The golden chicken fern, *Cibotium barometz* (L.) J. Sm. (Cibotaceae), is an Indonesian tree fern with a high value as an export commodity due to its uses both for modern and traditional medicine. Its rhizomes and hairs are used as ingredients for treating liver and kidney diseases, rheumatism, and as a blood coagulant. Currently, the rhizomes and hairs of *C. barometz* are harvested from the wild due to a lack of agricultural propagation and culture. Along with habitat degradation, uncontrolled harvests have led this species toward extreme global population decline. In order to prevent further decline, this species has been included in the Appendix II of CITES since 1976. Therefore agricultural research of this species is indispensable to meet the needs of sporelings on a mass scale for domestication and for reintroduction into nature; assisting species conservation and for environment management programmes. In vitro spore culture can be a solution to produce sporelings of the tree fern on a mass scale. Prothallus masses (which mostly consist of mature gametophyte with already formed antheridium and archegonium) were induced to form sporophytes by subculturing them on various mineral salt concentrations of Murashige-Skoog's (MS) media. Prothallus masses of 4 genotypes of *C. barometz* (Cb, Cb1, Cb2, and Cb3) were subcultured on various MS media concentrations, which consisted of 1/4 MS, 1/6 MS, 1/8 MS, 1/10 MS, and 1/12 MS. Results showed that the highest sporophyte formation occurred on 1/12 MS medium for all genotypes tested. Genotype Cb2 formed more sporophytes compared to the other genotypes on all media tested.