

Pros and Cons on the 1983 CSU Annual Flower Garden

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Seeds for the annual gardens were sown, depending on the species, from late January to early April. As an example, the seed geraniums were sown the last week of January, petunias and snapdragons the second week of March and zinnias and marigolds the first week of April. They were transplanted into cell packs approx. 4 weeks later and placed in the garden on May 28th. The $\frac{3}{4}$ acre garden was planted by a crew of faculty and students in a 2 hour period and topped off with the annual hamburger fry. The 1983 garden was planned and designed by Stephanie Slipke who provided the tender loving care from seed germination time until the end of the summer.

A major problem in having a garden in a public location is the yearly loss of several plants to thieves shortly after they are planted. In 1982 several plants were removed the night following the planting so students set up a watch for the 1983 garden and nothing was removed — until one week later, when the thieves gently took several rows of plants. The following comments regarding the plants in the garden are based on observations throughout the summer with final notes being made on September 19, 1983. It should be noted that the $\frac{3}{4}$ acre demonstration ground was watered with an overhead sprinkler system.

"Marigolds" — The marigold bed in early and midsummer was in excellent condition. The cool, wet weather followed by a week of intense heat probably stressed the plants leading to conditions of disease susceptibility in late summer. They were planted in the same bed that was used in 1982 and the same disease was evident. Following the final evaluation in mid September samples of the dead plants were taken to the plant pathology lab and the 1982 disease problems were verified. The pathogens *Rhizoctonia*, *Fusarium solani*, *F. equiseti* and *F. roseum* were consistently isolated from all specimens. Root rot had developed. One interesting factor was noted — some marigold cultivars are apparently resistant, in different degrees, to the organisms. The plants that apparently have this resistance are 'Gold Galore', 'Inca Gold', 'Starfire Mix', 'Gay Ladies Mix', 'Nell Gwyn', 'Golden Jubilee', 'Viking', 'Scarlet Sophia', 'Merry Mum Deep Orange', 'Inca Orange', 'Pineapple Crush', 'Calando Lemon Yellow', 'Sweet 'n Yellow', 'Royal Canary', 'Sunnyboy', 'Inca Yellow', 'Improved Pumpkin Crush', 'Papaya Crush', 'Doubleloon', 'Suzie Wong', 'Diamond Jubilee', and 'Improved Pineapple Crush'. Three of the cultivars in the trial grounds developed seed heads in the first part of September and did not retain their color, although

the foliage was still very good. 'Little Nel', 'Molly Flanders' and 'Suzie Wong' had this characteristic. The flowering habit of most of the cultivars was relatively good except the variety 'Viking', which flowered down in the foliage after the first flush was developed in the early summer. Foliage color varied from a very dark green to a lighter green, however, there were three cultivars that tended to have chlorotic foliage toward the end of August. They were 'Moonshot', 'Double Eagle', and 'Improved Pineapple Crush'. The 'Buppy White' cultivar had a unique purple color develop in the foliage.

Plans are underway to test the resistance of the various marigold cultivars in the demonstration bed in 1984.

"Zinnias" — The 1983 growing season was also an excellent one for zinnias, the plants did very well until mildew started occurring on the foliage in early September. This report has to do with the resistance some of the plants may have had to mildew. A few cultivars continued to produce flowers and have good foliage through September. Plants with acceptable flower development and foliage include 'State Fair Mix', 'Fantastic Light Pink', 'Border Beauty Rose', 'Shortstuff Red', 'Small Cherry World', 'Cherry Ruffles', 'Border Beauty Scarlet', 'Peter Pan Orange' and 'Peter Pan Flame'.

"Geraniums" — The vegetatively propagated geraniums (*Pelargoniums*) were transplanted into the trial grounds from 4-inch pots. All of the cultivars did extremely well throughout the main part of the summer. They included 'Dolly Varden', 'Sunbelt Hot Pink', 'Sunbelt Salmon', 'Orange Ricard', 'Veronica', 'Sunbelt Scarlet', 'Sincerity' and 'Yours Truly'. These varieties provided exceptional growth and color until the latter part of August when they started receiving too much water from both the lawn and trial grounds sprinkler systems.

This was not a good year for seed geraniums. They were transplanted from 2-inch cell packs and did not develop well and provide good color and foliage development until the latter part of August. The most outstanding seed geraniums in the demonstration grounds this season were 'Sprinter White', 'Ringo Rose', 'Mustang Red', 'Sprinter Deep Red'; and 'Ringo Dolly' had some of the nicest and most interesting foliage. 'Cherry Gold' was also interesting. It had a brilliant fluorescent red/purple colored flower.

"Miscellaneous Plant Materials" — The Celosia 'Apricot Brandy' proved to be the outstanding cultivar once again

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this season. The display of dahlias from seed were excellent including 'Verdi mix' and the cultivar 'Figaro' looked very good. The All American selection 'Kochia' did not do well. It was not uniform in maturity or plant development. The most uniform and well developed ageratum within the trial grounds was 'Velvet Danube'. 'Gazania', 'Ministar', 'Yellow' and 'Sundance Red' did very well. The Vinca cultivar 'Morning Mist' proved to be the most desirable of the seven cultivars in the trial grounds. And, the large flowered mix of Verbena that was an experimental series from Bodger Seed looked very good. The ornamental pepper 'Candlelight' was an excellent bedding plant, it had a good growth habit and excellent range of fruit color, into the red, by the 1st of September. The cultivar 'Holiday Time' did not

do well as a bedding plant. The *Nicotiana* of the 'Domino' series looked relatively good through the latter part of the summer until frost. The one petunia that has potential in this geographical area and readily withstands overhead sprinkling is 'Falcon Rose', a small flowered pink from Sakata.

Some flower beds for the 1984 bedding plant season, will be fumigated or have herbicides applied to evaluate the best methods of maintaining weed-free flower beds. In addition to weed control an experiment has been designed to evaluate the addition of a microorganism to the growing media to enhance the growth of bedding plants in the pack stage and after they have been placed into the flower beds.