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Apogamia en *Dryopteris munchii* (Dryopteridaceae)  
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### Abstract

Spores of *Dryopteris munchii* were sown in pots with three types of soil, which had differences in physical and chemical properties. The objective was to investigate the effect soil type in the formation of apogamous sporophytes. Laboratory controlled moisture and artificial light conditions were provided for seven months. The number of gametophytes was determined with a stereoscope and the individuals were classified in four reproductive groups: asexual, unisexual male, apogamous sporophytes without antheridia, and protalli bearing both antheridia and sporophytes. The highest percentage of gametophytes observed was apogamous sporophyte type (51%) followed by the asexual type (45%). ANOVA analysis showed no significant difference ( $p = 0.05$ ) between the formation of apogamous sporophytes and type of soil in which they grew. The andosol type seems to be the best soils as they provided better growing conditions, more vigorous, colorful, and numerous leaves than arenosols and luvisols. We conclude that the life cycle of *D. munchii* is obligate apogamous and develops independently of the soil where it grows, which in turn, indicates the inherent characteristic and successful propagation system of this species.

### Keywords

*Dryopteris*, Dryopteridaceae,  
apogamy, gametophyte, Mexico, soil, fern

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