ONE of the chief problems of the Michigan dairyman has been to supply adequate, palatable green forage during July and August since the rainfall is usually inadequate for much growth during this period. With perennial pasture plants, both the system of management and the species of plant must permit of accumulation of unused palatable forage in May and June for grazing during July and August.

Opinion in the state as to value of rotational grazing as a means of providing more succulent feed for dairy cattle throughout the season in relation to grazing the same acreage continuously has been largely based on observation.

In an experiment previously reported, ewes and lambs were used as grazing animals to test a similar mixture in a similar manner. Whereas there was little difference in the gains made by the sheep under the two systems on an acre basis over the season, in this previous experiment, there were rather wide differences in the gains made on individual plots in the rotation. Difficulties were encountered in determining when the animals were to be moved from one plot to another since differences in forage maturity apparently made for fluctuations in milk flow by the ewes with consequent changes in lamb gains. The present experiment was set up not only to compare the value of the two systems of grazing with dairy cattle, but also to contrast the results with dairy cattle and the previous results secured with ewes and lambs.

EXPERIMENTAL PROCEDURE

Two adjacent 11-acre fields were selected at the W. K. Kellogg farm, one of the branch experiment stations in Michigan. This station is located in Kalamazoo County and the soil type is largely Pox sandy loam. Both fields were fitted in a similar manner, and 400 pounds per acre of 0-20-20 fertilizer applied just previous to seeding. The seedings were made in April 1943 with oats and consisted of a mixture containing 8 pounds of alfalfa, 1.5 pounds of ladino clover, 5 pounds of smooth bromegrass, and 3 pounds of timothy per acre. Excellent stands were secured in both fields. One of the two fields was somewhat more favorably located with respect to slope and moisture. It was designated as the rotation field and fenced into three equal areas of approximately 3.7 acres each. Water was piped and a tank provided in each of the three fields of the rotation as well as in the area to be continuously grazed.

In the spring of 1944, the herd of 26 producing Guernsey cows was split into two lots equal as far as possible with respect to production, stage of lactation,