



Figure 3. The effect of average daily temperature on the peduncle dry weight on zonal geranium cv 'Veronica'.

Our data suggest that flower quality increases as the average daily temperature which plants are grown under decreases to at least 54°F. Research by Pytlinski and Krug (1989) suggested plant quality was best when day temperatures were less than night temperatures. We feel that this is the case only when the average daily temperatures which the plants are grown under are also low.

The economics of utilizing this information will be grower dependent. Clearly, higher plant qualities are obtained when average daily temperatures are cool. However, the slowing of the development rate may limit application of cool growing temperatures to improve plant quality. These data do suggest that flower development in outdoor beds is probably limited by high average daily temperatures which reduce flower number per inflorescence, inflorescence dry weight and the overall plant appearance of the zonal geranium.

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Literature Cited

Erwin, J.E. 1991. The effect of day and night temperature on zonal geranium flower development. *Minn. Flow. Growers Assoc. Bull.*, 40(2):16-19.

Pytlinski, J. and H. Krug. 1989. Modelling *Pelargonium zonale* response to various day and night temperatures. *Acta Hort.*, 248:75-84.

COOL TEMPERATURES ARE STILL CRITICAL ON REGALS

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Regal geranium flower initiation is delayed by warm temperatures. During the past season we grew regal geranium cv 'Fantasy' under 25 different day/night temperature regimes, under natural light (8 hour photoperiod) or natural light plus 3 hours of red lighting (5 $\mu\text{mol s}^{-1}\text{m}^{-1}$) during the first 3 hours of



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the night. The average date of flowering this spring for each treatment is shown in Table 1.

The results show that:

1) Plants flowered only when the average daily temperatures which plants were grown under was equal to or less than 61°F (< 16°C).

2) Plants which received the red light treatment during the beginning of the night flowered approximately 1 week earlier than those plants which received only an 8 hour photoperiod.

Table 1. The effect of day temperature, night temperature and lighting for the first 3 hours of the night with red light on regal geranium cv 'Fantasy' date of flower.

Night Temperature (C°)	Day Temperature (C°)			
	12	18	24	30
	Natural Light			
12	3/31	3/28	4/18	--
18	4/25	--	--	--
24	--	--	--	--
30	--	--	--	--
	Red Light			
12	3/23	3/24	4/5	
18	4/13	--	--	
24	--	--	--	

Plants which received the red light treatment during the beginning of the night flowered approximately 1 week earlier than those plants which received only 8 hour photoperiod with natural light.

