THE FEATHER REPORT

The Feather Report

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The Five Biggest Mistakes Made By Small Egg Farms

I have been an Extension Poultry Specialist with Kansas State University for over a decade. It has given me an opportunity to work with large commercial scale producers, exhibition enthusiasts, and people who tend a few birds in a small flock and sell a few eggs, both in the United States, as well as around the world. As you can imagine, I've received questions on a very wide variety of subjects.

Many questions come from people having trouble getting their small flock of egg-type chickens to lay eggs. A number of small farms still produce eggs for sale in grocery stores, farmer's markets, and direct sales from the farm. And if done correctly, maintaining a small egg flock can be a rewarding experience.

Over the years, I've noticed that some questions with a common theme get asked more frequently. The most difficult question to answer is "my hens aren't laying, do you know why?"! Although about a million things could be causing your flock to not produce eggs, I find that most are related to breed, management, and nutrition.

In the next few issues of this newsletter, I am going to take the most common mistakes made by small egg flock owners and give some ideas on how to prevent them in your flock. The first part of this series focuses on something that must be considered before all else: the choice of breed.

Part 1: Choosing the Wrong Breed

Though it's true that all chickens lay eggs, it's also true that not all chickens lay equal numbers of eggs. If the goal of your poultry flock is to pay for itself and maybe make a little extra cash, then choose a breed that's proven its ability to lay eggs. The key word here is "proven." Just because a breed is described as having set records for laying eggs, doesn't mean the chickens you get will have the genetic capability to repeat the record. I've seen chick catalogs that seem a bit optimistic when touting how well a particular breed lays eggs.

Most commercial breeds of laying hens are Leghorn crosses. These breeds will produce large numbers of eggs efficiently. They are not purebreds, but have been selected and crossed (inbred) to improve performance. Although some people call them "industry" birds, they are very capable of holding their own in a free range or farm setting. High producing Leghorn breeds are known less by their breed and more by the name of the company that has been breeding them. Some examples are HyLine, Bovan, Babcock, Lohman, and Shaver. These are the breeds of choice if you want large numbers of eggs.

Sex-links are another breed that's popular for smaller farms. Although many people think this term is synonymous with high egg production, it actually only refers to a special cross that helps the hatchery to separate male and female chicks by their down color when they hatch. These birds can make good farm hens but their record for egg production should be proven. Although I've seen some that produce very well, I've seen others that perform poorly. Successful production by sex linked birds more often depends on the egg laying history of the birds that were used in the parental lines, which may be different every year if the hatchery changes. Some lines that have been maintained for many generations my produce well. Still, I tend to favor the lighter breeds of sex links over the dual purpose or heavy breeds since they will consume less feed per dozen eggs laid.

My experience with purebred breeds as egg producers has been mixed. While it's true that some of the well known breeds, like Barred Plymouth Rocks, Rhode Island Reds, or

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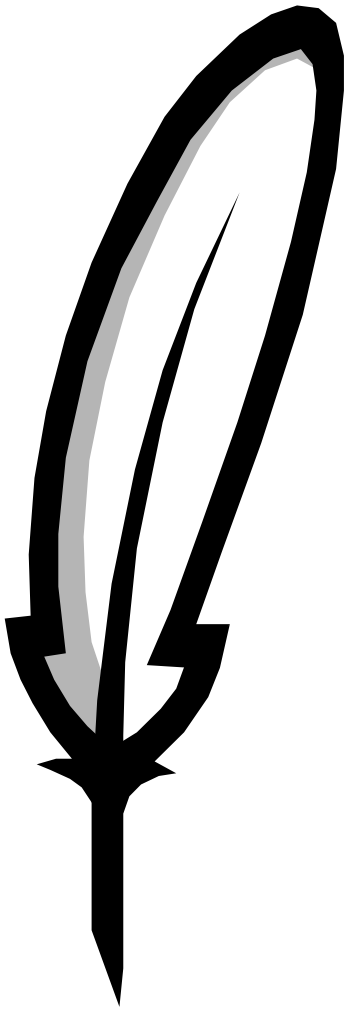

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Minorcas, can lay more than a few eggs, you might be disappointed with some sources of these breeds. I've owned some fabulous looking exhibition breeds that could place first at the State Fair but could barely lay enough eggs to produce the next generation. So many of those beautiful Grand Champions would need to return their ribbons if only the judges could know how many eggs they produced! I have always wished that verified egg production could be part of local shows and competitions to give the breeders more of an incentive to breed good layers as well as layers that look good.

