

have been adjusted to the same number of days in milk, so as to make the comparison a fair one.

	Number of Cows.	Total Differences. lb.	Percentage Variation.
	30	459·21	4·2
	35	456·37	3·7
	19	194·32	2·4
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All	84	1,109·90	··
Average		±13·21	3·6

Eighty-four cows will be accepted as representative, and, as will be seen, the average variation from the C.O.R. is only 3·6 per cent. This must be considered adequate proof of the accuracy of the association system.

EXAMPLES OF HERD-IMPROVEMENT.

The mass of herd-testing-association returns received by the Dairy Division from year to year supplies a large number of examples of improvement in average herd yield. The four cases quoted in the following table are more or less typical.

Member.	First Season.			Second Season.			Third Season.			Season Increases of Butterfat.		
	Number of Cows.	Average Days.	Average Fat.	Number of Cows.	Average Days.	Average Fat.	Number of Cows.	Average Days.	Average Fat.	Second over First.	Third over Second.	Third over First.
			lb.			lb.			lb.			lb.
A	44	270	256·72	40	280	314·84	41	281	334·25	58·12	19·41	77·53
B	39	206	213·51	42	278	303·99	41	272	319·30	90·48	15·31	105·79
C	47	226	271·30	47	230	314·30	50	276	335·58	43·00	21·28	64·28
D	47	197	198·00	46	220	248·37	44	230	287·96	50·37	39·59	89·96

As will be seen, the most marked improvements are for herds B and D. It will be noticed, however, that, to begin with, the average production in each of these cases was considerably below that of A and C. Obviously in herds A and C there was less room for improvement. When the average herd yield gets around the 300 lb. mark, improvement is slower and more difficult to maintain.

IMPROVEMENT IN ASSOCIATION AVERAGES.

Following are examples of improvement in production of average cow for associations as a whole. The figures cover the first four years' work of two associations.

Association A.

	Cows.	Days.	Butterfat. lb.
First year	430	236	219·93
Second year	297	233	231·13
Third year	618	258	261·45
Fourth year	620	264	286·60

Association B.

	Cows.	Days.	Butterfat. lb.
First year	265	187	177·58
Second year	298	200	190·74
Third year	406	212	215·70
Fourth year	266	214	232·37