

USDA Forest Service Botany in the News

Growing Sword Ferns from Spores in the Dark Days of Winter

Who (partners): Alaska Region, Tongass National Forest, Sitka Ranger District, National Park Service, University of Alaska, Cooperative Extension Service. U.S. Geological Survey.

What (species): Sword Ferns: *Polystichum andersonii*, *P. braunii*, *P. munitum* and *P. setigerum*.

When: Winter 2006.

Where: Alaska Region, Tongass National Forest, Baranof Island, Sitka.

How: All four sword ferns are native to Baranof Island, where Sitka is located, and are adapted to a variety of habitats and transplant well. None of these large evergreen ferns is abundant enough to sustain commercial harvest. Propagation by spores may be a way of producing enough plants for restoration projects or use by local landowners. Simple protocols are being tested to grow the ferns. Spores were collected in the wild, sown on sterile soil in special covered containers. They are provided with light 12 hours a day and carefully misted to provide moisture. After three weeks the first tiny germinated ferns were visible. One of them is pictured below on the right. We hope to nurture these tiny bits of green into luxuriant adult ferns.

Why: Sword ferns are showy ferns, valuable for landscaping or re-vegetation projects. Growing these ferns from spores is one component of a 3-year Forest Service native plant propagation project supported by special Native Plant Materials funding.

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Spores of sword ferns (*Polystichum*) are germinating in special containers under controlled lighting, temperature and moisture conditions.



Germinated spore produces a young *P. setigerum* gametophyte. This young fern is about 1/8 inch tall.