

Micropropagation of Daimonjiso (*Saxifraga fortunei* var. *incisolobata*)[®]

Yoshinori Ochi

Seiko-en, 1-8-10 Kokubu, Imabari, Ehime 799-1533

INTRODUCTION

Daimonjiso [*Saxifraga fortunei* Hook. var. *incisolobata* (Engl. et Irmsch.) Nakai] (Saxifragaceae) is a perennial herb native to northeast China, Korean peninsula, and Japan. It has numerous cultivars two of which are 'Urabeni-Daimonjiso' and 'Miyama-Daimonjiso'. There are several related species, including echizen-daimonjiso (*S. acerifolia* Wakabayashi et Satomi), izunosima-daimonjiso (*S. fortunei* var. *crassifolia*), yakushima-daimonjiso (*S. fortunei* f. *minima*), and kaede-daimonjiso (*S. fortunei* var. *suwoensis*).

BREEDING AND PROPAGATION

Crossing has produced a range of cultivars with different colors and shapes; we at Seiko-en have developed some heat-resistance cultivars.

For commercial production of these excellent cultivars, we need an efficient method of propagation. Division is not useful because of its low propagation rate; therefore, we have developed micropropagation techniques over the last 8 years for our cultivars.

METHOD OF TISSUE CULTURE

Segments of flower stalks about 1 cm in length are placed on $1/2$ -strength Murashige and Skoog (MS) medium (containing half concentration of MS inorganic salts) supplemented with 0.1 mg-liter⁻¹ BA and 0.01 mg liter⁻¹ NAA. Incubation temperature was 25°C. After 1 month adventitious shoots were formed on the segments. These were divided into several explants and placed on fresh medium for multiplication. During multiplication, the temperature was reduced to 18°C because explants died at 25°C.

In the spring, shoots were transplanted at the 4- to 5-leaf stage from the culture vessels to shallow containers containing vermiculite and placed under shade. After 1 month, the plantlets were potted into polyethylene pot (6 to 7.5 cm diameter), and grown under shade (shade rate: 50%). In the autumn of that year, the plants were flowering.

FUTURE GOALS

We sell about 150 cultivars of *S. fortunei* var. *incisolobata* and about 100 species of other alpine and/or native plants. We would like to select and produce heat-resistance cultivars for those species and would like to propagate them by tissue culture.