POULTRY SCIENCE AND TECHNOLOGY

from North Carolina State University at Raleigh / Extension Poultry Science

FEED MILLING SERIES

Tracking Down Finished Feed Quality Problems

A finished feed that does not meet formulated specifications most likely results from an accident or a mistake. While we all are subject to make mistakes, few if any like to admit we made one. The important considerations are: What happened? Why? How can it be prevented in the future? Who made the mistake is of lesser importance. We must determine who made it, however, if additional training in the job is necessary.

Accusations do not usually encourage people to admit mistakes. Most likely the opposite occurs. One firm in North Carolina reprimands employees if they do not tell their supervisor of a mistake as soon as it is discovered. The mistake is not cause for the reprimand but not disclosing the mistake is. This allows the firm to correct the error sooner before the economic cost of the error gets larger. In doing this, the employee has no fear of admitting mistakes. Better teamwork and a more active spirit of cooperation have resulted from this approach. It is a positive approach to problem solving, and one that can be recommended to others.

The methods of chasing down what the trouble could be are as numerous as there are people. Therefore, what follows is only one method of determining the probable cause of an out-of-control value. The steps are as follows:

1. Is the assay correct? Call the lab and ask if there has been a mistake. If not, ask for a recheck. While the lab is rechecking continue tracking down the problem.
2. How was the sample taken? Was the sample representative? After it was taken was it sent directly to the lab or was it held and allowed to deteriorate?
3. Is only one nutrient level out of control or are several? This may be a clue as to whether a certain ingredient has been left out of the formula.

An example of this is as follows:

Formulated Levels: Protein 29.0%, Fat 5.7%, Calcium 1.65%, Phosphorous 1.12%

PROBABLE ANALYSIS OF FINISHED FEED

Ingredient Omitted*	#/Ton	Protein	Fat	Calcium	Phosphorous
Bakery By-Product	17	29.3	5.7	1.66	1.13
Corn	500	36.0	6.4	2.17	1.41
Fat	50	29.8	3.4	1.69	1.15
Milo	191	30.9	6.0	1.82	1.22
Meat Meal	160	26.8	5.1	1.20	0.94
Soybean Meal	756	16.8	8.3	2.53	1.40
Fish Meal	50	28.3	5.6	1.55	1.07
Wheat	200	31.1	6.2	1.83	1.22
Phosphate	45	29.8	5.8	0.95	0.74
Limestone	6	29.2	5.7	1.54	1.13
Micro Ingredients	25	29.5	5.8	1.67	1.14

* Assuming nothing added in its place.

Things are, of course, never quite as simple as they seem on paper. However, this general method may be used to determine what ingredient could have been left out of the formula.

4. Check the batch sheet for the day's run. Was the regular crew operating the mill? Compare the amount of feed manufactured plus the amount on hand with the amount shipped. This could tell you if the wrong feed was delivered.
5. Check inventory records—is there a major discrepancy between the amount of ingredients on hand versus the amount of ingredients you should have on hand? A discrepancy between inventory records and actual quantities may be an indication of a mixup in ingredient handling, which may be at the root of the control problem.
6. Check balances and metering devices—are they correctly adjusted?
7. Check ingredient bins—is there a hang-up or bridging problem in these bins? A bridging problem can sometimes mean that a certain ingredient either does not get added to the ration or does not get added in the correct amount.

8. Recheck mixing time—are you certain the time is correct for this ration? A change in the ration could have altered the mixing time. If possible, obtain samples from various locations within the out-of-control batch of feed. If these samples are very different from each other in analysis, this usually indicates a mixing problem. Re-evaluate the mixing time for the ration in question.
9. Check ingredient assays—do the ingredient assays indicate that a deficient ingredient load has been received recently? Can receiving and using this load be correlated with the out-of-control finished feed? If it can, call the ingredient supplier and outline your complaint as well as the company's dedication to producing a high quality feed.
10. Check the formula—are accurate estimates of ingredient quality being used? Use of quality values obtained from tables are not as good as those you can obtain from your ingredient assays.

After going through this 10-step "tracking down" procedure, it is possible that you may still not know what caused the out-of-control finished feed. While this may be frustrating, bear in mind that your efforts have not been in vain. Laboratory personnel, the mill crew, the office staff, the ingredient supplier and the nutritionist have all become aware of your company's dedication to the production of high quality feeds. If this procedure is followed each time an out-of-control feed sample is detected, the mental image of dedication to quality will become fixed in the minds of these people and can only work for your good.

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Published by
THE NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

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PS&T Guide No. 27 **October, 1980**