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**40. © Fern propagation 101.** Berger, T. International Plant Propagators' Society, combined proceedings, 2010, 60:198-200. 2011.

# Fern Propagation 101<sup>®</sup>

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## INTRODUCTION

What follows is an outline of how to propagate ferns.

**Prerequisite:** Basic math, powder/liquid measurements, and common sense growing.

### Background:

- Spore germination — Gametophyte (heart shaped and sometimes mossy looking)
- Sperm cells to eggs
- Male structures (antheridia / sperm cells) female structures (archegonia / eggs)
- Sporophyte emerges from gametophyte
- Sporophyte matures into parent fern and produces spore.

### Step 1: Collect your spore

- Spore matures at different rates
- Many types of spore
- Green spore should be refrigerated (short life span)
- Most spore keeps 1 to 2 years / even longer

### Step 2: Sow your spore

- Mix 1 teaspoon of spore / 1 cup of fine vermiculite, this mixture will sow 10 flats.
  - Variables include how old spore is, how difficult to germinate, etc.
- Soil: peat based, well drained, slightly acid (pH 6.0 to 6.5).
  - Always exceptions to the rule: i.e., sow *Osmunda* spp. on straight peat.
- Wet (soak) your propagation mix down with clear water
  - Evenly disperse thin layer of spore / vermiculite mixture
  - Heavy spray (srench) with Chipco 26019 (wetable powder only) at 1 tablespoon/gal
  - Cover with clear plastic or put into clear plastic bag

### Step 3: Germinate your spore

- Temperature of 65–70 °F works well (take into account heat coming from lights)
- Under lights — long days recommended, 24/7 works well
- Do not bake in direct sunlight
- Remove plastic cover at first sign of greening (3 to 12 weeks depending on fern species)
- Water (carefully) only with clear water and keep moist

### Step 4: Care for your gametophytes

- Do not bake in direct sunlight!, 60% to 70% shade needed
- Temperature of 55–75 °F