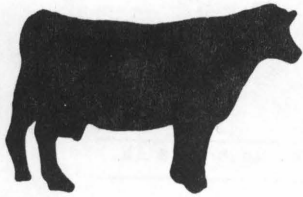


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dairy guidelines

EXTENSION DIVISION VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY BLACKSBURG, VIRGINIA



ADJUSTING PRODUCTION FOR EARLY AND LATE TEST PERIODS

M. L. McGilliard and W. N. Patterson
Extension Specialists-Dairy Science

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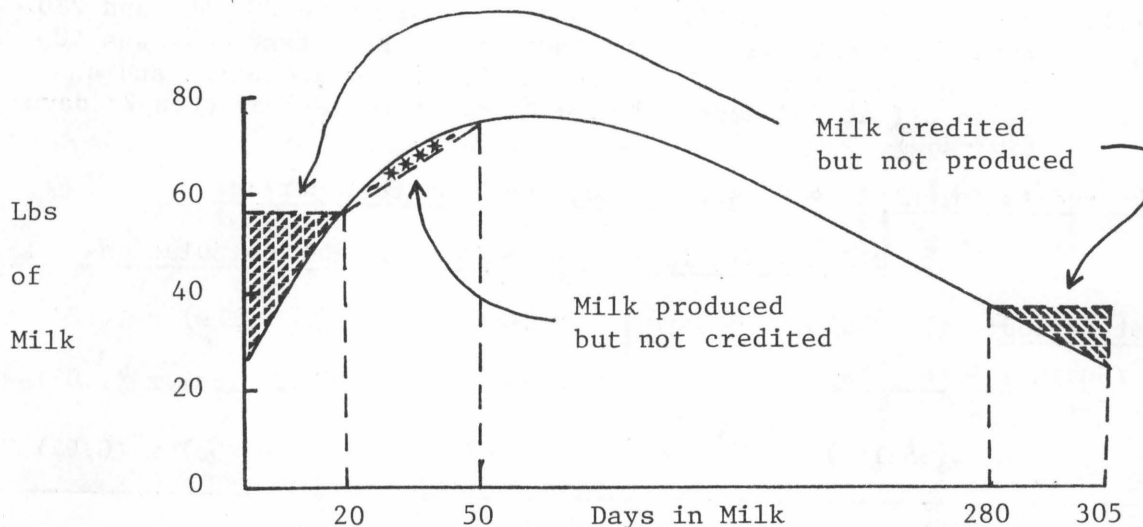
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...or, why your cows are looking worse on paper. In the spring of 1979, the DHI Records Processing Center in Raleigh, NC, began adjusting records for production credited in the first, second, and last test periods. The sole purpose of these adjustments is to measure more accurately the lactation production of individual cows and to allow fairer comparisons among cows.

The normal cow increases in milk yield and decreases in fat yield during her first two test periods. She also decreases in milk and increases in fat during her last test period. Until these new factors were implemented, each cow was credited with her respective test day milk production for all of the days in these test intervals. The lactation diagram below illustrates how the old procedure gave cows too much credit for milk (and too little for fat) on the first and last test of each lactation. It also shows how too little credit was often given for milk produced during the second test period. If a supervisor tested each herd once a day rather than once a month, these adjustments would not be necessary.



Lactation Curve

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Listed below are several of the factors used to adjust the production of cows for the first, second, and last test period. The computer calculates them from a formula. The example which follows will help you understand the use of these factors in adjusting records.

Table 1. First Test Interval

Days from calving to first test	Lactation 1		Lactation 2+	
	Milk	Fat	Milk	Fat
7	.72	.71	.75	.78
10	.74	.76	.77	.82
15	.77	.83	.80	.87
20	.80	.89	.83	.92
25	.82	.91	.85	.94
30	.84	.93	.87	.96
35	.86	.95	.89	.98
40	.88	.96	.91	1.00
50	.91	.97	.94	1.03
60	.94	.99	.97	1.05
70	.97	1.00	1.00	1.08

Table 2. Second Test Interval

(and third, if it begins before 40 days in milk.)

Days from calving to first test	Lactation 1		Lactation 2+	
	Milk	Fat	Milk	Fat
6-7	1.09	1.04	1.07	1.02
8-10	1.05	1.03	1.05	1.02
11-13	1.04	1.01	1.04	1.02
14-22	1.02	1.01	1.02	1.02
23-31	1.01	1.01	1.01	1.00
32-39	1.01	1.00	1.01	1.00

Test interval of 29-37 days between first test and second test.

Table 3. Last Test Interval

Days from calving to last test	Lactation 1		Lactation 2+	
	Milk	Fat	Milk	Fat
40-184	.98	.99	.97	.97
185-254	.98	.98	.96	.97
255-279	.97	.98	.96	.96
280 up	.97	.98	.95	.96

Test interval of 15-24 days before drying off.

Example: Elsie's first, second, and last test days were 20, 50, and 280 days after calving. Her production on these test days was 50, 60, and 35 lbs of milk. This was her first lactation and she dried off at 302 days. Her last test interval was then 22 days (302-280).

Milk credits for Elsie's first, second, and last test periods

	Old Calculations	Lbs Milk	New Calculations	Lbs Milk
First Test Period:	(50 lbs) x (20 days)	= 1000	(1000 lbs) x (0.80) =	800
Second:	$\frac{(50 \text{ lbs}) + (60 \text{ lbs})}{2}$ x (30 days)	= 1650	(1650 lbs) x (1.02) =	1683
Last:	(35 lbs) x (22 days)	= 770	(770 lbs) x (0.97) =	747
Total (3 test periods)		3420		3230

As you see, Elsie is credited for 190 lbs less milk from use of the new factors. Fortunately, this is only a loss on paper. The key point is that the new factors give a more accurate measurement of Elsie's production and, in turn, allow her to be compared more fairly with other cows.