

Feeding treatments were similar to those of previous years. The high plane was break grazed on autumn-saved pasture plus silage and hay. The low plane received a restricted ration of hay on a relatively close-grazed pasture yielding little food. Both groups were fed together after calving under *ad lib.* pasture conditions.

Results for the three years are summarized in the following table. Body-weight figures are corrected for gut content and for pregnancy and represent true body-weight changes.

	High Plane.			Low Plane.		
	1945-46.	1946-47.	1947-48.	1945-46.	1946-47.	1947-48.
Number of cows ..	13	18	14	13	18	14
Gain or loss before calving ..	+30	+66	+37	-83	-64	-97
Loss at calving ..	116	111	118	106	95	93
Weight of calf ..	59	57	55	56	52	49
Total milk ..	6,346	6,965	7,142	6,104	5,902	5,949
Total fat ..	330	376	372	304	313	310
Test ..	5.2	5.4	5.2	5.0	5.3	5.2
Days in milk ..	243	292	298	243	286	293

(All weights in pounds.)

The differences of 26 lb., 63 lb., and 62 lb. of fat in three successive years show clearly the importance of wintering dairy cattle well. Field observations indicate that the wintering method used and the condition at calving in the low-plane group are typical of a large proportion of dairy herds in the industry.

Measurement of Intake.—Work on the development of techniques for measuring the intake of pasture by the free-grazing animal has reached the stage of yielding promising results. Preliminary work on stalled animals has been carried to the field. In a trial with three dairy cows free grazing on autumn-saved pasture, estimates of intake of pasture have been made using the following three methods:—

- Estimates based on plucking grass within movable frames to same level as grazed by the cattle.
- Estimates based on total faeces voided and collected with bags, and the digestibility co-efficients of the pasture determined from sheep.
- Estimates based on faeces output determined by the marker technique and on digestibility co-efficients for the pasture determined from sheep.

MEAN INTAKE OF DRY MATTER PER DAY
(Successive five-day periods)

Five-day Periods.			Method.			Dry Matter Digestibility.
			(a)	(b)	(c)	
			lb.	lb.	lb.	Per Cent.
First ..	..	..	8.3	15.8	16.0	..
Second ..	..	..	11.6	14.1	14.4	72.3
Third ..	..	..	13.9	24.3	23.5	79.9
Fourth ..	..	..	16.0	17.9	17.9	73.4
Fifth ..	..	..	19.6	19.9	18.9	73.5
Sixth ..	..	..	21.0	20.8	21.5	76.1
Seventh ..	..	..	22.9	22.6	22.6	77.6
Eighth ..	..	..	24.6	22.2	22.7	76.9