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Tragopogon Regeneration

Pulse treatment of plant growth regulators (Indole-3-butyric acid [IBA] and synthetic cytokinin 6-benzylaminopurine [BAP]) was used in the process of shoot and root regeneration (Figure 1).

In terms of shoot regeneration, leaf explants were placed on COCO-1 medium (2.41 g/L Lloyd & McCown woody plant basal medium with vitamins, 30 g/L sucrose, 5% coconut water, 2.5 mg/L BAP and 8.5 g/L agargellan; pH 5.7) for ~14 days. The explants were then transferred to MS medium (4.44 g/L Murshige & Skoog modified basal medium with Gamborg vitamins, 30 g/L sucrose and 5 g/L gelrite; pH 5.8) for ~16 days. Shoots were regenerated from the explants with an average shoot regeneration rate of 33.4%.

For root regeneration, the shoots were excised from the explants and placed on COCO-R medium (2.41 g/L Lloyd & McCown woody plant basal medium with vitamins, 30 g/L sucrose, 1.5 mg/L IBA and 8.5 g/L agargellan; pH 5.7) for 5 days. The shoots were then transferred to WPM medium (2.41 g/L Lloyd & McCown woody plant basal medium with vitamins, 30 g/L sucrose and 8.5 g/L agargellan; pH 5.7) for 10 days. The shoots started rooting on WPM medium with an average root regeneration rate of 53.7%.

The rooted plants were then transplanted to soil and kept inside a tray with a transparent plastic cover for acclimation. After ~14 days, the seedlings were potted and placed in the growth chamber (14 h light/10 h dark, 25 °C).

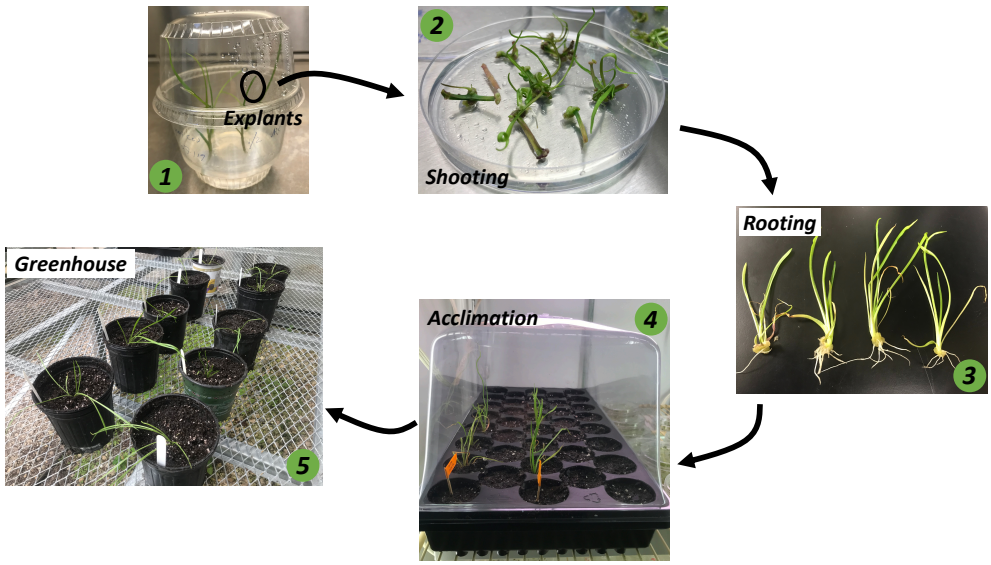

Figure 1. The tissue culture process in *Tragopogon porrifolius*.