

Results of the 1995 Poinsettia Cultivar Trial

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In the fall of 1995 we tested 42 cultivars of poinsettia at the University of Connecticut. Rooted cuttings were donated by Ball Seed, Fischer and Oglevee in August and grown as a six-inch single plant pinched crop. The cultivars in our trials represented both new commercial offerings and many of the old standards from Ecke, Fischer, Ball and Oglevee. A few unnamed (unreleased cultivars that are still under development) were also grown. Each cultivar was grown in four replicated blocks distributed throughout the greenhouse.

Notes were made periodically during crop development to record such information as the branching response following a pinch, the need for chemical height control, the timing of bract color development, plant growth habit, bract orientation and general plant appearance. The mature crop was evaluated by commercial growers at an open house on December 6 and by the general public at a consumer evaluation on December 7, 1995. Following the consumer evaluation, bract and leaf color were measured using a Minolta tristimulus colorimeter. Finally, four plants of each cultivar were held in the greenhouse until mid-January and then evaluated for percent incidence of bract necrosis.

The following article is based on the consumer evaluation with some notes on crop culture recorded during the production process. The bract necrosis and Minolta color data will be discussed in future articles. Table 1 contains notes about each of the red-colored cultivars in the trial. Table 2 contains notes about each of the nonred-colored cultivars in the trial.

We divided the red-colored cultivars into two general categories. Those with a bluish tinge in the bracts are referred to as cooler reds and those with an orange tinge to the bracts are referred to as warmer reds. All of the warmer red cultivars in the trial had medium or light green leaves, while cooler red varieties had either dark green or medium green colored leaves.

Overall the Fischer cultivars showed a very strong branching habit with upright branch orientation. These cultivars appeared to have very little apical dominance, with lateral branches developing even before pinching. The upright branch habit produced a nice uniform, full floral display, and the laterals seemed to be more resistant to breaking when plants were sleeved and unsleeved (compared to cultivars with the more open branching habit like the Hegggs or Monet). The 'Nutcracker' cultivars also produced a strong, upright branching characteristic.

Table 1. Source and Characteristics of Red Poinsettia Cultivars. Descriptions are based on observations during production of the Christmas crop at the University of Connecticut. Branch response is based on lateral shoot number, length and uniformity three weeks after pinching.

Source and Cultivar Name	Bract and Leaf Color and Other Notes
Ecke Eckespoint 'Celebrate 2 Red'	Light colored "cool" red bracts with mid-green leaves. Flower response: medium (8 1/2 weeks). Upright, smooth bracts. Cyathia in tight bunch. Moderate branching three weeks after pinch. Branches uniform with open branching habit. No plant growth regulator (PGR) used.
Ecke Eckespoint 'Freedom Red'	Dark, "cool" red bracts with dark green leaves. Response time: early (8 weeks). Cyathia small. Moderate-high branching after pinch. Branches uniform with upright habit. No plant growth regulator (PGR) used.
Ecke Eckespoint 'Red Sails'	Vivid "cool" red bracts with dark green leaves. Response time: late (9 weeks). Bracts smooth, oak-leaf shaped transition bracts. Cyathia in slightly open bunch. Moderate branch response to pinch. Tendency for stronger breaks near pinch, mostly upright habit. Some PGR used.
Ecke Eckespoint 'Red Success'	Most vivid of the "warm" red cultivars, with medium green leaves. Response time: very late (9 1/2 weeks). Branches strong and uniform with upright habit. PGR needed.
Ecke Gross 'Supjibi'	Bright "warm" red bracts, medium green leaves. Response time: mid-early. Cyathia in large bunch. Bracts smooth with horizontal orientation. Low branch response after pinch. Breaks mostly uniform but tendency toward stronger branching near pinch, mostly upright branch orientation. Some PGR.

