The Growth Response of Potted Talisman Rose Plants as Related to Desiccation

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The nursery business today is handling landscape plants in pots or cans to extend the planting season and reduce transplanting losses. Recently, many firms have had difficulty in handling dormant roses in this manner since a large percentage of such plants remain dormant. Mishandling of the plants prior to potting is one of several possible reasons for this behavior. A large midwestern nursery* furnished seventy plants for use in studying this problem.

All plants were received March 12 in excellent condition, divided into lots of ten each, and repackaged in moist sphagnum moss with a three-ply nursery wrap paper. Each lot was placed with the roots in water for one hour prior to potting. All were planted in an average potting -soil-mix in Cloversst tar paper pots after treatment.

The treatments are shown in the following table which presents the growth response of these potted roses placed under 50% shade in a lath house. The response is expressed as the percentage of plants growing (from three or more buds) on the dates and under the conditions indicated.

As shown in the table, three lots of plants (C,B,&E) reached peak growth response by June 1 and all lots by July 1. All three lots (E,F,&G) having the dried-root treatment responded poorly (10 to 30%). Group A plants (potted immediately) which might have been expected to respond rather well, were damaged by the low temperature the first night (17°F). High temperature and low humidity contributed to a drop from the peak response in four lots (B,C,G&F).

The two lots (B & C) of packaged plants conditioned at room temperatures for three days responded best, reaching peaks of 70% and 80% respectively, which agrees closely with a parallel experiment at Iowa State University. The only difference was that their potted plants were grown under greenhouse, not lathhouse, conditions. A good response was obtained from that group of plants (A) potted immediately, as the plants were not subjected to the cold damage experienced in the Oklahoma test.

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* Mount Arbor Nurseries — Shenandoah, Iowa

GROWTH RESPONSE

	Received	Potted	April 1	May 1	June 1	July 1***	Aug. 1	Sept. 1
GROUP C	Mar 12	Mar 15	30.0%	50.0%	80.0%	80.0%	80.0%	70.0%
Package top removed		69-50*	87-27	93-37	98-52	104-57		
placed in *potting room*		44-27**	69-16	74-16	97-22	96-42		
for three days								
GROUP B	Mar 12	Mar 15	20.0%	50.0%	70.0%	60.0%	60.0%	60.0%
Package unopened, placed		69-50	87-27	temp. same as above				
in potting room for		44-27	69-16	humid. same as above				
three days								
GROUP D	Mar 12	Mar 19	0.0%	0.0%	50.0%	60.0%	60.0%	60.0%
Package top removed		35±2	87-35	temp. same as above				
placed in *cold storage*		45±2	69-16	humid. same as above				
(35°) for a week								
GROUP G	Mar 12	Mar 15	0.0%	0.0%	10.0%	40.0%	40.0%	30.0%
Package completely		69-50	87-27	temp. same as above				
opened & roots exposed		44-27	69-16	humid. same as above				
left to dry *three days*								
in potting room								
GROUP A	Mar 12	Mar 12	0.0%	0.0%	20.0%	30.0%	30.0%	30.0%
Package opened and		49-17	87-25	temp. same as above				
plants potted		——	69-16	humid. same as above				
immediately								
GROUP E	Mar 12	Mar 13	0.0%	0.0%	20.0%	20.0%	20.0%	20.0%
Dried *1 day* as in G		69-58	87-25	temp. same as above				
		36-27	69-16	humid. same as above				
GROUP F	Mar 12	Mar 14	0.0%	0.0%	10.0%	20.0%	20.0%	10.0%
Dried *2 days* as in G		69-58	87-25	temp. same as above				
		42-27	69-16	humid. same as above				

*Maximum-Minimum Temperature (Degrees Fahr. for the Period from the Preceding Date)

**Maximum-Minimum Relative Humidity

***The Friez Recording Hygro-Thermograph was transferred to another experiment at this time.