

survivors weighed 136 lb. less as rising two-year-olds one year later than the rotational animals, in which no mortality occurred. Results, however, were partly influenced by the needs of other experiments.

During the past year a strictly controlled comparison of the two systems of grazing has been possible. The set-stocked "yearlings" were drenched with phenothiazine regularly every three weeks from January. Results were as follows :—

Live-weights

Treatment.	1945.				1946 : March.	Number.	Deaths.
	March.	June.	September.	December.			
Controlled (rotational) ..	lb. 405	lb. 472	lb. 538	lb. 664	lb. 703	28	0
Uncontrolled (set-stocked) ..	279	317	368	532	564	33	1
Difference ..	126	155	170	132	139	..	..

The controlled group were shifted every two to three days until September. During this period they were also given access to autumn-saved pasture for two hours daily (eight weeks) and were fed silage to appetite and hay *ad lib.* in rack. The average consumption of silage was 18½ lb. per head per day for nineteen weeks, and of hay 1¾ lb. per head per day for the same time. From September onward they were employed as "followers" of the milking-herd under a rotational-grazing plan. Drought conditions necessitated feeding of silage (15 lb. per head per herd daily for eight weeks) from mid-February. The uncontrolled group were set-stocked on a "dry stock area" in two paddocks totalling 34 acres for two months in each paddock. Hay only was provided on a rationed basis, and an average consumption of 2¾ lb. per head per day for eighteen weeks was recorded. The fields concerned carried considerable roughage. From October onward one field (18 acres) maintained this group until the end of January, when both areas became available again after harvest.

Of very definite interest is the marked capacity for recovery from the effects of under-nutrition of the set-stocked animals once food-supplies become plentiful in the spring. The animals from this experiment will provide the "well-grown" and "poorly-grown" two-year-olds for 1946 calving in the experiment next described.

Nutrition of Cows: Lifetime Project.—A long-term experiment has been commenced to determine the effect of different levels of nutrition on the lifetime performance of dairy cows. On a subdivided "controlled-grazing" farm the aim is to provide cows with a high, even level of nutrition throughout their productive lives. On a comparable area, farmed on a more extensive "uncontrolled-grazing" system, cows are subject to the marked uneven level of nutrition resulting from seasonal variations in pasture growth. In the first case rotational grazing plus maximum hay and silage provision is employed; in the second "set stocking" of milking-cows in night and day paddocks and of dry stock on dry stock area, plus limited hay, are the methods used. As from the 1946 calving each of the two herds will be drawn in equal numbers from two-year-olds well reared and poorly reared respectively from birth. These will be produced on the two farms concerned and as described above.

During the current season a trial run has been in progress partly to get the two farms into a pasture condition typical of the two systems in practice, and partly to gain experience of the management problems involved in running an experiment of this