Ecke Eckespoint 'Lilo Red'	One the of darkest "cool" red cultivars with dark green leaves. Response time: mid-early. Bracts smooth, drooping; blackish transition bracts prominent in color display. Cyathia small. Low branch response after pinch, upper laterals dominant. Open branching habit. No PGR.
Ecke 'Annette Hegg Dark Red'	Dark, "cool" red with medium green leaves. Late response time. Cyathia prominent, open. Bracts smooth, open habit and drooping. Moderate branch response to pinch. Breaks uniform, with open habit. PGR used.
Fischer Pelfi 'Cortez'	Dark "cool" red bract with dark green leaves. Response time: mid-early. Cyathia in medium sized bunch. Bracts oak-leaf shaped, smooth and horizontal orientation. High to very high branch response to pinch. Breaks strong, uniform and mostly upright. No PGR used.
Fischer Pelfi 'Sonora'	Bright, deep "cool" red bracts, with dark green leaves. Response: late. Small to medium cyathia, slightly loose bunch. Bracts "old fashioned" oak-leaf appearance, smooth and horizontal orientation. Very high branching after pinch. Breaks uniform with upright habit. No PGR used.
Fischer Pelfi 'Bonita'	Dark "warm" red bracts with medium green leaves. Response: early. Cyathia in tight bunch. Bract textured with upright orientation. High to very high branch response to pinch. Breaks very uniform with upright habit. No PGR used.
Fischer Pelfi 'Picacho'	Deep "warm" red with medium to dark green leaves. Response time: early to very early. Cyathia in tight bunch. Bracts upright and with a savoy texture that makes color appear dark. Very high branch response to pinching. Breaks very strong, very uniform, upright. PGR used.
Fischer Pelfi '811'	Dark "cool" red bracts with medium green leaves. Medium response time. Horizontal bract orientation, bracts smooth and velvety. High to very high branching following pinch. Breaks strong and mostly upright. No PGR used.
Fischer Pelfi '812'	Very dark "cool" red bracts with medium green leaves. Medium-late response time. Cyathia in a large bunch. Bracts upright. Very high break response to pinch. Branches uniform with upright orientation. PGR used.

Fischer Pelfi 'Silverstar'	Bright cherry red (warm) bracts with very light green and white variegated leaves. Response time: mid-early. Cyathia in a small bunch. Early-mid flowering. Bracts smooth with horizontal orientation. High branch response to pinch. Branches uniform and mostly upright. No PGR used.
Oglevee BrightPoints 'Dynasty Red'	Deep "cool" red bracts with dark green leaves. Early flowering. Cyathia small, few in number. Bract orientation mostly upright, bracts smooth. High branch response to pinching. Breaks mostly uniform, mostly upright. No PGR used.
Oglevee BrightPoints 'Nutcracker Red'	Bright "warm" red bracts with medium green leaves. Response: early. Cyathia in tight bunch. Bracts slightly textured and horizontal to upright. Medium to high branch response to pinch. Strongest breaks nearest pinch on some plants,
Ball FloraPlant 'Red Splendor'	Darkest "cool" red bracts, prominent dark transition bracts, and the darkest green leaves in the trial. Response: late to very late. Cyathia in tight bunch. Bracts upright with some texture. Moderate to high branching after pinch, but breaks strongest near pinch. No PGR used.
Ball FloraPlant 'Red Elegance'	Dark "cool" red bracts with dark green leaves. Response: mid-late. Cyathia in large bunch. Bracts small, smooth texture, with horizontal orientation. High branch response to pinch. Breaks uniform and upright. PGR used.
Ball FloraPlant 'Peace Jolly Red'	Dark "cool" red bracts with dark green leaves. Transition bracts with dark edge that produces a vivid contrast with deep red centers. Response: late to very-late. Cyathia inconspicuous. Bracts smooth and upright. High branch response to pinch. Breaks uniform and mostly upright. No PGR

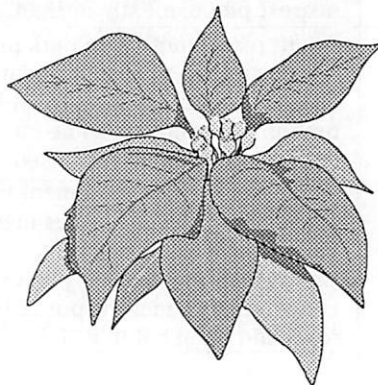


Table 2: Source and Characteristics of Nonred Poinsettia Cultivars. Descriptions are based on observations during production of the Christmas crop at the University of Connecticut. Branch response is based on lateral shoot number, length and uniformity three weeks after pinching.

