

1515 Continuous *In Vitro* Production of Cotton Glandular Trichomes

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Glandular trichomes are present on many aerial plant tissues such as stems, leaves, petioles, apical meristems, buds, and flowers; however, trichomes are not distributed equally on all tissues. Glandular trichomes usually produce phytochemicals that may function in plant defense. The chemical composition of cotton glandular trichomes has not been investigated previously. Seeds of four cotton varieties were sterilized and transferred to Petri plates on media without hormones (H₂O + agar 0.8%, pH 5.8). In 3-9 days plantlets were placed into flasks containing seven different liquid media variants and shaken at 100 rotations/min for 3-5 days. The best medium for glandular trichome production contains MS salts, Gamborg B₅ vitamins, kinetin (2 mg/l) and NAA (1 mg/l). Trichomes were harvested by centrifuging the collected medium at 1500 rotations/min for 7 minutes. Trichomes can be collected for 2-3 weeks using this technique. We propose that this method will be useful for identifying the chemical composition and molecular ontogeny of cotton glandular trichomes.

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