



PENNSYLVANIA FLOWER GROWERS

BULLETIN 278

SECOND ISSUE, 1975

1974 – THE BEST BEDDING PLANT YEAR – – EVER

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Regularly, every year after the completion of the bedding plant sales season, Bedding Plants Incorporated surveys its members. The purpose? None other than to learn what kind of season existed sales wise, price-wise, and problem wise, and, to get some 'handle' on what's ahead for the next season. BPI has been monitoring its members for the last four years of its relatively short existence (chartered five years ago).

Getting It All Together

Last year was a very good bedding plant year with sales the same or better than in '73 by 98 of every 100 entrepreneurs. Nineteen of twenty registered better sales! Prices in 1974 were strong as more than nine of every ten respondents obtained higher prices. No one registered lower prices.

Roughly the overall *net* price increase was 11½ percent per flat and 14.4 percent per pack for *all business volume size groups*. On an absolute basis the increase per flat was 51.9 cents and 11½ cents per pack.

Production intentions for '75 are scheduled for a 13.4 percent *net* increase for all respondents. This increase is on top of consecutive increases of 9% for '73 and 10.2 percent

for 1974. Main items scheduled for production increases are impatiens, vegetable plants, geraniums, marigolds, petunias and begonias.

Sales Soared in Seventy-Four

Sales in 1974 were reported better than last year by 95 percent of respondents. Sales were reported as the 'same' as last year by 3 percent and only 2 percent reported sales as worse in '74 than 1973. So 98 percent reported '74 sales as the same or better than last year. Correspondingly, with previous years' surveys the same or better sales were registered at 93 percent in 1970, 98 percent in '71, 97 percent in '72, and 95 percent in '73 and, now, the little bit of 'decline' in '72 and '73 was turned around with 98 percent in '74. It should be borne in mind, however, that the consecutive 1970 through 1974 surveys are probably not comparable (because of varying representations of BPI people responding), but, nevertheless, favorable sales reports with such consistency over the years certainly shows strength in the market. Vice-versa worse sales increased a trifle from the highest figure of 7 percent in 1970 to 2 percent in '71 to 3 percent in '72 to 5 percent in '73 and then worse sales

declined in '74 again to the lowest point of 2 percent registered in '71.

Prices Strongest Ever

Prices in 1974 were higher for 91 percent of the BPI respondents; prices were the same for the remaining 9 percent. No one reported lower prices in 1974.

Going back to previous years . . . (the 1970 survey did not ask about prices) . . . 1971 . . . 38 percent increased prices; 61 percent held the same; 1 percent dropped their prices. 1972 . . . 46 percent increased prices; 54 percent the same; no price declines reported.

1973 . . . 58 percent higher prices; 41 percent same; 1 percent lower.

1974 . . . 91 percent higher; 9 percent same; none lower.

It is instructive to note the consecutively higher proportion of BPIers with higher prices each year . . . and . . . the *much* larger proportion of persons increasing prices in '74 over '73 (91% vs. 58%). Cost increases of fuel, fertilizer, seed, containers, labor, transportation (you name it!) have decidedly helped push bedding plant prices to higher levels. However, we must not overlook the demand-pull on

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SELECTION AND CULTURE OF FLOWER, FOLIAGE, AND FRUITING PLANTS FOR MASS MARKET SALES

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The primary objective of this project is the selection and restyling of plants for adaptation primarily to mass market sales. Flowering plants should have attractive flowers which will last one or more weeks in the average home and be easily propagated from seed or have a reliable source of rooted cuttings. Foliage plants should be suitable to a wide range of light conditions and tolerant of adverse irrigation practices. Fruiting plants should be ornamental as well as edible. All plants must be adaptable to rapid development in 3, 4 or 5 inch pots, i.e. ready for sale in 10 to 12 weeks from cuttings or in 16 to 20 weeks from seed. Hopefully, these crops will be relatively resistant to insect and disease infestations.

