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Physiological and biochemical changes of gerbera (*Gerbera jamesonii* Bolus) cv. Red Gem affected by different mulching materials

Dipika Sarmah^{1,2}, Pradip Mahanta², Madhumita C Talukdar² and Ranjan Das² ¹Bidhan Chandra Krishi Viswavidyalaya, India ²Assam Agricultural University, India

A field experiment was conducted for two consecutive years (2010-11 and 2011-12) in the Experimental Farm, Department of Horticulture, Assam Agricultural University to study the effect of different mulching materials on physiological and biochemical changes of gerbera (*Gerbera jamesonii* Bolus) cv. Red Gem. The experiment was laid out in randomized block design (RBD) with seven treatments (*viz.* black polyethylene, paddy straw, dried leaves, dried banana leaves, water hyacinth, rice husk and control) replicated thrice. The study revealed that black polyethylene mulch recorded highest chlorophyll content of leaf [both at vegetative (1.61 mg/g) and flowering stage (0.54 mg/g)] and leaf area index (3.23 cm²). Same treatment showed highest reducing sugar (0.17 mg g⁻¹ DW), non-reducing sugar (0.052 mg g⁻¹ DW), total sugar (0.22 mg g⁻¹ DW) and nitrate reductase activity (22.49 u mol NO₂·g⁻¹ FW hr⁻¹) in both the years and control showed lowest. Black polyethylene mulch recorded highest self life (17.17 days) and vase life (8.18 days) in both the years. From the results of this experiment it can be concluded that black polyethylene was found to be the best mulching material for gerbera cultivation under Assam condition.

Biography

Dipika Sarmah has completed her M.Sc. from Assam Agricultural University, Jorhat on the topic "Effect of mulching on growth and flowering of gerbera (*Gerbera jamesonii* Bolus) cv. Red Gem." Now she is pursuing her Ph.D. in the Department of Floriculture and Landscaping from Bidhan Chandra Krishi Viswavidyalaya, West Bengal. She is presently working on micro propagation of orchid. One of her papers has been accepted for a reputed journal. She has attended and presented papers in both national and international conferences.

dsdipikasarmah@gmail.com

Enhancement of seed quality in chilli (Capsicum annuum L.) via. priming and storage

Divya Parisa

Kerala Agricultural University, India

The present research was undertaken to study the effect of priming and storage of seeds of chilli. Freshly harvested seeds of chilli var. Anugraha were stored under ambient condition for 12 months. Seed samples were drawn after 3, 6 and 9 months of storage and subjected to priming treatments *viz*. Control (P_1), Water soaking (P_2), NaCl (10- 5M) (P_3), CaCl₂ (10-5M), (P_4) KNO₃ (150ppm) (P_5), PEG 6000 (-1.5MPa) (P_6) and *Pseudomonas fluorescens* (10 g/kg seed) (P_7). The seeds were subjected to respective priming treatments for 3 hours and thoroughly washed and dried under shade to 8% moisture content. The primed seeds were stored in two types of storage containers i.e., cloth bag (S_1) and polythene bag (700 gauge) (S_2). The seeds primed with PEG 6000 (-1.5MPa) and stored in polythene bag (700 gauge) (S_2) retained high germination percentage, speed of germination, vigour indices and lower electrical conductivity values. On the other hand, the seed quality parameters of control seeds stored in cloth bag was declined coupled with an increase in seed moisture content. The polythene bag of 700 gauge thickness was identified as the best storage container and PEG 6000 (-1.5MPa) which is an osmopriming agent outperformed among the various priming treatments. The unprimed (control) seeds maintained minimum seed certification standards for certified seeds only up to sixth month. The seeds primed with PEG 6000 (-1.5 M Pa) and stored in polythene bag (700 gauge) after 3 months and 6 months of storage (ambient conditions) maintained seed certification standards up to eighth month and ninth month of storage respectively.

Biography

Divya Parisa has completed her BSc from College of Horticulture, Venkataramanna Gudem, M.Sc. (Horticulture) from Kerala Agricultural University. She is presently pursuing Ph.D. (Horticulture) from Kerala Agricultural University, Vellanikkara.

divya3233@gmail.com