

## A Revision on Controlled Pollination of Cucumber

Henry M. Munger  
Emerson Hall, Cornell University  
Ithaca, NY 14853

Lower and Edwards (1) in discussing pollination technique for cucumber state that "pistillate flowers are receptive in the morning or up to mid-day on the day they open". This is exactly the statement I made for many years, because in New York State, we have had little success in making cucumber pollinations after noon on the day the pistillate flowers opened. However, my thinking on this point has changed as a result of experience in the tropics and, subsequently, in the greenhouse at Ithaca.

When pollinating cucumbers in the Philippines, I assumed it would be even more important to do the work early in the morning, in view of the higher temperatures. Then, in finding flowers for pollination the next day, it became apparent that there was considerable bee activity in the afternoon, which suggested that pollination might be accomplished later in the day. Following this lead, self-pollinations were made in the late afternoon and many of them proved successful. However, data on the success rate were not taken since there was seldom reason to do pollinations in the afternoon.

Applying this in the greenhouse at Ithaca, we have found afternoon pollinations to be as successful as those made in the morning. More importantly, we have gone one step farther to pollinate pistillate flowers on the day following anthesis and found that they are still receptive. This information has been useful when a closely spaced, pruned plant does not have a staminate flower open on the same day as a pistillate one. On one group of cucumbers in the fall of 1987, we pollinated about half the pistillate flowers on the day they opened and the other half a day after opening. There was essentially no difference in set or in amount of self-pollinated seed per fruit.

I can only guess at the reason for the difference between the field and the greenhouse at Ithaca, and the field in the Philippines versus Ithaca. Perhaps it is related to chilling injury from low night temperatures in the Ithaca field. It would be interesting to know whether researchers pollinating cucumbers in the Southern United States have had experiences similar to ours in the Philippines.

### Literature Cited

1. Lower, R. L. and M. D. Edwards. 1986. Cucumber breeding. In: Breeding Vegetable Crops. AVI Publishing Co. M. J. Bassett, Ed.