Methods

A wide range of plant material will be screened including flowering, foliage and fruiting plants. New crops will be grown from seed when possible and those which germinate poorly will be set aside for future studies. Those which germinate easily will be grown in a 60° F greenhouse with automatic irrigation and weekly fertilization in a standard soil mixture. Each crop will be treated with one or more chemical growth regulators. Those crops which respond to the retardant, with a reduced growth rate, will be grown in terrariums under three light regimes. Some crops will be grown from cuttings with growth retardants used for restyling them for sale in smaller pots. Schedules will be developed for year-round flowering or growth of foliage plants which appear most suitable for this use.

Results

Flowering Plants

Kalanchoe, Calceolaria, Strepto-

carpus and Impatiens appear most suitable for further study as potential year-round flowering crops for mass-market sales.

Year-round schedules for the following Kalanchoe cultivars are being developed: Exotica, Melody, Morning Sun, Ramona, Redglow, Segantini, Yellow Darling and New Improved Vulcan. All of these cultivars can be grown from seed and require from 16 to 24 weeks to reach flowering size in a 4 inch pot. Kalanchoe are tolerant to a wide range of cultural treatments, are relatively free of insect and disease problems and are long lasting in the average home environment.

Hybrid calceolaria are easily grown from seed and with proper daylength treatment can be flowered anytime of the year without cool temperatures. Year-round controlled daylength schedules are being developed for the cultivar Yellow-with Red Spots. Other cultivars including Glorius formula, Cresendo, Dwarf Tigered and Dwarf Compact Tigrina will be added to the program as time and personnel permit. The calceolaria appears to be very popular in mass-market outlets because of its unusual shaped flowers (like small pocket-books) and bright colors.

The 'Wiesmoor' and 'Nymph' series of streptocarpus show a great deal of promise as a new flowering crop. The 'Wiesmoor' hybrids can be grown from seed to flower in 16 to 20 weeks for spring and summer flowering. We have not been able to maintain year-round flowering yet but believe this will be possible eventually. The 'Nymph' series must be propagated from leaf cuttings. One of our former students is presently developing a business based partially on the sales of started plants of the 'Nymph'

series. The 'Nymph' series offers a striking array of blue to purple flowers which last several weeks in the average home.

We are not the only ones who have been breeding and selecting the New Guinea Impatiens. Iowa State University has introduced their Cyclone Hybrids and USDA their Painted Hybrids. We believe many of our unnamed selections are just as attractive but require no royalty payment. Cuttings are available to Pennsylvania growers in limited numbers at 20¢ each. The impatiens is easily grown from cuttings and is ready for sale in about 4 to 6 weeks. Most growers will want to maintain their own stock plants for propagation material.

Foliage Plants

We have test germinated and grown over 100 species of potential foliage plants. The complete list is available upon request. From these initial tests the following are germinated easily and are relatively fast growing: Aechmea fasciata, Asparagus myriocladus, Asparagus plumosus, Asparagus sprengeri, Cyperus alternifolius, Ficus bengalensis, Ficus elastica (Forma decora), Hypoestes sanguinolenta, Philodendron adamantinum, Philodendron bipinnatifolium, Philodendron pertusum, Philodendron selloum and Schefflera actinophylla. All of these crops were responsive to the chemical growth retardant AREST. These crops are being tested for suitability as terrarium and dish garden plants. A list of seed sources of these plants is available upon request.

Fruiting Plants

Because of the increased interest in home-grown fruits and vegetables
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MASS MARKET PLANTS

(Continued from page 3)

and because of the many apartment and townhouse dwellers who have limited space for gardening, we have begun selecting fruits and vegetables for suitability to container growing.

Six varieties of strawberries were grown from bare-rooted plants and one variety from seed. Albritton, Pocahontas, Sparkle, Ozark Beauty, Earlibelle and Apollo were potted 4 plants per 8½ inch styrofoam basket on March 15. One half of plants were grown at 50-52°F plus long days (incandescent lights 10 p.m. - 2 a.m.) and one half were grown at 62-65°F with natural daylengths.

