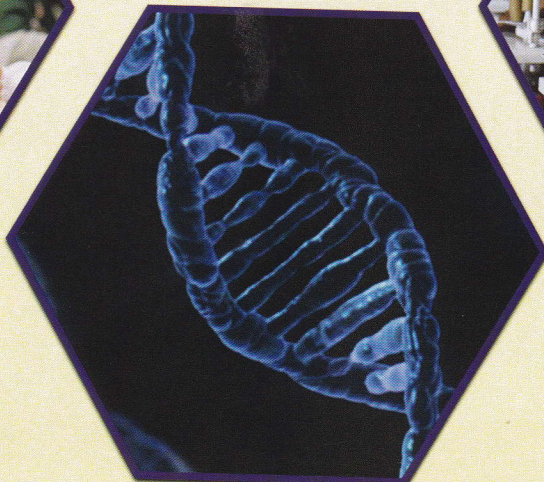
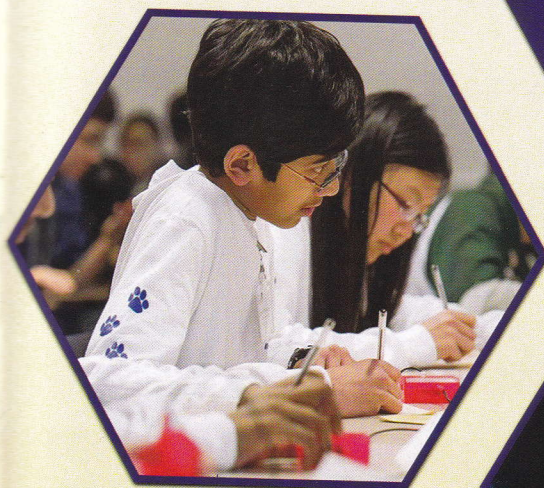
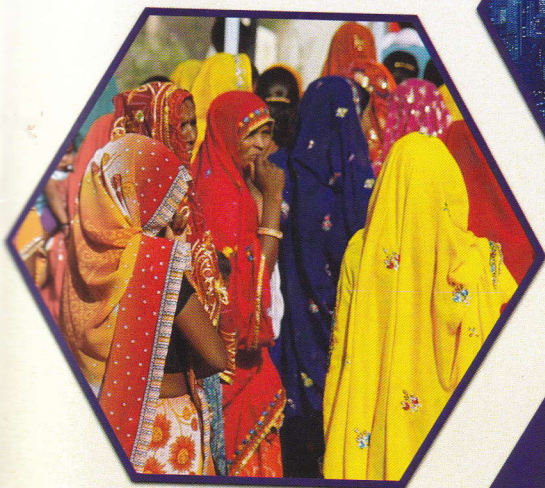


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Optimization of somatic embryo regeneration media for cotyledon explants of tea (*Camellia sinensis* L.) O. Kuntze)

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Somatic embryogenesis is an alternative method to resolve constrains in conventional crop improvement in tea (*Camellia sinensis* L. O. Kuntze). Hence, the present study was conducted with the objective of developing a viable somatic embryogenic protocol for tea. For induction of somatic embryos, two types of explants cotyledons (mature and immature) and somatic embryos of TRI2024 and TRI2043 cultivars were inoculated in MS media with different hormone combinations. Cotyledon in 2 mg/l BAP + 0.2 mg/l NAA MS media supplemented with two growth regulator combinations (2 mg/l BAP + 1 mg/l NAA and 3 mg/l BAP + 0.1 mg/l NAA) were tested for regeneration of somatic embryos derived from cotyledon explants. Somatic embryos were initially observed in mature cotyledons of TRI2024 in 2mg/l BAP + 0.2mg/l NAA. All growth stages as the globular, heart, torpedo and cotyledonary stages were obtained from somatic embryos and highest percentage (40%) of complete healthy plantlets were obtained from somatic embryos in 2 mg/l BAP + 0.2 mg/l NAA of TRI2024 while somatic embryoids were observed in 2 mg/l BAP + 3 mg/l NAA of TRI2043. MS medium with 3 mg/l BAP + 0.1 mg/l NAA was best for somatic embryo regeneration.

Keywords: Somatic embryogenesis, Somatic embryos, Leaf callus