

# Studies on the Fine Structure of Spores and Multiplication Technique for the Native Ferns of Taiwan

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## Summary

Spores of this research were obtained from the greenhouse at Taitung DAIS. The methods of specimen preparation and observation on SEM were divided four treatments. Treatment A: The spores were only air dried for two weeks and stored for 6 months. Treatment B: Spores including sporangia were put in the tube. About 10 c.c. of room-temperature glacial acetic acid was added to the tube and kept in the boiling water bath for about 1 minute. Treatment C: Spores were placed in 2.5% glutaraldehyde +0.05M phosphate buffer (pH7.2), Samples were rinsed in 95% ethanol at 5 times and dehydrated in 95% ethanol. Treatment D: Fresh spores only.

The best result is treatment D, fresh spores were mounted on standard stub and sputter coated with gold palladium for 1 minute.

Tree fern debris is the best germination medium for *Asplenium adiantoides* propagation by using spore. The best time for *A. adiantoides* spore sowing are spring and summer in Taitung district because low winter temperature can affect the Prothallium growth.

**Key word** : Fern, Spores, Fine structure, Multiplication.

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