Another important criteria to consider when choosing a breed is to know how much feed it will take to produce a dozen eggs. Obviously, heavier breeds will require more feed to gain weight, and more feed to maintain their body weight. How much the feed cost to produce your eggs is the most important number you need to determine. Even two different sources of a particular breed may have very different requirements for amounts of feed. You should become familiar with the term called "feed conversion." This term tells you how much feed is required to produce a product. Because most of the cost of egg production is due to feed, you must choose breeds with the best feed conversion to be competitive.

Finally, don't forget about breeds and egg color. Egg color preference varies by region so it's best to know the local markets before you select a breed. However, I've noticed that many consumers have come to believe that brown eggs are farm eggs, so I'd choose a brown egg layer. If you plan to candle these eggs, then brown eggs are generally more difficult to candle. If your clientele includes small restaurant or bakeries, then egg color does not matter. Perhaps white eggs would be a better choice since white egg layers tend to consume slightly less feed than brown egg layers.

Resist the urge to pick a larger breed in order to use it for meat production after they are finished laying. These breeds will eat much more feed than meat type breeds and end up being some of the most expensive chicken you've ever eaten.

The biggest mistake I've seen people make when choosing a breed is when they let sentimentality take over. Just because you remember a breed of hens around the old farm producing a few eggs, doesn't mean that particular breed can produce enough eggs today to make a profit. Focus on breeds that are proven to be good layers or less feed and income from your egg operation will be increased!

Questions for the Editor

Must veterinarians be certified to participate as a tester in the NPIP Program?

Yes, all veterinarians must go through the same course as everyone else to be sure that they understand how the program works and what a positive test looks like. However, they are not charged a fee to participate in the certification program from the KAHD because many are doing the testing as part of a service to their clients.

Do you recommend using hen scratch as a feed for poultry?

Hen scratch is usually a combination of several different grains liked cracked corn, whole sorghum, wheat, etc. In many cases nothing else, like a protein source or vitamins and minerals, are added to the feed. Hen scratch is not usually a complete feed and thus must be used with caution.

I do not recommend using hen scratch very often. It is a good way to give the kids something to do when feeding the birds or to provide a quick snack. However, if you provide hen scratch as the sole source of feed to growing birds or egg production type birds, you will likely be disappointed. The protein content of most hen scratch mixtures is not much more than the protein content of the individual grains. Without additional protein, egg production birds and meat-type birds will be woefully deficient in protein. While it is true that free roaming birds may range to find new grass and bugs as a source of protein, it's also true that the sources of this protein change throughout the year.

I've seen other producers provide a complete feed in one feeder and hen scratch in another. This is usually an attempt to decrease overall feed cost because hen scratch is much cheaper than a complete feed. However, some birds will tend to eat feed only from the scratch feeder and seldom eat any protein from the complete feed. Thus, there are quite a few birds that are under performing. A lot of these hen scratch feeds are also deficient in calcium as a sole source for a layer-type bird. I believe in feeding complete feeds to all types of poultry. A complete feed will provide adequate protein, vitamin & mineral intake to all types of birds. If you dilute this feed with any type of hen scratch or whole grain, then you risk diluting the nutrients received by the birds. Although it looks like an easy way to save money, the loss in production is often offset by the whole or cracked grain.

I can think of two instances where hen scratch may have some value. The first is to maintain extra breeding males. Most breeding males do not have a high requirement for protein and thus can tolerate a lot more hen scratch. Be cautious however, as even breeding males require nutrients that could be missing in a hen scratch formula. Scratches may also be good for birds as

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they come out of a molt. To molt a bird, many producers use some type of complete feed withdrawal or a limited feed withdrawal. When the birds are returned back to feed, the hen scratch can be a good source of feed while the birds become accustomed to increasing their intake.

