POINSETTIA EVALUATION AT VOLCANO

In an attempt to find alternative crops for the farmers in the Volcano area of the Big Island, a poinsettia cultivar trial was conducted at the Volcano Agricultural Experiment Station in 1977 to determine whether certain cultivars are adaptable to this area.

Rooted terminal cuttings of selected cultivars were donated by Paul Ecke Poinsettias (received on August 10, 1977 and planted on August 11) and Mikkelsens, Inc., (received on August 15 and planted on August 16). A 2:1:1 potting mix (fumigated Volcano soil, peat and perlite) was used. Osmocote (14–14–14) at 5 oz./cu. ft.,

Table 1. Poinsettia cultivar trial, Volcano Research Station, 1977.

Variety	Date		Flower diameter (in.)		Height (in.)	Rating (1 to 4)
	Pollen appearance[1]	Salability[2]	Max.	Min.		
Reds			**Pinched crop**			
Annette Hegg™ Dark Red	12/5	12/15	6.5	5.8	8.1	2.0
Annette Hegg™ Diva Red	12/5	12/15	5.9	5.2	6.5	1.9
Annette Hegg™ Red	12/14	12/21	6.0	5.8	6.5	2.0
Gutbier™ V-10	12/5	12/15	7.5	6.2	7.1	3.0
Mikkel® Imp. Rochford	12/28	1/6	5.4	5.0	7.4	1.8
Mikkel® Super Rochford	12/5	12/15	6.5	6.0	7.1	1.8
Mikkel® Heritage	12/14	12/21	6.0	5.8	7.5	2.9
Wonder Star	12/28	1/6	5.5	5.2	7.0	1.8
Mikkel® Scandia	12/28	1/6	6.1	5.8	7.2	2.0
Mikkel® Triumph	12/28	1/6	5.8	5.2	6.8	1.5
Pinks						
Annette Hegg™ Hot Pink	12/14	12/21	6.4	6.0	7.4	3.0
Mikkel® Imperial	12/14	12/21	5.9	5.4	6.9	2.4
Mikkel® Fantastic	12/28	1/6	4.8	4.4	7.5	1.9
Mikkel® Pink Rochford	12/28	1/6	5.2	4.5	8.2	2.8
Whites						
Annette Hegg™ White	12/5	12/21	6.6	6.5	7.6	3.1
Mikkel® White Rochford	12/28	1/3	6.1	5.6	7.4	2.9
Reds			**Unpinched crop**			
Annette Hegg™ Dark Red	12/1	12/8	10.0	9.5	14.0	3.0
Annette Hegg™ Diva Red	12/1	12/8	8.0	7.5	11.0	2.0
Annette Hegg™ Red	12/8	12/15	8.0	7.0	9.5	1.5
Gutbier™ V-10	12/1	12/8	10.5	10.0	10.0	3.5
Mikkel® Imp. Rochford	12/15	12/21	9.0	8.5	13.5	2.5
Mikkel® Super Rochford	12/1	12/8	9.5	9.0	12.5	3.0
Mikkel® Heritage	12/8	12/5	7.0	6.5	12.0	2.5
Mikkel® Scandia	12/21	1/28	7.5	6.5	9.0	2.5
Mikkel® Triumph	12/14	12/21	7.5	7.0	11.0	2.0
Pinks						
Annette Hegg™ Hot Pink	12/8	12/15	9.5	9.0	13.0	3.5
Mikkel® Imperial	12/8	12/15	6.5	6.0	7.0	2.5
Mikkel® Fantastic	12/19	12/28	7.0	6.5	11.0	2.5
Mikkel® Pink Rochford	12/19	12/28	8.0	6.5	10.5	3.0
Whites						
Annette Hegg™ White	11/28	12/5	9.5	9.0	12.0	3.5
Mikkel® White Rochford	12/19	12/28	8.0	7.5	9.0	3.0

[1] On the first primary cyathia that bloomed in each pot.

[2] When 50% of the pots were judged ready to be marketed at the retail level.

superphosphate at 3 oz./cu. ft. and hydrated lime at 6 oz./cu. ft. of mix was used as a nutrient source. In addition, Foliar 63 (21–21–21) at ½ lb./100 gal. was given as a spray twice a week for the first two weeks after planting. There were 15 cultivars in all, each with 10 cuttings. Two cuttings were planted per 6" plastic pot to make 5 pots per cultivar. Three pots of each cultivar were pinched on August 24, 1977. The other 2 pots were left to bloom unpinched. In the pinched treatment 4 side shoots were left to develop, while the other shoots were removed.

The plants were grown in a fiberglass house with *open* sides and irrigated daily for 5 minutes with the Chapin spaghetti system. Data taken were: 1) date of pollen appearance, 2) salability date, 3) flower diameter (maximum and minimum), and 4) plant height during full bloom. In addition, an overall rating from 1 to 4 on the general appearance of the potted plant was given. A rating of 4 = excellent, 3 = good, 2 = fair and 1 = poor.

The results of the trial are shown in Table 1. Unpinched treatment showed better results with larger blooms, taller plants and earlier maturing dates than the pinched treatment. For the unpinched treatment, Gutbier™ V-10 showed best results with both Mikkel® Super Rochford and Annette Hegg™ Dark Red, a close second in the reds. Annette Hegg™ Hot Pink was best in the pinks with Mikkel® Pink Rochford second. Annette Hegg™ White and Mikkel® White Rochford were best in that order for the whites.

In the pinched treatment, Gutbier™ V-10 was again best for the reds followed by Mikkel® Heritage. In the pinks, Annette Hegg™ Hot Pink was best followed by Mikkel® Pink Rochford. For the whites, Annette Hegg™ White was followed by Mikkel® White Rochford.

In general, the plants grown at Volcano Experiment Station did not produce as good a quality poinsettias as the areas tested previously (e.g. Manoa, Kula and Hilo). Obviously, some adjustments need to be made in the fertilization program, watering and especially in raising the night temperature. A simple solution to elevate night temperature may be to enclose the greenhouse sides with polyethylene plastic sheets and to construct them so the house can be closed during nights and opened during extreme sunny, hot days. Many of the cultivars, especially those from Mikkelsens, Inc. (received August 15 compared to August 10 for Eckes) matured very late for the Xmas market. This may be an indication that the cutting should be planted earlier (not

later than August 10) for the Volcano area. This is important if the poinsettias are to be pinched.

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