All varieties that were grown at 62-65°F had some ripe fruit by the first week in May and were saleable at that time. The plants in the 50-52°F greenhouse were approximately 2 to 3 weeks later reaching the same stage of development. Earlibelle plants had the earliest ripening fruit. Pocahontas plants had the greatest number of fruit ripening in a 6 weeks period with an average of 45 per basket. Apollo plants had the largest most uniform fruit. Ozark Beauty produced many mishapen fruit and distorted leaves and will not be used in future trials. Ozark Beauty was the only everbearing variety grown from started plants.

The seed grown, everbearing variety Alexandria was sown January 28, transplanted to 2¼ inch pots March 4, and planted 4 per 8½ basket on April 3. The first fruits were ripe the first week of May and an average of 60 fruit per basket were harvested by the end of August. In future studies, 6 or 7 plants will be planted per bas-

ket, and lower growing temperatures and earlier plant dates will be used.

An extensive study of selecting suitable vegetable crops for container growing was started with the help of Dr. Peter Ferretti, Vegetable Extension Specialist at Penn State.

The crops, cultivars, sowing, selling and harvest dates, pot size and plants per pot are listed in Table 1. All seeds were direct sown into the pots or baskets and thinned by the time of sale to the populations listed. These crops were sold through two local garden centers on June 6, 13 and 20. A care card attached to a label was placed in each pot. Each pot had a top dressing of slow release fertilizer 3 days prior to sale. Out of three plants of each cultivar which were taken to each store, all sold except for the turnips, tampala, squash and pumpkin. Lack of familiarity with the crops may have been the reason for poor sales of turnips and tampala. The squash and pumpkin plants had some mildew and white fly infestations which probably reduced their sales appeal. In one store 22 out of 22 parsley plants were sold, while in the other store none out of 21 parsley plants were sold. We don't know why this happened.

Three pots of each cultivar were kept in the greenhouse to observe growth characteristics and crop maturity (harvest) dates. All of the vining crops except watermelon developed severe mildew infestations and eventually had to be discarded. The cucumbers developed some edible fruit before being discarded. Another major problem with the pumpkin, squash, and canteloupe was their need for insect or hand pollination

which was either lacking or too costly in time to be used.

Some of the lettuce, spinach and mustard bolted about the middle of July as greenhouse temperatures were consistently in the high 80's and low 90's. Earlier planting of these cultivars might have prevented this problem. Many of the crops were harvested over an extended period of time by first thinning, e.g., beets, chard, carrots, kale, onion, radish, spinach and/or removing outer leaves e.g. beets, cabbage, chard, kale, lettuce, mustard and spinach.

Fruits and vegetables sold for continuous growth in containers appear to offer a promising sales area for commercial flower growers. These crops could expand the market season and attract a new group of customers to their business.

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TABLE 1. Container Grown Vegetable Trials 1974.

Crop	Cultivar	Sowing Date	Selling Date	Harvest Date	Pot Size	Plants/Pot
Beets	Ruby Queen	5/2	6/6	6/30	std. 6"	8-10
Bush Beans	Royalty	5/22	6/6	6/22	std. 6"	4
	Scarlet Runner	5/1	6/6	.....	basket	6
	Dwarf Morden	5/10	6/13	7/23	aza. 6"	3
Cabbage	Pioneer	5/8	6/13	7/9	std. 6"	5-7
	Tiny Sweet	5/10	6/20	7/16	std. 6"	5-7
Canteloupe	Minn. Midget	5/15	6/20	Mildew	basket	4
	Lucious	5/19	6/20	Mildew	basket	4
	Hyb PSX 16372	5/8	6/6	Mildew	basket	4
Chard	(Rubarb)	4/22	6/6	from 6/21	std. 6"	12-15
	Lucullus (Swiss)	5/2	6/6	from 7/1	std. 6"	8-10
	Fordhook Giant (Swiss)	5/2	6/6	from 7/1	std. 6"	8-10

