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James R. Dunham

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COMPARISON OF AM-PM AND DHI RECORDS

J. R. Dunham

Summary

A comparison was made of the AM-PM production testing program with the traditional DHI program during 13 test periods of 1984 in the KSU Dairy Teaching and Research Center herd. Although there were slight variations in daily milk weights and percentages of fat and protein in milk, rolling herd averages were nearly identical. Individual 305-2X-M.E. milk and fat records also were compared for 107 cows using both testing programs. Differences between testing programs were minimal, as most records varied by less than 1%. Therefore, it was concluded that the AM-PM program is a very accurate production test.

Introduction

The AM-PM production testing program offers several advantages over the regular DHI program. These include: 1) less time and labor in collecting production data, 2) lower cost, 3) less travel for the DHI Supervisor, 4) more herds tested in a given period of time, and 5) production estimates based on an exact 24 hr period. Yet, the AM-PM program has not been widely accepted in the dairy industry even though it is recognized as an official testing program.

Procedure

Beginning in January 1984, the Kansas State University Dairy Teaching and Research Center herd was enrolled in an unofficial AM-PM production testing program (code 3) in addition to the regular DHI program (code 0). The code 3 program was chosen to avoid duplication of official records. The DHI Supervisor collected milk weights and samples from the same cows so that a comparison of the two programs could be made. In the case of the DHI test, evening and morning milk weights and samples were taken and these data were used as the 24 hr production. For the AM-PM test, one milk weight and sample was taken on alternate evening and morning milkings each test day. The evening or morning weight was the same weight corresponding to the DHI test. The AM-PM weights and component tests were adjusted by computer for the 24 hr period.

Results and Discussion

The results of the 13 tests conducted during 1984 are shown in Table 1. Average milk weights and components were quite comparable. Two different test dates, one in May and the other in August, showed a variation in average milk weight of 2.3 lb. These offset each other, since the higher milk weight occurred

under both testing plans. At the end of the 361-day test period, the rolling herd averages were nearly identical.

Table 1. Comparison of AM-PM and DHI Programs.

Sample Date	DHI			AM-PM		
	Avg lb Milk/Cow	% Fat	% Protein	Avg lb Milk/Cow	% Fat	% Protein
1-03-84	53.5	3.6	3.6	51.8	3.6	3.3
2-02-84	53.5	3.4	3.3	53.1	3.3	3.3
3-01-84	56.0	3.3	3.2	55.6	3.4	3.2
4-04-84	58.8	3.5	3.3	57.6	3.5	3.3
5-02-84	59.2	3.3	3.2	61.5	3.3	3.2
6-01-84	61.0	3.2	3.1	62.3	3.4	3.2
7-03-84	58.6	3.3	3.2	58.0	3.2	3.2
8-02-84	57.7	3.2	3.1	55.4	3.3	3.2
9-05-84	56.7	3.2	3.2	56.5	3.2	3.2
10-02-84	53.5	3.3	3.4	52.6	3.3	3.4
11-01-84	49.7	3.8	3.4	50.9	3.6	3.4
12-04-84	52.3	3.9	3.3	52.8	3.7	3.3
12-28-84	52.8	3.7	3.1	53.4	3.6	3.1

	Rolling Herd Avg.					Rolling Herd Avg.				
	Milk	% Fat	Fat	% Prot.	Prot.	Milk	% Fat	Fat	% Prot.	Prot.
12-28-84	17977	3.43	616	3.27	587	17984	3.40	612	3.25	585

Some dairy producers have expressed concern that there may be too much variation among individual records when tested by the AM-PM plan compared to DHI. Therefore, the 305-2X-M.E. records of all cows completing a record during the last six months of the study were compared. The results are shown in Table 2. The average 305-2X-M.E. for milk and fat under the two testing plans were not significantly different. There were only two 305-2X-M.E. records with variation greater than 1000 lbs and 18 records with variation greater than 50 lbs. Therefore, it was concluded that the AM-PM plan is a very accurate production testing program.

Table 2. Comparison of the 305-2X-M.E. records made under AM-PM and DHI Programs.

Item	AM-PM	DHI
No. records	107	107
305-2X-M.E. (Milk)	18,304	18,376
305-2X-M.E. (Fat)	626	619