I have been told that you cannot feed milo or sorghum to laying hens because it will cause them to molt. Is this true?

This is not true. Sorghum or milo is an excellent cereal grain that is often used for all types of poultry or home flocks and commercial egg production birds. If milo is fed as a sole source of cereal grain in a complete ration, then it could reduce the yolk color. The color you see in hen's eggs yolk comes from the feed ration and is not made by the hen. Feed rations that are formulated to include sorghum sometimes include other ingredients such as alfalfa meal, corn gluten meal, or marigold oil to add the yolk color back to the ration.

The reason some producers may have been concerned with use of milo in feeds and molting is that some molting programs recommend that whole milo be fed as the first feed following a feed restriction type molt. Commercial egg producers cause a molt in their layers by removing the feed. After several days, when feed is returned to the birds, some producers will use a grain like milo to get the birds started on feed again. This is probably why many people think milo can cause a molt.

I ordered some Cornish Rock meat type birds for my hatchery this year. Some people have told me that I need to be aware of the birds growing too fast. Why is growing them too fast a bad thing and what can I do to slow them down?

That's a good question. Commercial crosses of many types of broilers have been selected to grow at a very rapid rate with minimal feed intake. This rapid weight gain sometimes affects the structure of the birds and causes health problems. Some problems that producers may see are leg problems (see Leg Problems in Broilers and Turkeys from your Extension Office or http://www.oznet.ksu.edu/library/lvstk2/samplers/EP113.asp) ascites and heat stress. Of course, the commercial industry wants to grow them at a maximum rate because they must pay for the facilities and the environment in which the birds are grown. However, most small producers are not concerned with the rapid succession of flocks throughout the year. They usually grow two or three small flocks at most and they really aren't paying for grow-out space. So growing the birds at a slower pace may sometimes be beneficial.

Some producers have asked if they can dilute the nutrients in the feed in order to slow the birds down. They feed the birds more hen scratch or add a pure grain so that the protein content is reduced. However, this also reduces many of the other crucial nutrients that rapidly growing broilers require. The way I prefer to slow broilers down is by limiting total feed intake and not changing the feed or feed formula. You can limit feed intake by simply allowing the feeders to run empty for a few hours each day. The birds may appear a little hungry at first but they will still get plenty of nutrients to grow adequately. I usually don't start limiting feed intake until after three weeks of age. I set a goal of trying to grow the birds in 8-10 weeks rather than the usual 6 to 8 weeks. You should track the weekly body weight to determine if your birds are growing at the required rate. Another way to limit feed intake is by turning the lights off at night. If you are growing your birds in an area where there is a light source, try cutting it off at night using a timer. The birds won't be able to eat and will thus not eat feed over night.

Information about the Market Broiler Competition at the 2005 Kansas State Fair

Elsewhere in this newsletter are the 2005 Kansas State Fair Market Broiler Show Rules and chick order form. Apparently, the information for this year's show was not updated from the 2004 event and thus several areas need to be changed. The attached forms have been updated. Some of the new changes include:

- Contestants may now be members of either 4-H or FFA.
- Order and payment deadline is Monday, July 11, 2005.
- Chicks are $0.90/each with a minimum order of 25 to a maximum order of 50
- Check in time for the market broilers will be from 1:00pm-8:00pm on Friday, September 9, 2005 or from 8:00am-11:00am on Saturday, September 10, 2005.
- Contestants may sign a release form indicating if they wish to donate their pen of broilers to the KSU Poultry Judging Team.
- The exhibitors must be present during the judging process.

We are looking forward to a larger and more exciting Market Broiler show for the 2005 competition. All the market poultry and exhibition birds should be in their new State Fair facility. Please be sure you read the attached information and get your chicks ordered by the deadline. Information about growing broilers for the Kansas State Fair and how they are judged is available from your Extension Office.

