

SOMATIC EMBRYOGENESIS IN DOUGLAS-FIR

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Most reports of somatic embryogenesis in gymnosperms have been for Picea, Pinus and Larix; only a few have mentioned Pseudotsuga menziesii. During the last two years we have investigated the requirements for obtaining somatic embryos from immature embryos of Douglas-firs. Development of the zygotic embryos was slower the second season than the first. Erickson and von Arnold's medium, as well as modified Risser and White's medium, and yellow-poplar medium did not stimulate the production of an embryogenic callus. However, modified Brown and Lawrence medium and modified Teasdale medium stimulated the formation of an embryogenic callus. On a basal modified Brown and Lawrence medium somatic embryo development was incomplete, generally stopping prior to the initiation of cotyledons.

Morphological comparisons have been made between the zygotic embryos and similar stage somatic embryos. Overall, development of the two are similar.

Research is continuing on conversion of the somatic embryos to plantlets, the identification of the embryogenic callus type, comparative morphology, and applications to mature embryos.