TABLE 1. (Continued)

Crop	Cultivar	Sowing Date	Selling Date	Harvest Date	Pot Size	Plants/Pot	
Cucumber	Patio Pix	5/8	6/6	6/22	basket	4	
	Tiny Dill	5/14	6/20	6/20	basket	4	
Eggplant	Classic Hyb.	4/26	6/13	from 7/20	std. 6"	1-3	
	Long Tom	4/22	6/13	from 7/10	std. 6"	1-3	
	Morden Midget	5/10	6/13	from 7/23	std. 6"	1-3	
Garlic	Dixie Colonel	4/10	6/6	7/16	aza. 6"	6-8	
Kale	Dfw. Blue Curled	5/14	6/6	7/13	aza. 6"	20-30	
Lettuce	Buttercrunch	5/2	6/6	7/5	aza. 6"	6-8	
	Midget Cos	5/1	6/6	Bolted	aza. 6"	3-5	
	Oak Leaf	5/28	6/20	7/5	aza. 6"	10-15	
	Ruby	5/22	6/20	7/5	aza. 6"	10-15	
	Salad Bowl	5/22	6/20	7/5	aza. 6"	10-15	
	Slo Bolt	5/10	6/13	Bolted	aza. 6"	3-5	
	Summer Bibb	5/2	6/6	7/5	aza. 6"	4-6	
	Tom Thumb	5/9	6/13	7/5	aza. 6"	3-5	
	Mustard	Greenwave	5/22	6/13	7/15 Bolted	aza. 6"	10-15
		Red	5/10	6/13	from 6/22	std. 6"	4-6
	Okra	Dwf Green Pod	5/9	6/6	from 6/22	std. 6"	4-6
		Evergreen Bunching	4/9	6/6	from 7/5	std. 6"	75
Onion	Fiesta 61	4/26	6/6	from 7/5	std. 6"	6-8	
	Japanese Bunching	4/26	6/6	from 7/5	std. 6"	75	
	Stuttgart	4/9	6/6	from 7/5	std. 6"	8-10	
	Utah Yw. Sweet						
	Spanish	4/9	6/6	from 7/5	std. 6"	6-8	
Parsley	Welsh	4/22	6/6	from 7/5	std. 6"	75	
	Banquet 630	4/26	6/13	from 7/5	aza. 6"	8-12	
	Plain	4/12	6/6	from 6/25	aza. 6"	12-15	
Peppers	Triple Curled	5/15	6/20	from 7/20	aza. 6"	8-12	
	(Sweet) Ace	5/8	6/20	from 7/27	std. 6"	1-2	
	Bell Boy	4/19	6/6	from 7/21	std. 6"	1-2	
	Canape	5/9	6/20	from 7/27	std. 6"	1-2	
	Sweet Banana	4/19	6/6	from 7/21	std. 6"	1-2	
	(Hot) Eastern Rocket	5/15	6/20	from 7/25	std. 6"	1-2	
	Hungarian Yw. Wax	4/22	6/6	from 7/27	std. 6"	1-2	
	Long Red Cayenne	4/22	6/6	from 7/27	std. 6"	1-2	
	Large Red Cherry	4/11	6/6	from 7/25	std. 6"	1-2	
	Pumpkins	Cinderella	4/26	6/6	Mildew	Basket	4
Burpee White		5/9	6/6	from 6/6	aza. 6"	6-8	
Radish	Champion	5/9	6/6	from 6/13	aza. 6"	6-8	
	Cherry Bell	5/9	6/6	from 6/6	aza. 6"	6-8	
	Icicle	5/9	6/6	from 6/13	aza. 6"	6-8	
	Red Prince	5/9	6/6	from 6/6	aza. 6"	6-8	
	Scarlet Knight	5/9	6/6	from 6/6	aza. 6"	6-8	
	New Zealand	4/26	6/6	from 7/10	aza. 6"	8-10	
	Tendergreens	5/28	6/6	7/15 Bolted	aza. 6"	8-10	
	Winter bloomsdale	5/22	6/6	from 7/3	aza. 6"	8-10	
Squash	Dixie	5/16	6/13	Mildew	Basket	4	
	Goldneck	5/16	6/13	Mildew	Basket	4	
	Straightneck	5/1	6/6	Mildew	Basket	4	
	Table King	5/8	6/6	Mildew	Basket	4	
	Zucchini Elite	5/16	6/13	Mildew	Basket	4	
Tampala	.....	5/10	6/6	from 7/10	aza. 6"	8-10
	Patio	5/10	6/20	from 7/10	std. 6"	1	
Tomatoes	Pixie	5/8	6/20	from 7/10	std. 6"	1	
	Presto Hyb.	5/8	6/20	from 7/10	std. 6"	1	
	Saladette	4/22	6/13	from 7/1	std. 6"	1	
	Small Fry	4/22	6/13	from 7/1	std. 6"	1	
	Stakeless	4/11	6/6	from 7/3	std. 6"	1	
	Starfire	5/8	6/20	from 7/10	std. 6"	1	
	Sugar Lump	5/10	6/20	from 7/10	std. 6"	1	
	Turnips	Just Right	5/28	6/13	7/10	std. 6"	6-8
		Presto	5/28	6/13	7/10	std. 6"	6-8
		Shogoin	5/28	6/13	7/10	std. 6"	6-8
	Watermelon	Golden Midget	5/8	6/6	8/15	Basket	4
		Red Lollipop	5/8	6/6	8/18	Basket	4

