

of opening and the interval of being closed, may be called the cycle of dianthesis, the flowering cycle, or merely the cycle. In considering these as represented in Fig. 5 one follows the behavior of the flowers of a set continuously from the time they first open until they close never to open again.

The shortest normal cycles of dianthesis are seen in the **B** varieties that habitually open for the first period late in the afternoon as do the Trapp and the Pollock but the **B** varieties which open earlier in the afternoon, as Eagle Rock, have a cycle that is slightly longer. The **A** varieties which regularly open for the first period latest in the forenoon, as the Waldin, have a somewhat shorter cycle than those like Atlixco and Taylor that start earlier in the day. The chart shows that there are more marked differences between varieties in the hours of the first-period opening than in the hours of the second-period opening. Thus when **A** and **B** varieties are selected and arranged according to the time of first-period opening, based on data collected on the same day or on comparable days, there is, as shown in Fig. 5, a rather graduated series from Trapp to Atlixco and the break between Eagle Rock of the **B** group and Waldin of the **A** group is less than that between the earliest and the latest within each of the groups. But in respect to the hours of the second opening the **A** and the **B** groups are more completely exclusive.

### **IRREGULAR AND ABNORMAL FLOWER BEHAVIOR**

The particular behavior of sets of avocado flowers opening on any one tree as to the precise time of opening, the duration of an opening, the period of overlap and the lapse between sets, and the length of the cycle is affected by weather conditions and particularly by changes in temperature. In extreme cases the entire sequence of normal behavior is thrown entirely out of stride and the action of the flowers becomes very irregular. Various sorts and grades of such behavior are shown diagrammatically in Fig. 6 and in the charts which follow it.

**Single Opening:**—After several days of relatively high and rather uniform range in temperatures a sudden lowering of temperature may cause such short-cycle varieties as Trapp and Pollock to omit the first or female opening of an entire set or of part of a set and then this set of flowers may open the next day for a single opening. Then the flowers may shed no pollen at all, they may shed pollen poorly, or they may sometimes shed pollen freely and quite fully, depending on the weather conditions.