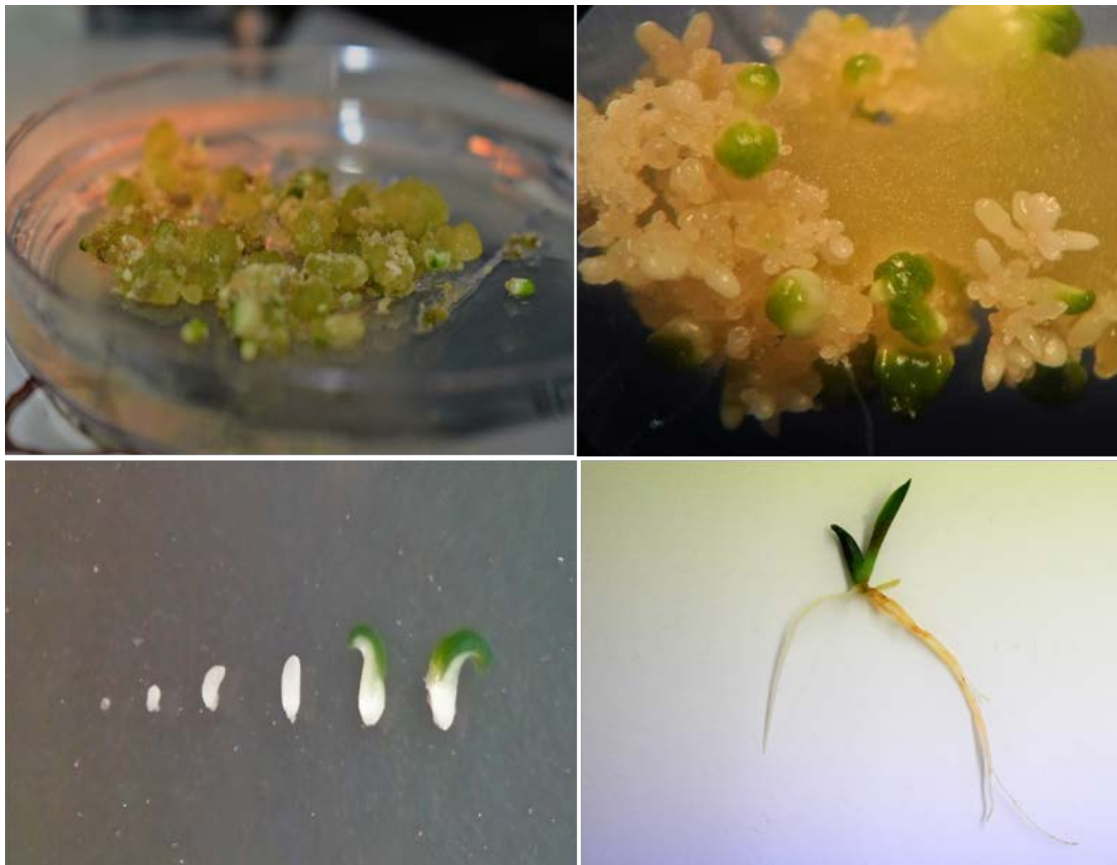


Project Update: October 2019

Somatic embryo induction and shoot tips proliferation / February 2019 – September 2020

Somatic embryogenesis

The regeneration system was developed by somatic embryogenesis for the production of somatic embryos in order to conserve a genetic diversity that is ecologically exploited in local areas. In addition, embryos may be preserved in the long term as an elite collection for future ecosystem restoration projects. This biotechnological tool will help us to have alternatives for the preservation of our genetic resources for a sustainable and rational use.



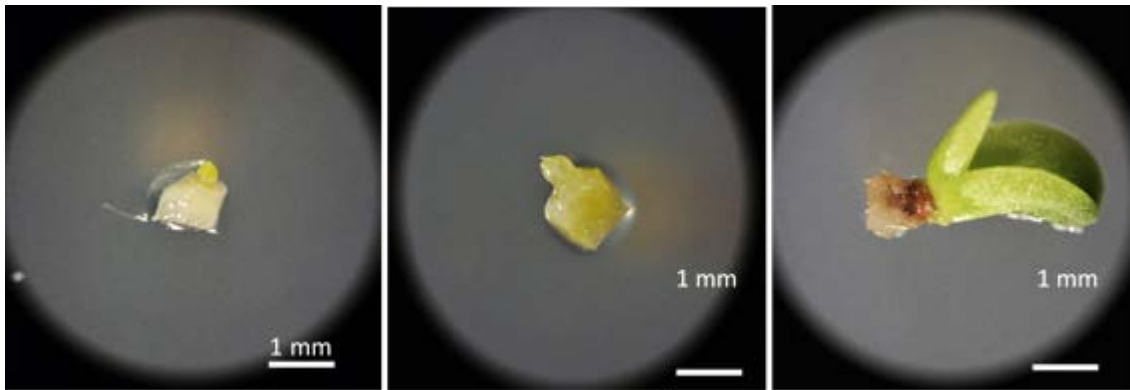
Top left: 10mm. Top right: 0.5mm. Bottom left: 1 mm and bottom right: 10 mm.
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Somatic embryogenesis regeneration system. The process begins with a phase of callus induction, a differentiation of competent cells phase, the development and growth of somatic embryos (conversion) and embryo germination.

Shoot tips proliferation

Agave cupreata, *A. lurida*, *A. guiengola*, *A. tequilana* 'Chato' have been micropropagated to have greater disposal of healthy and pathogen-free plants for communities where wild agave populations have been degraded by overexploitation. The axillary bud proliferation and shoot tips obtained will be another alternative to conserve species in which a regeneration protocol such as somatic

embryogenesis has not been developed. This method has the advantage of maintaining the genetic integrity of the clone.



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Cut of apical meristems of *Agave* spp. and its regeneration in 8 d, 16 d and 24 d respectively.