4-H & FFA MARKET BROILER SHOW ORDER FORM

Number of chicks _____ @ 90¢ each for a total of $_____
(order of minimum 25/maximum 50 chicks), this price includes postage.
Please make check payable to: **Kansas 4-H Foundation**
All chicks must be pre-paid and payment sent with order. Your chicks will be delivered by the US Postal Service who will call you to let you know when they must be picked up at the Post Office. Expected arrival date: August 3-4, 2005. Each chick will have a permanent wing band and will be vaccinated for Marek's disease. **DO NOT** remove wing band. **Birds without these bands will not be permitted in exhibit**.

Order and payment deadline: **MONDAY, JULY 11, 2005.**

Owner/Exhibitor _____

Address _____

City _____ County _____ Zip _____

Phone _____ Secondary Phone _____

email _____

These broiler chicks are for exhibition at the Kansas State Fair 4-H & FFA Market Broiler Show. Please sign below your intent to exhibit and to abide by all the rules and regulations as outlined in the 2005 KSF Handbook.

Exhibitor's Signature _____ Date _____

Parent's Signature _____ Date _____

Agents Signature _____ Date _____

Please mail form and pre-paid payment to address below

SCOTT BEYER
DEPARTMENT OF ANIMAL SCIENCES & INDUSTRY
139 CALL HALL
MANHATTAN, KS 66506-1600

R. Scott Beyer, Ph.D.
Extension Poultry Specialist
Animal Science and Industry
Kansas State University

SECTION V – OTHER ANIMALS
Kansas State Fair 4-H & FFA Market Broiler Show
Saturday, September 11
Poultry Building
Chair: Dr Scott Beyer, Extension Specialist, Poultry Science, KSU

1. Class 3214 will be a class for exhibiting meat-type chickens for the Market Broiler contest A contestant may enter one pen of three birds in the class. **Pre-entry must be made on the KSFAIR web site no later than August 15 or within 5 working days of the completion of the county fair for those counties having fairs after August 10. All pre-entries must be processed through the Extension Office. It is the responsibility of the individual contestant to pre-enter exhibits with the Extension Office by the local deadline**. Ordering chicks does not constitute an entry in this contest at the Kansas State Fair.

2. All chicks will be ordered through Kansas State University. Contestants must pre-register using the official order form and mail it to: Scott Beyer, 130 Call Hall, Kansas State University, Manhattan, KS 66506-1600. Orders and payment are due July 11, 2005.

3. All chicks will be hatched on the same day and will be delivered direct from the hatchery by US Postal Service. Exhibitors must make arrangements to pick them up at their local post office. All birds will be from the same genetic source. Thus, the competition will be based solely upon the contestants management and poultry husbandry skills.

4. The broiler-chicks will cost $0.90 each with a minimum order of 25 and a maximum of 50 chicks. The cost includes wing banding, vaccination and postage. Leg bands will not be required, however, **only birds that have the original wing bands attached may be entered.**

5. The owner/exhibitor is the person who ordered the birds **and must be a bonafide Kansas 4-H member or FFA member.** The broilers must have been fed and cared for daily by the exhibitor.

6. If adequate exhibitor space is not available, coops of broilers may be sifted.

7. Check-in time for the Market Broilers will be Friday, September 9, 2005 from 1:00 pm to 8:00 pm or Saturday, September 10, 2005 from 8:00 am to 11:00 am.

8. At check-in, contestants may sign a release form indicating if they wish to donate their pen of broilers to the Kansas State University Poultry Judging Team. Contestants donating birds will not be required to return for check-out.

9. Sick or diseased birds will not be accepted and will be removed from competition. Any bird with reduced comb growth or other secondary sex characteristics, which indicate the presence of a hormone, will be sifted. The exhibitor must remove sifted birds from the poultry barn immediately.

10. **All poultry are entered at the sole risk of the exhibitor.** Fair management will not be responsible for the loss or damage caused by fire, theft, accident, acts of nature, etc. However, reasonable vigilance in the care and protection of specimens will be taken by poultry personnel in attendance day and night. No persons will be allowed in show room from 9:00 p.m. to 8:00 a.m. except special caretakers.

