

Flowering and Seed Setting Characteristics in *Lithospermum erythrorhizon*

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**Objectives**

To investigate flowering and seed setting characteristics of a rare medicinal plant, *Lithospermum erythrorhizon* using root and seed propagation, as basic data for cultivation and development of new varieties.

**Materials and Methods**

- Seed used: Jecheonjaerae
- Treatment: Pot seeding in green house, self pollination
  - Pot seeding in green house and open field planting of plants with 3 to 4 leaves after seeding
  - Planting density: 30 x 10cm
  - Fertilizer application : N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O = 16-7-12kg/10a
- Data gathered: Flowering order, flowering period, seed setting percentage according to flowering stage, seed setting period etc.

**Results and Discussion**

- Flowering began in mid June while seed setting started end of June.
- Flower petals fell one day after blooming. The length of calyx measured 8.76mm at 16 days after blooming.
- Seed size was 3.95mm in length and 2.63mm in width, after then seed size did not increase.
- Seed bearing fruit were tied end of June after seeding. In mid October, the number of seeds per plant was 273 and weighted 2.5g.
- *Lithospermum erythrorhizon* is self pollinating plant with 65% as the best self pollination rate recorded in early September. A 50% self pollination rate was observed in middle of September and 34~35% in August.
- With regards to flowering characteristics, plant weight of above-ground part was higher than fresh root weight at flowering period but lower than fresh root weight after flowering period.
- In root growth, root length was not different after end of August, but root width grew by end of September.

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Table 1. Seed formation after flowering in *Lithospermum erythrorhizon*.

Characters	Days	Days after flowering						
		1	2	6	10	16	18	24
Calyx	Length (mm) Corolla dropout		6.75	7.28	8.70	8.76	8.21	8.14
	Width (mm) Corolla dropout		2.28	4.11	8.31	7.97	7.70	8.00
Seed	Length (mm)	-	1.04	1.33	3.76	3.95	3.64	3.41
	Width (mm)	-	1.36	1.00	2.71	2.63	2.47	2.47

Table 2. The seed set percentage by selfing of flowering stage in *Lithospermum erythrorhizon*.

Characters	Early of Aug.	End of Aug.	Early of Sep.	Mid of Sep.
Selfing	150	150	160	150
No. of seed setting	51	53	104	75
Seed set percentage	34	35	65	50

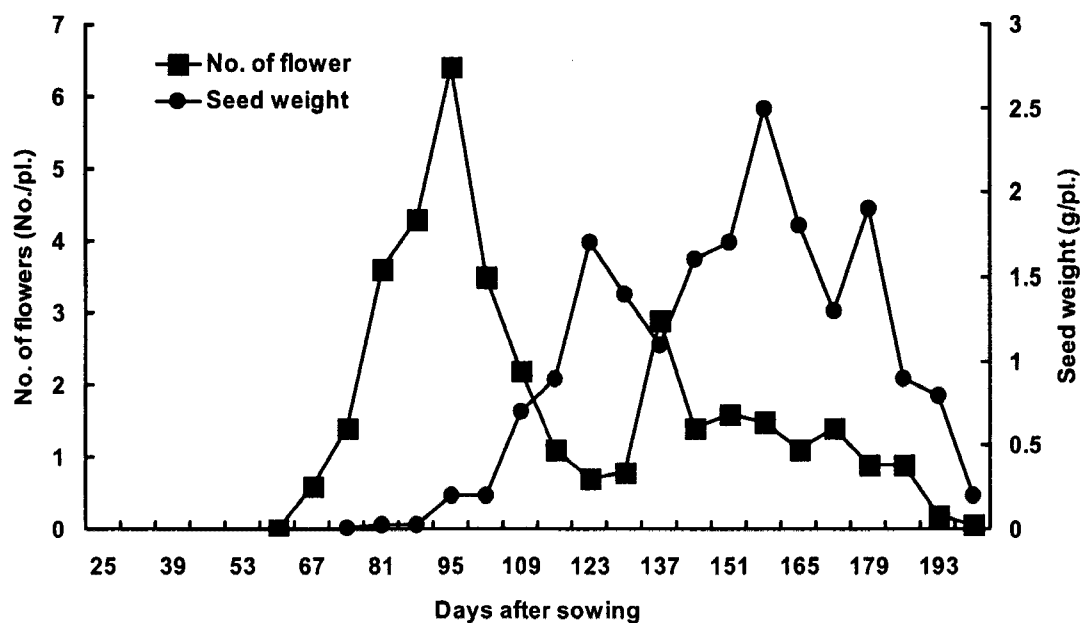


Fig. 1. Variation of Flowering and fruiting in *Lithospermum erythrorhizon*.