143. Size of Herd in relation to Income and Interest Surplus :

When the price-level of dairy-produce drops materially, the size of the individual farm unit becomes of paramount importance. Small farms and small herds are generally associated with the uneconomic use of labour, and with heavy capital charges on account of buildings and improvements in relation to their gross production capacity. Even when prices are at a high level, such undertakings usually provide a comparatively low living income for the owners, but with falling prices most of them become progressively uneconomic. When tabulated according to the size of herds, the records of the farms under review illustrate this point most strikingly. The details given in Table 24 of the Statistical Appendix show the position on a per-acre basis as follows :—

(1) Butterfat production per acre does not vary materially with variation in size of herd, and therefore gross income per acre as affected by herd size is comparatively stable.
(2) Total working-costs per acre are higher where small herds are milked.
(3) Labour costs per acre are heavier in the case of small herds, because a minimum labour reward is necessary irrespective of the number of cows milked per labour unit.
(4) The resultant per-acre surplus available for payment of interest progressively declines as the size of herds declines.
(5) On farms of comparable butterfat-production capacity per acre, Government capital value tends to be higher in the case of small areas.
(6) Capital value of plant and stock per acre is necessarily higher on farms carrying small herds.

The combination of high working and labour costs and high capitalization places the owners of small herds in a very difficult position even where per-acre production is relatively high. In so far as these records go, and under the conditions prescribed, the result is that herds of fewer than 70 cows do not produce sufficient income to meet all liabilities in full.

144. Income and Costs per Pound of Butterfat according to Size of Herd :

Table 25 of the Statistical Appendix shows the same grouping of herds, and the effects of herd size on income and expenditure expressed on a per-pound-of-butterfat basis. It will be observed that the trend in working and in labour costs, and in the surplus available for the payment of interest, is in the same direction as that shown in the per-acre comparison. This would indicate that the smallest herd group could not meet in full its working-costs and interest on capitalization, unless butterfat rose by approximately 4d. per pound—that is, pay-out would need to be 13·25d. per pound. The position is set out in the following table :—

COST OF BUTTERFAT-PRODUCTION IN RELATION TO HERD SIZE.

Herd-size Range.	Total Working-costs (Pence per Pound of Butterfat).	Labour Costs (Pence per Pound of Butterfat).	Total Costs (Pence per Pound of Butterfat).
Under 31	4·933	4·830	9·763
31– 40	4·705	3·962	8·667
41– 50	4·124	3·566	7·690
51– 60	4·386	3·604	7·990
61– 70	4·113	3·347	7·460
71– 80	3·719	3·128	6·847
81–100	3·634	2·909	6·543
100–Over	3·623	2·656	6·279

145. Incidence of Small Herds :

The position with regard to small herds as disclosed above is very significant in view of the prevalence in New Zealand of small herds. The total number of suppliers to butter, cheese, and dual-plant factories for the year ended 31st March, 1934, was 71,837. An estimate of the distribution of herds according to size and based on the latest official figures shows that nearly 50 per cent. of the herds in the Dominion average no more than four cows per herd. The details are as follows :—

Herd Range.	Percentage of Total Herds represented.	Average Size of Herd.	Percentage of Total Cows in Milk represented.	Percentage of Total Butterfat represented.	Percentage of Total Area devoted to Dairying represented.
1– 9	44·0	4·0	7·2	7·1	7·3
10–19	10·7	14·0	6·1	6·8	6·2
20–34	18·8	26·6	20·7	21·7	20·7
35–49	12·0	41·1	20·4	20·8	20·4
50–74	8·8	60·3	22·0	21·9	21·9
75 and over	5·7	99·3	23·6	21·7	23·5
	100·00 = 75,000 herds.	Average = 24·2	100·00 = 1,816,000	100·00 = 426,699,242 lb.	100·00 = 5,000,000 acres.