

all months of commencement, which reads 4.33 per cent. The average for all breeds, grouping December, January, February, March, and June together, is 0.03 below the average for all months.

The table is rather incomplete to be sufficiently reliable, so the question may be attacked from another angle. In order to obtain an indication of the months of the year during which cows test highest, lactational tests for the chief breeds have been summated and averaged for all months of the year. In other words, this analysis gives the average test for any particular month according to the breed of cow, and irrespective of the month of commencement of test. The results are presented in Graph 11. A glance at this graph suffices to show that the variation in tests for different months is marked. The tests for June and July rank highest in each case, May and August coming next. October is the lowest in each curve with the exception of the Friesians, in which case the lowest point occurs for the month of December. September, October, and November are bound to be low, for the reason that grass feed is then at its best and most abundant. This keeps the quantity of milk-production up with the subsequent loss in test. This point is readily apparent in cases where cows are completing a lactation period in the spring (see August to December curves in Graph 7 of third article of series). The curves of the five breeds vary somewhat in conformation. However, the average figures of the five breeds given at the foot of the graph (No. 11) present the general position very clearly. All cows were not tested the full number of times, which may be either twelve or thirteen, and for this reason equal numbers are not represented for each month. In order to ascertain how this affected the results a number of Friesian records were selected, for each of which the annual test was approximately 3.55 per cent. (this being the average annual test for all Friesians), and for each there were twelve monthly tests. Six were selected for each month of commencement, and thus seventy-two records altogether are presented.

The result is given in Graph 12. The curve for all Friesians is included for purposes of comparison. The figures at the top and bottom of the graph refer respectively to the curves for the "selected Friesians" and for "all Friesians." The selected Friesians give a curve considerably flattened out compared with that for all Friesians. The general trend, however, remains practically the same, and the curve lends itself to the same division which is characteristic of the other.

The grouping of the results into periods is given in Table 18. For the selected Friesians the range of variation over the three groups has been considerably reduced from that for all Friesians, the reduction amounting to 100 per cent. It is very probable that equal reductions in the range of variation would be found in the results of standard data for the other breeds. At the same time it is expected that the trend of the curves as shown in Graph 11 would be confirmed. By adopting for each breed in Graph 11 similar groupings to those of Table 18, one is better able to understand the results given in Tables 15 and 16.

The groupings are not necessarily the same for each breed, and to facilitate this the figures for Graph 11 are given in Table 17. Flush