PLANT GROWTH AND PHENOLOGY OF WATER SNOWFLAKE

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The present use of water snowflake in the local landscaping industry is low due to the extensive use of imported ornamental aquatic plant species. Therefore, the growth and phenology of cultivated water snowflake were studied to be used in low-maintenance landscapes. Ten rhizome pieces (4 cm long) were collected at their flowering stage from the *Maminiyawa tank,* Anuradhapura. They were planted in ten artificial mud ponds (size: 1.219x1.219x0.457 m) established at the research field in the Faculty of Agriculture, Rajarata University of Sri Lanka. A constant water level (25±5 cm) was maintained in the mud ponds throughout the experimental period. Leaf and flower production, time and duration for different phenological events, environmental parameters (daytime temperature and RH), water quality parameters (pH, EC, TDS and temperature) were recorded from 4th to 14th week at weekly intervals. Data were expressed in descriptive statistics. Results showed a peak leaf and flower production in the 14th and 11th week, respectively. The median time of flower blooming was at 7.00 a.m. and fully wilted at 4.08 p.m. The weekly average environment temperature and RH were 33.5±1.5ºC and 62.6±5.9°%, respectively. Water pH, EC, TDS and temperature measurements were 8.49±0.43, 603±60.95 µs cm^{-1}, 312.54±20.06 ppm and 35.8±1.9ºC, respectively. The order of the nine observed phenophases was the leaf bud emergence, flower bud emergence, leaf unfolding, flower blooming, fruit formation, leaf senescence, fruit maturation, seed dispersal and leaf decay. The findings of the growth and phenology of water snowflake would help to develop this plant as a potential ornamental aquatic plant in the landscaping industry.

Keywords: Aquatic ornamental plant, Landscape industry, Life cycle