

considerable pollen of both self- and close-pollinations must, it would seem, reach the stigmas especially as a result of the activities of insects. If the stigmas are still receptive, the conditions favorable for pollen-tube growth, and the ovules and their eggs still ready for fertilization and responsive to self fertilization some fruit should result.

It would seem that the **B** varieties with shortest cycles, such as Trapp and Pollock, would be most likely to set fruit to pollinations made during the second period of the cycle. The flowers open for the first period late in the afternoon when pollen is not abundant on **A** varieties and the chances for any kind of pollination at this time are greatly reduced. If the pistils remain receptive until the next forenoon self-pollination or cross-pollination with other **B** varieties may be responsible for some or even all of the fruit that may be set at certain times by such varieties.

It would seem that the flowers of the **A** varieties are less liable to remain receptive to pollination until the second opening. In fact the stigmas of such flowers are often disintegrated, blackened, and shrivelled and obviously in no condition to function to any kind of pollination. Such flowers, it would seem, must be properly pollinated during their first opening if they are to yield fruits. The same is true of the **B** varieties for those flowers that open in a long cycle of 48 hours.

Close-pollinations (from flower to flower on same tree) may be of two sorts; (a) between different flowers all of which are shedding pollen, or (b) pollination of first-period flowers from pollen of flowers in the second-period. The latter may be designated as dichogamous close-pollination.

The first mentioned type can occur at all times when flowers are shedding pollen and is presumably quite the same as self-pollinations except when a short-cycle set and a long-cycle set are both shedding pollen together. It is certain that for many varieties these pollinations do not lead to the setting of fruit.

Dichogamous close-pollinations can occur (1) during an overlap of sets and (2) when insects force flowers during the interval when they are closed after the first opening. During normal flower behavior there is, for most varieties thus far studied, very little overlap of sets during the time when pollen is shed. For a large majority of the flowers opening normally there is no chance for close-pollination of first-period flowers. The rule of normal behavior is that while the two sets may overlap slightly there is no pollen shed by flowers of the second opening during the time