Source and Cultivar Name	Bract and Leaf Color and Other Notes
Ecke Eckespoint 'Pink Peppermint'	Light creamy pink bracts with darker pink blotches and medium green leaves. Response: late (9 weeks). Cyathia in small bunch. Bracts smooth with horizontal orientation. Moderate to high branch response to pinch. Breaks uniform, with open growth habit. Some PGR used.
Ecke Eckespoint 'Freedom White'	Bracts have grayish-white appearance with dark veins in transition bracts; dark green leaves. Response time: early (8 weeks). Cyathia in medium-sized bunch. Low to moderate branch response to pinch. Breaks uniform, with upright habit. No PGR used.
Ecke Eckespoint 'Freedom Pink'	Hot pink centers with greenish edges on bracts and transition bracts, with very dark green leaves. Response time: early. Cyathia small, few in number. Bracts textured, initially upright. Moderate branching after pinch. Breaks uniform and upright. No PGR used.
Ecke Eckespoint 'Freedom Jingle Bells'	Jingle bells type with pink base color and bright red above, leaves dark green. Response time: early. Tendency to get some all-pink bracts and even shoots. Cyathia in a large bunch. Bracts show some texture and a horizontal orientation. Low branch response three weeks after pinch. Breaks uniform and mostly upright. No PGR used.
Ecke Eckespoint 'Freedom Marble'	Narrow, light pink centers on greenish white bracts, leaves very dark green. Response time: early. Cyathia small and few. Moderate branching following pinch. Breaks uniform, some stronger nearest pinch, mostly upright. No PGR used.
Ecke 'Annette Hegg Hot Pink'	Bright pink bracts with dark pink veins and medium green leaves. Response: late. Cyathia large with open habit. Bracts smooth and drooping. Moderate branching response, some stronger nearest pinch. Open growth habit. PGR used.
Ecke 'Annette Hegg TopWhite'	White bracts with prominent transition bracts showing dark veins, leaves medium green. Response: late. Cyathia large and very open habit. Bracts smooth, drooping in a very open inflorescence. High branch response to pinch. Breaks uniform and open habit. PGR used.

Ecke Gutbier 'V-17 Angelika White'	Creamy white bracts with medium green leaves. Response: late. Cyathia large, slightly open bunch. Bracts smooth and slightly upright. Moderate to high branch response to pinch. Breaks uniform, mostly upright growth habit. PGR used.
Ecke Gutbier 'V-17 Angelika Marble'	Bracts have light pink centers and greenish white edges, leaves medium green. Response time: late. Cyathia in large bunch. Bracts some texture with horizontal orientation. Moderate to high branch response after pinch. Breaks uniform, semiopen habit. PGR used.
Ecke Eckespoint 'Monet'	Bracts have cream colored base with spray of hot pink on top, leaves medium green. Response time: very late (9 1/2 weeks). Cyathia in tight, small bunch. Bracts smooth with horizontal orientation, pink spray becomes more intense with increased maturity in the greenhouse. High branch response to pinch. Breaks uniform with open habit. PGR used.
Ecke Gutbier 'V-14 Pink'	Bright pink bracts with dark pink veins and medium green leaves. Response time: very late. Cyathia in tight bunch. Oak-leaf bracts are smooth and upright initially. Low to moderate branching after pinch. Branches uniform, with open spreading habit. No PGR used.
Ecke Gutbier 'V-14 White'	Creamy white bracts with medium green leaves. Response time: very late. Cyathia in small, tight bunch. Bracts smooth, horizontal orientation. High branching response to pinch. Branches uniform with open habit. PGR used.
Ecke Eckespoint 'Celebrate White'	Cream to greenish-white bracts with medium green leaves. Response time: medium (8 1/2 weeks). Cyathia small in tight bunch. Bracts smooth and upright. Low to moderate branching after pinch. Branches uniform, upright. No PGR used.
Fischer Pelfi 'Puebla'	Rich deep pink centers with cream colored edges on bracts, leaves are medium green. Response time: early. Cyathia in tight bunch. Bracts textured and upright. Very high branch response after pinch. Branches uniform and mostly upright. PGR used.
Fischer Pelfi 'Dark Puebla'	Deep pink centers cover 3/4 of bracts with edges a yellowish white, leaves medium green. Response time: very late. Cyathia in tight bunch. Bracts upright to horizontal. High to very high branch response to pinch. Breaks uniform, mostly upright growth habit. PGR used.

