

Effect of seasonal variation, pulsing and different floral preservatives on vase life of golden rod (*Solidago canadensis* Linn.) cut flowers

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ABSTRACT

Effect of seasonal variation, pulsing and different floral preservatives on vase life of golden rod (*Solidago canadensis* Linn.) cut flowers were subjected to various treatments were seasonal variation (Summer, Monsoon, Winter), and three pulsing levels (control, sucrose (15%), aluminium sulphate (600 mg/l)) and eight levels of floral preservatives viz., sucrose (2%), cobalt sulphate (200 mg/l), citric acid (200 mg/l), sucrose (2%) + cobalt sulphate (200 mg/l), sucrose (2%) + citric acid (200 mg/l), cobalt sulphate (200 mg/l) + citric acid (200 mg/l), sucrose (2%) + cobalt sulphate (200 mg/l) + citric acid (200 mg/l) and control. The experimental findings suggest that the winter season, sucrose (15%) pulsing and floral preservative sucrose (2%) + cobalt sulphate (200 mg/l) was most desirable for enhancing vase life of golden rod cut flowers.

Key words : Flowering vase chemical, Citric acid, Cobalt sulphate, Aluminium sulphate, Sucrose

Flower has been an integrated part of Indian culture. It is used for a social celebration, religious function and a festival occasion. The flowers symbolized beauty, love and tranquility. Yet, earlier floriculture in our country was restricted to the growing of traditional flowers like marigold, jasmine, China aster, chrysanthemum and rose. Recently, there is a great and increasing demand for panicle of golden rod in local market for bouquet preparation, floral arrangement. They are also used to decorate bridal car during marriage ceremony. The area under Gujarat flower crops is about 1000 ha. (Bhattacharya and De, 2003). They are marketed at various places in Gujarat e.g. Ahmedabad, Baroda, Surat, Rajkot etc. It is now locally popular as *sonasali* in Saurashtra region. Golden rod (*Solidago canadensis* Linn.) is belongs to family *Asteraceae* and comprises of about 130 spp. Most of its species are native to North America. Plants of golden rod are medium height and have light green leaves. Habit of plant is spreading by producing (multiplying) new suckers. Golden rod cut flowers in general are highly perishable commodities and vulnerable to large post harvest losses. Once severed from the plant they are deprived of their natural sources of water and nutrients and wilt rapidly. Upon detachment from the plant, cut flowers carry on all life processes specially respiration and transpiration at the expense of stored food in form of carbohydrates, proteins and fats for a few more days. Thus, post harvests handing of cut flower on enhanced practical utility of cut flowers with an additional benefit of distant marketing. The commercial flower preservatives have been reported to prolong the vase life. In India, very little work

is carried out for various aspects on golden rod because it is not much popular in our country.

MATERIALS AND METHODS

The study was carried out in the Department of Horticulture, College of Agriculture, Junagadh Agricultural University, Junagadh, Gujarat state (India) during the year 2004-2005. For experiment panicles of golden rod were taken with 45 cm of uniform spike length. Panicles were harvested at unopened stage and harvested panicles were taken to the research laboratory. Before keeping the panicles in solution basal 10 cm leaves were removed. The treatment tried were three season (Summer, Monsoon, Winter), three pulsing levels (control, sucrose (15%), aluminium sulphate (600 mg/l)) and eight levels of floral preservatives viz., sucrose (2%), cobalt sulphate (200 mg/l), citric acid (200 mg/l), sucrose (2%) + cobalt sulphate (200 mg/l), sucrose (2%) + citric acid (200 mg/l), cobalt sulphate (200 mg/l) + citric acid (200 mg/l), sucrose (2%) + cobalt sulphate (200 mg/l) + citric acid (200 mg/l) and control. The observations were taken on total water uptake, total water loss, spike weight (On 4th day, 8th day and 12th day) and vase life. All the data were analysed statistically using Factorial Complete Randomized Design with three replications.

RESULTS AND DISCUSSION

During summer season maximum total water uptake and total water loss was found (168.95 g and 178.19 g,