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why milk tests drop

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Dairymen at times have a problem with low milk tests in their herds—especially butterfat. It is most common during late spring and the hot summer months.

This fact sheet outlines the major factors involved and presents ways to correct some of these difficulties.

FEEDS AND FEEDING

Heavy Grain. Composition of the milk may be affected by the amount and composition of rations fed. Many people advocate feeding more grain to dairy cows. This may cause lower butterfat tests when roughages are drastically reduced. The amount of energy-producing roughage (carbohydrates) has a marked effect on the quantity and quality of milk produced. Milking cows limited to about 6 pounds of hay per day with adequate energy provided by concentrates may decline rapidly in the percent of fat secreted in the milk.

Restricted roughage intake changes the type of rumen fermentation so that less acetic acid is produced by rumen microorganisms. This acetic acid and other fermentation products are normally used by the cow to form butterfat in the milk. If these products are not formed in large enough amounts, the fat test will drop.

Roughages normally furnish energy at lower costs than grains and should be fed liberally. Cows should consume at least 1 to 2 pounds of dry matter per 100 pounds body weight daily in the form of roughage.

Ground Feeds. Finely ground roughages or roughages finely ground and pelleted, even though fed free choice, may reduce the test. This fine roughage may make it impossible for cows to form a cud, reducing the normal saliva flow. The whole rumen mass does not break down as effectively, and again the milk fat test will drop.

Finely ground concentrates, especially shelled corn without cobs, may cause lower tests. Bulk in the concentrates, if heavy grain feeding is practiced, may be desirable. Ground corn cobs, the hulls of oats, or wheat bran may help maintain normal rumen fermentation.

Ration Composition. Fat tests may be kept up, to some extent, by feeding rations that contain at least 4% fat. Experiments have shown that very low fat intake of cows will cause lower fat tests. Sometimes inclusion of ground soybeans in place of soybean oil meal (to increase fat intake) may help maintain satisfactory tests. Abnormally low protein levels in the feed may also cause low milkfat tests.

Pastures. In some instances spring pasture may stimulate total milk production with a drop in percentage of fat in the milk. If the grass is too "washy" or the cows tend to use too much energy in grazing, milk production will fall.

Sometimes in late summer, when the weather is hot, cows will not eat enough roughage from pastures. Grain levels may be increased abnormally to hold up production. This can upset the normal grain-to-roughage ratio and result in lower fat tests.

Poor pastures that are dry and not palatable or short over-grazed pastures should be supplemented. Sudan pasture makes a desirable supplement. It grows rapidly and yields well. It is palatable and has a high sugar content that may help maintain energy levels and consequent fat tests during hot weather.

Other Feeding Problems. Abnormally thin cows tend to test low. Increasing total feed intake may be helpful, but it may take some time to improve the cows' general condition.

OTHER FACTORS

Milking Procedure. Improper milking may reduce fat tests. The last-drawn milk, in normal milking, tests higher in butterfat whereas the first drawn milk is relatively low in fat. If all the milk is not removed, the overall average fat test will be lower. Research has shown that where one-half of the udder was milked out completely and the other half incompletely, milk yield, fat yield, and fat percentage were reduced by incomplete milking.

Exciting cows so they hold up their milk will also reduce the milk and fat produced.

During busy seasons the milking procedure may be hurried and important details, such as proper machine stripping, may be neglected. The result is a lower test. On the other hand, abnormally slow milking may decrease fat tests.

Weather. Hot weather, especially if the humidity is high, may cause a reduction in milk fat test. It is not unusual for a herd with a 4.0% average fat test in winter to drop as low as 3.2% in hot summer weather (a 20% decrease in test). When the temperature is low there is a tendency for blood fat to increase, therefore increasing the fat secreted into the milk.
In very cold weather more feed is needed to maintain cows, their appetites are better, and they consume more feed.

Obviously, one can’t change the weather; however, shade, plenty of water, and spraying for flies to give relief from hot weather stresses are desirable.

**Miscellaneous Causes.** A number of other factors may be involved in fat tests. In general, factors which increase the total volume of milk will decrease the fat percentage. Some cows have inheritance for abnormally low butterfat test. Cows of different breeds test differently. Exercise tends to increase slightly the amount of fat in the milk—it stimulates feed intake and also aids digestion. Cows confined to stalls in winter get little exercise, which can contribute partly to low tests. On the other hand, cows on poor pastures spend too much energy to maintain feed intake and milk fat.

The stage of lactation affects fat tests. Cows tend to test high shortly after calving. Then tests slowly decrease and may hit a low level during the middle of lactation and increase in late lactation. Old cows test lower than young cows.

Diseases such as ketosis may cause abnormally high fat tests. Any feeding and milking irregularities, upsets in the cows, or excitement, which make cows hold their milk, will tend to reduce fat tests. Night milk usually tests higher than morning milk. Bulk tank milk containing more night milk than morning milk will test higher. Other errors in butterfat tests may be the result of inaccurate sampling or testing. Churning or souring of the samples often results in lower tests.