Fischer 'Marblestar'	Bright deep pink centers with narrow white edge, medium-dark green leaves. Early-mid flowering. Cyathia in tight bunch. Bracts textured, horizontal. Leaves have tendency to "cripple" or develop chlorotic patches if stressed. Moderate branching response to pinch. Breaks mostly uniform and mostly upright. No PGR used.
Fischer 'Nobelstar'	Deep coral colored bracts with medium green leaves. Response time: early. Cyathia large, in tight bunch. Bracts slightly textured with horizontal orientation. High to very high branching after pinch. Breaks very strong and uniform, upright. PGR used.
Fischer 'Maren'	Light coral or salmon colored bracts, with medium green leaves. Response time: early. Cyathia in tight bunch. Bracts upright and textured. High branching response to pinch. Branches uniform, strongly upright. PGR used.
Fischer Pelfi 'Flirt'	Light pink bracts with medium green leaves. Response time: med.-late. Cyathia in large, slightly-open bunch. Bracts mostly smooth and upright. High branching response to pinch. Breaks are uniform, strong, upright. PGR used.
Fischer '814'	Jingle bells-type bracts with a striking contrast between the pink background and bright red markings above, medium green leaves. Early response time. Cyathia in tight bunch. Bracts textured and upright. Very high branching response to pinch. Very uniform and very upright. PGR used.
Oglevee BrightPoints 'Nutcracker Pink'	Light, bright pink bracts with medium green leaves. Response time: early. Cyathia in tight bunch. Bracts upright with slight texture. High branching response to pinch. Breaks uniform, upright. PGR used.
Oglevee BrightPoints 'Nutcracker White'	Creamy white bracts with medium green leaves. Response time: early. Cyathia in large bunch. Bracts mostly smooth and horizontal. High branch response to pinch. Breaks uniform and mostly upright. PGR used.
University of Connecticut 'Sleigh Bells'	Jingle bells-type bracts that have a creamy white base and mottled brick red color above, leaves are medium green. Response time: mid-late. Cyathia in medium sized bunch. Bracts smooth, horizontal to drooping orientation. High branch response to pinch. Breaks uniform, with open growth habit. PGR used.

For the consumer evaluation, poinsettia cultivars were displayed at an indoor facility on campus. Three plants of each cultivar were placed in a cluster on the floor, with a three-foot-high beige marble wall as a backdrop. Red cultivars were alternated with nonred cultivars in a random sequence. Consumers were asked to rate each cultivar for overall personal appeal and to provide a comment if a cultivar was rated either very high or very low. During the day-long evaluation, 156 people responded; approximately 54% were women and 46% were men. Summaries of the evaluation results are listed below in Tables 3 and 4 (results for red and nonred cultivars respectively).

Both men and women showed a preference for red cultivars over nonred cultivars. However, the preference for red appeared to be stronger for men than for women. Of the ten cultivars rated highest by men, nine were red ('Annette Hegg TopWhite' was rated 10th best by men). In comparison, women selected 'Nutcracker White', 'AH TopWhite' and 'V-17 Marble' in the top 10, with 'Nutcracker White' the highest at number seven. Men rated thirteen nonred cultivars below the lowest rated red cultivar, while women rated only five nonred cultivars below the lowest rated red cultivar.

Of the red cultivars 'Nutcracker Red' was rated best by both men and women, slightly ahead of 'Red Success'. Overall, 55% of respondents rated 'Nutcracker Red' as excellent and only 1% rated it poor. For 'Red Success', 53% of respondents rated it excellent and only 4% rated it poor. Among women, 68% rated 'Nutcracker Red' excellent and 62% rated 'Red Success' excellent. For men, 42% rated 'Nutcracker Red' excellent and 43% rated 'Red Success' excellent. Of the 19 red cultivars evaluated, only six received negatives ratings (a rating of 1, 2 or 3) of 10% or higher. In contrast, all of the nonred cultivars or colors received negative ratings of 10% or higher.

Of the nonred cultivars, 'Annette Hegg TopWhite', 'Nutcracker White' and 'V-17 Marble' were rated highest with 48, 47 and 48% excellent ratings respectively. 'Pink Peppermint' and 'Nutcracker Pink' were the highest rated pink cultivars with 34 and 25% excellent ratings, and 19 and 13% poor ratings respectively. Twelve of the twenty three nonred cultivars received poor ratings in excess of 20%, but only five cultivars received an excellent rating of less than 20%.

In general, 15 to 30% of the evaluators commented on any particular cultivar. Positive comments included words like "Christmasy" and "traditional" to describe a cultivar. Cultivars

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Table 3. 1995 Poinsettia Consumer Evaluation of Red Colored Cultivars. Consumers were asked to evaluate each cultivar for overall personal appeal on a 10 to 1 scale (10 best, 1 worst). The table contains the average rating and the percent of respondents rating a cultivar as excellent (a score of 8, 9 or 10) or poor (a score of 1, 2 or 3). The overall response and the average response of men and women is given for each cultivar.