Support Research at Penn State — Contribute to Dillon Research Fund

BEST BEDDING PLANT YEAR

(Continued from page 1)

the market as an undoubtedly stronger demand and more discretionary dollars have helped to pull prices higher (along with the cost push).

Average Price Increases Higher

Of those reporting price increases in 1974, the average increase was 54 cents per flat and 13 cents per pack. On a percentage basis, the increase was 12 percent for flats and 15 percent for packs, for those reporting price increases. Compared with 1973 the increases are 54 cents in '74 vs. 34 cents in '73 per flat (or 12% vs. 8.7%); and, for packs 12 cents vs. 8.2 cents (15 percent vs. 8.7 percent).

Prices By Business Size

Noteworthy are the average price increases as reported by size of bedding plant business. Generally, higher percentage and absolute price increases are registered for the smaller volume businesses. Said another way, the larger volume businesses, when compared with smaller businesses have generally experienced both a smaller price percentage and dollar amount of increase. This is reflective of more wholesaling by the higher proportion of large volume businesses, and, considerably, more retail price

TABLE 1: AVERAGE 1973 PRICE INCREASES

Gross Sales Volume	per flat		per pack	
	cents	percent	cents	percent
less than \$10,000	38.3(15)	6.6 (3)	10.8(9)	10 (2)
\$10,000 - \$50,000	37.8(36)	9.0 (14)	7.3(24)	9 (13)
\$50,000 - \$100,000	35.9(21)	8.1 (10)	7.6(15)	8 (5)
\$100,000 - \$250,000	24.5(17)	6.3 (2)	8.9(8)	5 (1)
\$250,000 - \$500,000	37 (4)	15. (1)	.....	.....
\$500,000 - \$1,000,000	14.3(3)	.....	10 (1)	.....
more than \$1,000,000	15 (1)	15. (1)	.....	.....
AVERAGES	34 (97)	8.73(33)	8.2(57)	8.65(21)

