

Systematic Cutting Ramets Production of Azalea in Mie Prefecture[®]

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INTRODUCTION

Azaleas are produced on about 800 ha of field in Mie Prefecture, called by the name Mie SATSUKI. It is famous in Japan. A mechanical system for azalea cutting production is being developed but field planting work has not yet been undertaken with a mechanical system. Current planting work is very demanding because it must be carried out manually in the May rainy season. If we could establish a tray planting system for mechanical planting in nursery this system would make the field planting work easier.

RESULTS

Our rooting medium is basically composed of sandy soil and peat moss. About 30% to 50% peat moss is good for rooting and increasing plant weight. If this peat moss ratio is less than 30%, the soil mixture will leak through the tray bottom. If this peat moss ratio is greater than 50% irrigation water will not soak into the mixture when it dries (Table 1).

The size of a suitable tray cell is 30 mm (diameter) × 42 mm (depth) when considering administration in the nursery and transportation. There is no relationship between rooting percentage and soil mixture amount (Table 2). The plastic tray is better than a polystyrene tray because the roots often penetrate into the polystyrene tray which causes a removal problem during handling.

Table 1. Effects of soil mixture on rooting and shoot and root weight¹.

Soil mixture ² (%)	Rooting (%)	Ramets weight (fresh weight)(g)	Root weight (dry weight)(g)
S 100 : P 0	47.7	2.00	0.05
S 70 : P 30	98.8	2.64	0.19
S 50 : P 50	100.0	2.84	0.44
S 30 : P 70	100.0	2.39	0.18

¹ Cutting date: 4 Sept.1991; diameter: 30 mm, depth: 42 mm.

² S = nonfertile sandy soil, P = peat moss.

A suitable cutting length is 15 cm for rooting because this size is easy to handle in the nursery (Table 3).

Currently it is standard practice for cutting propagation to occur in July and August. However, in the system we developed, September is a more suitable timing for cutting propagation when considering rooting percentage and survival percentage after field planting (Table 4).

Table 2. Ramets quality by material and size of tray¹.

Tray material	Diameter (mm)	Depth (mm)	Rooting (%)	Shoot (Fresh weight)(g)
Polystyrene	38	45	98.6	2.48
Polystyrene	30	50	100.0	2.53
Polystyrene	25	50	99.8	2.35
Plastic	50	53	99.1	3.02
Plastic	30	42	98.8	2.64
Plastic	25	40	100.0	2.42

¹ Cutting date: 4 Sept.1991; rooting medium nonfertile soil and peat moss (7 : 3, v/v).

Table 3. Rooting percentage and ramets quality by cutting length¹.

Cutting length (cm)	Rooting (%)	Shoot fresh weight (g)
15	92.2	2.30
20	50.8	3.09
25	13.3	3.73

¹ Cutting date: 9 Sept. 1992; container diameter: 30 mm, depth: 42 mm; rooting medium: nonfertile soil and peat moss (7 : 3, v/v).

Table 4. Rooting percentage and ramets quality by cutting season¹.

Date of cutting	Cutting length(cm)	Rooting (%)	Ramets weight (Fresh weight)(g)	Root weight (Fresh weight)(g)
7 Aug.	15	53.1	2.66	0.68
9 Sep.	15	92.2	2.30	0.42

¹ Container diameter: 30 mm, depth: 42 mm; rooting medium: unfertile soil and peat moss (7 : 3, v/v).