

For the A varieties studied on the day of this record there was a difference of more than an hour in the time when the flowers started to open for the first period. These flowers of Perfecto opened at least $1\frac{1}{2}$ hours earlier than flowers on Waldin, and thus there was some chance for the first-period flowers of the late Waldin to be pollinated from the second-period flowers of earlier varieties as Grande and Perfecto. In general, however, the hours of opening were somewhat similar for all the A varieties, and there was for all of these except Manik a short period of overlap when the set in the first period was closing and the set in the second period was opening.

For the B varieties very noticeable differences appear in the time when the flowers open for the first period. Thus on this day, for Meserve the first opening started early in the afternoon and was completed before the first opening began on Taft's Golden. Also for Trapp and Pollock the period of first opening came late in the afternoon and continued until after dark. For El Oro and Winslow the period of second opening was a relatively short interval. For some of the B varieties there is a slight overlap of sets, but for the ones listed at the bottom of the chart there is actually an interval of several hours after the closing of the set in the second period before the new set starts to open—a feature of the dichogamy which was observed by Nirody(5). All of the B varieties are, however, quite alike during the forenoon in respect to the opening for the second period.

The differences shown in the chart in the relative flower behavior of various varieties are remarkably constant day after day. The bearing which these types of behavior have on pollination will be discussed later.

4. Reciprocations in pollination. Thus any variety of B furnishes pollen at a time suitable for the pollination of any A variety. But some of the B varieties have the period of first opening late in the afternoon after pollen shedding has ceased or has almost ceased by the A varieties, and for these there is a decided limitation in the chances that ANY pollinations can be made during the first period of opening. The relation which this habit of late afternoon opening has to the second opening may now be viewed in a consideration of the cycles of the sets of flowers.

THE NORMAL CYCLES OF DIANTHESIS

The entire time from the first opening to the final closing of a single flower or of a set of flowers, which includes the two periods