

The Easy Track to Fern Spore Propagation®

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The following method of fern spore propagation is designed to provide for relatively rapid production of young sporelings without the need to sterilize spores or medium. The spore pan used is a new, clean plastic saucer (the type sold at garden centers to place under potted plants). A 4 or 5-inch size is rigid enough to keep the medium stable and fits neatly into a reclosable plastic sandwich bag when sown. Although small, it can produce hundreds of sporophytes. The saucer may be filled to approximately $\frac{2}{3}$ its depth with a medium made of perlite and milled sphagnum (5 : 1, v/v) and moistened with one part of hydroponic fertilizer. The medium should be pressed firmly into the bottom of the saucer with a clean spoon so that the perlite and sphagnum lock together to form a stable surface. Test by holding the pan on edge at a right angle to the table. The medium should not shift. Next, use a new small plastic cup to moisten two rounded teaspoonfuls of fine vermiculite with the same hydroponic fertilizer. Add a light sprinkling of spores over the vermiculite and mix thoroughly. Spread the vermiculite with spores evenly over the surface of the medium in the saucer and press it down firmly. The two layers should make good contact. Enclose the finished pan in a new reclosable plastic sandwich bag and place it under subdued continuous fluorescent light. Cool-white tubes or those commonly used for ordinary residential lighting are good. Low intensity light is best, so keep pans about 2 ft under the tubes or cover them with white paper toweling to diffuse the light. A stable environment with an ambient temperature of 70 °F is excellent. Bags should be opened every few days, especially right after sowing to check moisture content. Remove the pan briefly and wipe condensed moisture from the bag with a new paper towel. Eventually the surface of the medium may need light misting with water from a sprayer. Gametophytes should make a green mat across the pan in several weeks and little sporophytes may appear in a few months. Sporophytes occasionally appear as early as 2 months after sowing, but generally in 4 to 6 months. When large enough to be moved, sporophytes may be pricked out singly or in clumps to pots of small fern mix. A brief outline for sowing fern spores this way is available online at: Botanical Electronic News, Archives, No. 246, March 2000 <<http://www.ou.edu/cas/botany-micro/ben/ben246.html>>.