TABLE 2: AVERAGE 1974 PRICE INCREASES

Gross Sales Volume	per flat		per pack	
	cents	percent	cents	percent
less than \$10,000	74.1(11)	15.0(10)	14.3(14)	17.7(5)
\$10,000 - \$50,000	49 (49)	14 (44)	12.8(30)	14.8(25)
\$50,000 - \$100,000	46.1(24)	13.4(13)	10.5(17)	14.9(7)
\$100,000 - \$250,000	62.2(27)	10.8(8)	10.4(14)	15.0(4)
\$250,000 - \$500,000	34.2(5)	11.6(7)	.....	.....
\$500,000 - \$1,000,000	65 (2)	9.0(3)	9 (2)	12.5(2)
more than \$1,000,000	44.4(3)	5.8(4)	.....	.....
AVERAGES	54 (120)	12 (89)	12 (77)	15 (43)

reflection by the smaller volume retail-growers. Tables 1 and 2 show the average price increases by size of business for 1973 and 1974, then, for example, a BPI'er with sales between \$100,000 and \$250,000 can see in Table 1 that in 1973 his grouping reported a 24½ cents increase (for 17 respondents) and a 6.3 percent price increase (for 2 respondents) per flat. This can be compared with the new 1974 average price increase of 62.2 cents (for 27 respondents) and 10.8

percent (for 8 respondents) per flat. A similar comparison can be made for the price increase per pack, and, also, the comparison of varying increases by other sizes of respondents. Again, reflecting the more numerous BPI'ers (91%) registering a '74 price increase . . . the average '74 price increases were generally higher than '73 increases for all size groups (with the exception of only a few of the largest-sized firms).

TABLE 3: 1975 PRODUCTION INTENTIONS

1974 Sales Volume	Numbers of growers expressing intentions to . . .			Totals
	Increase	Decrease	Hold Same	
Less than \$10,000	18 (56%)	1 (3%)	13 (41%)	32
\$10,000 - \$50,000	65 (62%)	2 (2%)	38 (36%)	105
\$50,000 - \$100,000	26 (65%)	2 (5%)	12 (30%)	40
\$100,000 - \$250,000	26 (67%)	1 (3%)	12 (31%)	39
\$250,000 - \$500,000	9 (69%)	1 (8%)	3 (23%)	13
\$500,000 - \$1,000,000	4 (67%)	.....	2 (33%)	6
More than \$1,000,000	6 (67%)	.....	3 (33%)	9
TOTALS	154 (63%)	7 (3%)	83 (34%)	244

TABLE 4: 1975 AVERAGE PERCENTAGE PRODUCTION INTENTIONS

1974 Sales Volume	Increase	Decrease	Same	NET
	(Number of growers in parens)		(Expressed in no. of growers)	PRODUCTION CHANGE
Less than \$10,000	58% (18)	10% (1)	13	32.3% (32)
\$10,000 - \$50,000	15% (65)	12.5%(2)	38	9.0% (105)
\$50,000 - \$100,000	22% (26)	17.5%(2)	12	13.4% (40)
\$100,000 - \$250,000	16% (26)	25% (1)	12	10.0% (39)
\$250,000 - \$500,000	18% (9)	10% (1)	3	12.4% (13)
\$500,000 - \$1,000,000	11% (4)	.....	2	7.3% (6)
More than \$1,000,000	25% (6)	.....	3	16.7% (9)
TOTALS	21.8%(154)	15.1%(7)	83	13.4% (244)

Price increases can, roughly, be extended to the total survey response by appropriate weighting of 225 firms that increased prices with the 9 firms that held '74 prices at '73 levels. The result is a weighted 'industry' (if BPI respondents fairly represent the bedding plant industry) increase of 11½ percent per flat increase, and, 14.4 percent pack increase. On an absolute basis the increase per flat would be 51.9 cents, and 11½ cent per pack as averages for all size businesses, methods of selling, all locations, markets and other variables affecting price. These averages are inclusive of wide respondent circumstances! Yet the '74 price increase when compared with 1973 increases of 2.8 percent for both flats and packs (and, a pack increase of 2½ cents and flat of 16 cents) does pinpoint the significant cost increases apparent in '74 along with strong demand.