Cultivar Name	Rating (10 best, 1 worst)			Percent of Respondents Rating Excellent (<7)			Percent of Respondents Rating Poor (>4)		
	Overall	Female	Male	Overall	Female	Male	Overall	Female	Male
	Nutracker Red	7.6	8.0	7.2	55	68	42	1	1
Red Success	7.5	7.8	7.1	53	62	43	4	4	4
812	7.3	7.6	7.0	53	58	47	5	4	7
Red Sails	7.1	7.3	6.7	45	50	39	7	5	10
Dynasty Red	7.1	7.4	6.7	43	54	32	6	6	7
Bonita	7.1	7.4	6.7	47	56	38	6	5	7
811	6.9	7.0	6.9	36	39	32	3	2	3
Red Elegance	6.8	6.7	6.8	39	42	38	6	8	4
Peace Jolly Red	6.7	7.1	6.3	38	48	26	7	6	8
Cortez	6.7	6.7	6.6	35	36	33	6	6	6
Sonora	6.6	6.3	6.9	39	31	49	15	18	11

AH Dark Red	6.3	6.6	6.1	28	36	19	9	10	8
Lilo	6.2	6.0	6.5	25	21	29	8	8	6
Freedom Red	6.1	6.3	5.9	25	30	19	10	8	10
Celebrate 2	6.1	6.1	6.1	27	31	24	10	10	10
Supjibi	6.0	6.2	5.9	18	21	15	5	4	6
Red splendor	6.0	6.0	6.0	29	30	29	19	20	18
Silverstar	5.7	5.8	5.7	19	19	19	17	17	17
Picacho	5.5	5.4	5.6	15	13	17	20	21	19

Table 4. 1995 Poinsettia Consumer Evaluation of Nonred Colored Cultivars. Consumers were asked to evaluate each cultivar for overall personal appeal on a 10 to 1 scale (10 best, 1 worst). The table contains the average rating and the percent of respondents rating a cultivar as excellent (a score of 8, 9 or 10) or poor (a score of 1, 2 or 3). The overall response and the average response of men and women is given for each cultivar.

Cultivar Name	Rating (10 best, 1 worst)			Percent of Respondents Rating Excellent (>7)			Percent of Respondents Rating Poor (<4)		
	Overall	Female	Male	Overall	Female	Male	Overall	Female	Male
AH Top White	6.9	7.0	6.7	48	58	36	10	10	11
Nutcracker White	6.8	7.2	6.4	47	51	43	12	6	18
V-17 Marble	6.7	7.0	6.3	48	50	46	18	15	22
Sleigh Bells	6.3	6.5	6.1	46	50	42	22	20	25
Pink Peppermint	6.1	6.5	5.7	34	42	24	19	18	21
Puebla	6.1	6.1	6.1	32	32	31	15	13	18
Marblestar	6.1	6.4	5.7	32	38	24	15	12	18
Nutcracker Pink	6.0	6.3	5.8	25	31	18	13	14	13
Monet	5.8	6.0	5.6	32	36	26	22	21	24
Nobelstar	5.7	5.6	5.9	20	20	21	13	15	10

V-14 White	5.7	5.8	5.6	29	25	33	23	18	28
Maren	5.7	5.8	5.5	20	26	14	14	13	15
AH Hot Pink	5.6	5.6	5.6	22	24	19	15	17	13
Freedom Pink	5.6	5.6	5.5	22	27	17	23	21	25
Celebrate White	5.6	5.7	5.5	24	20	28	21	18	24
V-17 White	5.5	5.7	5.4	25	26	24	25	21	28
Freedom Jingle Bells	5.5	5.6	5.4	24	31	17	24	25	22
V-14 Pink	5.5	5.5	5.4	18	19	17	18	20	17
Dark Puebla	5.4	5.3	5.5	22	24	19	29	31	26
814	4.7	5.0	4.4	18	23	13	38	39	38
Freedom Marble	4.7	4.5	4.8	17	17	15	39	40	38
Flirt	4.6	4.5	4.6	9	12	6	32	36	26
Freedom White	4.4	4.3	4.4	12	11	14	43	42	46

with oak-leaf-shaped bracts and transition bracts were often called traditional. Positive comments almost always mentioned the color in terms of being true or pure, or possessing a brilliant, luminescent, or rich quality. Contrast between leaf and bract color was often noted, and positive responses were associated with comments about the number of bracts or the fullness of the bract display.

Poor ratings were often associated with comments like sickly or not healthy, a poor or faded color, or a nontraditional or fake quality to the plant. Black or dark transition bracts in the bract display were often mentioned in negative terms. Whites with green or yellow highlights were almost always labeled as sickly and cultivars with horizontal to droopy bract orientation were referred to as unhealthy or wilted. Color combinations in the bracts, such as in the marbles and jingle bell types, drew strong responses and if the combination was not pleasing, the response was negative. The highly savored or textured bracts of 'Picacho' were mentioned in negative terms by 60% of the evaluator's comments. Many of these comments linked the texture with wilting and shriveling. (Personally, I liked 'Picacho' because I thought the texture added an interesting, new quality). 'Silverstar' was another cultivar with an unusual characteristic that drew a strong response. Virtually every comment mentioned the variegated leaves, some in positive terms and some referred to the color as nontraditional and sickly.

