local-scale temperature and precipitation, as well as the underlying driving forces, within the timeframe of 2009-2022. The outputs of the Bayesian Network aid in predicting future trends in temperature and precipitation levels, thereby supporting the prioritization of mango