



1980: The Year the Fuchsias Were Late
Roy A. Larson

In May Joe Love and I visited several commercial greenhouse ranges in western North Carolina. It was the week after Mother's Day, and the growers had hoped to have sold all their Fuchsia plants the previous week. The percentage of plants that had not been sold varied somewhat from one greenhouse firm to another but the plants remaining all had one thing in common -- they weren't in flower. Most of the growers insisted that their fuchsia crop in 1980 had been handled in the same way as previous fuchsia crops -- same pinch dates, fertilization program, lighting procedure, temperature control. Obviously something had to be different in 1980, or the vegetative fuchsia plants would not have been there for us to see the week after Mother's Day.

Most growers almost take the flowering of fuchsias for granted and have not given much thought to regulation of flowering. Fortunately some researchers have investigated fuchsia flowering and quite a bit of information is known about it. In 1961 Sachs and Bretz at the University of California tested 19 Fuchsia cultivars for daylength response. Sixteen of the 19 cultivars required long days for flower bud initiation, 2 of the cultivars initiated flower buds faster under long days than under short days, while one cultivar was not influenced by daylength. The cultivars that needed long days for flower bud initiation included cultivars that are still popular, such as Swingtime and Dark Eyes. A minimum of 12 hours of daylength was needed, and flowering was increased as the daylength was increased. At least 4 long days were needed. An extended daylength was better than an interrupted dark period. Once flower bud initiation had occurred daylength was no longer important, as flower bud development was not dependent on daylength.

The California workers also studied the effects of temperature on flowering. Flower bud initiation occurred at night temperatures ranging from 50° to 78°F but flower bud development was better at 70° than it was at cooler temperatures. More recent research in Norway has confirmed these results. The temperature effects are shown in Table 1.

Table 1. Effects of temperature on flowering of Fuchsia, cv. Beacon. Results are based on research conducted in Norway in 1979. Data show days till 5 open flowers.

Night temperature	Day temperatures, °F				
	60	65	70	75	80
60	59	54	48	48	49
65	54	49	45	43	41
70	48	44	42	40	40

It is apparent that flowering was delayed at the cooler temperatures.

Fuel costs and efforts to conserve on fuel prompted many growers to use lower night temperatures in 1980 than they did before. They also made no effort to provide optimum daylengths for flower bud initiation. The optimum daylength for flower bud initiation would undoubtedly change as the temperature regime is changed, based on research done on poinsettias and other photoperiodic crops, but precise knowledge of this seems to be lacking at this time.

Light intensity also cannot be ignored. The California scientists did find that flowering was improved as the light intensity was increased. We do not yet have the light intensity data for 1980 to compare with previous years but growers did seem to believe that the winter of 1980 was somewhat darker than previous years. Weather records are usually more unerring than memories, but reduced light intensity in 1980 might have contributed to the problem.

Harry Wilfong of Newton, N. C. did use long days in his fuchsia program in 1980 and he did not have a delay in flowering. He allows approximately 9 weeks from when he starts to light (mum lighting procedure) to Mother's Day. He usually lights for 4 weeks but in 1980 he only lit for 2 weeks. He thought the plants were not as floriferous this year because of the decreased lighting time. His thermostats, located in close proximity to his mums grown in ground beds, were set at 60°, so he guessed his hanging basket fuchsias could have been exposed to night temperatures approaching 65°.

Energy conservation is noble and can be economical but it can be costly if the conservation practices excessively delay a crop, particularly one timed for a specific holiday.

We would like to learn of experiences you might have had with fuchsias in 1980.