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STUDY ON DIFFERENT METHODS OF DEHYDRATION OF POT MARIGOLD FLOWERS (*CALLENDULA OFFICINALIS* L.) VAR. 'DWARF ORANGE'

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ABSTRACT

Experiments were conducted to study the effect of different drying methods for pot marigold flowers. Half opened flowers with 5 cm long pedicel were selected with four replications and embedded in three drying media (Coarse silica gel, Fine silica gel and Boric acid powder) with Microwave oven, whereas in Hot air oven four embedding media (Coarse silica gel, Fine silica gel, sea sore and and Boric acid powder) were used. Temperature used in Hot air oven was 35, 40, 45 and 50°C for 24, 48 and 72 hours and the microwave frequencies employed in Microwave oven is 20%, 60% and 100% for 1.0, 1.5, 2.0, 2.5 and 3.0 minutes. Observations were recorded for percent weight loss of fresh weight, reduction in flower size and effect of drying on flower quality. Data were statistically analyzed with completely randomized design (CRD) in a factorial arrangement. Dried flower samples were given scores on 10 point scale with reference to ornamental values comparable to fresh samples on the basis of colour, shape and texture and appearance, mechanical damage and overall quality of flower. Eighteenth judges were employed from various group of society for assessment of quality of dried flowers. Based on cumulative score, ranks were given and the best treatment combinations were worked out. Among different method of dehydration, the loss of fresh flower weight was highest at 100% microwave frequency, fine silica gel embedding media and 3.0-minute microwave duration in microwave drier and at 50^0 C temperature, 72 hours duration and in sea sore sand embedding media in cabinet oven drier. Effect of drying on quality of flowers and flower size was recorded and most acceptable quality of dried flowers and least reduction flower size were observed at 20% microwave frequency, and 1.0 minute microwave duration in microwave oven drier. In cabinet oven drier most acceptable dried flowerer was at 45^0 C temperature, 24 hours drying duration and in sea sore sand. Coarse embedding media were processed most acceptable quality of dried flowers in microwave oven where as sea sore sand exhibited in cabinet oven drier. Among the interactions, maximum weight loss was recorded at 100% microwave frequency x 3.0 minute duration x fine silica gel whereas least reduction of flower size at 20% microwave frequency x 1.0 microwave duration x boric powder embedding media in cabinet oven drier.

KEYWORDS: Drying Methods for Pot Marigold Flowers, Sea Sore Sand Embedding, Coarse Embedding Media