11. Judging will be according to the US Standards for live chickens. Placing will be made on the basis of market quality and uniformity of the three birds in the pen. The exhibits will be judged on Saturday, September 10, 2005 starting at approximately 1:00 p.m. **Exhibitors must be present during the judging process.** Exhibitors are encouraged to ask the judge questions.

12. The use of any chemical and/or compound that is not approved by the Food and Drug Administration for use in meat producing animals and the illegal use of approved chemicals and/or compounds is prohibited. All animals shall be subject to tests for foreign substances that exceed the acceptable levels established by the US Department of Agriculture. A positive test will result in disqualification.

13. Because the chicks will be obtained from an NPIP approved hatchery, Pullorum testing will **NOT** be required.

14. For additional information, consult *Growing Broilers for the State Fair* by R. Scott Beyer, available from your local extension office.

Class 3214 Meat-type Chickens; Pen of 3
Class 3215 Reserve Champion Meat-Type Chickens
Class 3216 Grand Champion Meat-Type Chickens

SPECIAL AWARDS

Special awards will be given to the Grand Champion and Reserve Grand Champion winners in this class.

KSU Poultry Judging Team Finishes 3rd at Nationals at LSU

The Kansas State University Poultry Judging Team participated in the 58th US Poultry and Egg Association National Poultry Judging contest held the second week of April, 2005 at Louisiana State University. Team Members included Samantha Swank, Seth Daly, Larissa Noonan and Kabel Robbins. The team is coached by Scott Beyer and Jacob Burden.

The team was 3rd high team Overall, 5th high team in Production, 2nd high team in Breed Selection and 3rd high team in Market Products.

Kabel Robbins was 1st high individual in Breed Selection, which is the most difficult part of the contest. Kabel was also 5th high individual Overall. Larissa Noonan was 5th high individual in Breed Selection.

KSU finished in 3rd place Overall behind the host team LSU and TAMU.

L-R Front: Larissa Noonan and Samantha Swank.
L-R Back: Scott Beyer, Seth Daly, Jacob Burden (asst. coach) and Kabel Robbins.

Tom Avery Poultry Farm at KSU Has a New Manager

Robert (Bob) Beckley joined the KSU Poultry Farm starting in January 2005. As you may recall from our last newsletter, Myron Lawson passed away in December 2004. Bob transferred from the KSU Swine Unit. Bob was the first to admit that although he has a lot of enthusiasm for the new job, he will need to work hard to learn everything there is to know about raising poultry. You can contact Bob at the Poultry Farm at 785-539-5041.

Wanted: Lawnmower

The Tom Avery Poultry Farm is in great need of a riding lawnmower for the Research Unit. If you have a working lawnmower that is in great shape and has all the safety devices so that KSU student employees can use it safely, please let us know. 785-539-5041.

Check out our new website!

The Department of Animal Sciences and Industry has recently brought its new website online. You can find it at http://www.asi.ksu.edu/DesktopDefault.aspx. To find the poultry information, find 'poultry' under the species column. We have information about poultry teaching, research and extension activities in the Department.

Update on Avian Influenza

Avian Influenza (AI) is still a very important concern in several Asian countries. Millions of birds have been destroyed to prevent the further spread of disease. Some of the reports you may have heard about AI in the US are also of concern. Though not the same type of AI as they are currently fighting in Asia, these small outbreaks of AI in the US are more feared for their possible threat to the commercial poultry industry, which is the largest animal industry in the US.

The biggest impact on Kansas is probably more related to Exhibition Poultry which travel to other states like Texas and the East Coast. Some states require that birds taken to poultry shows be tested for AI. Before you take any birds across a state line, you should check with that state's current poultry import requirements. It is likely that these AI rules are not going to change, and may even tighten in the near future.

Information about testing in the NPIP Program

The Kansas Poultry Act of 1984 (K.S.A. 2-902 - 2-916), requires Kansas to fully abide by the provisions of the NPIP for our state. Currently, Kansas is classified as a Pullorum/Typhoid free state. That means that ALL poultry (including in-state origin) must originate from an NPIP approved pullorum/typhoid free flock producers who maintain an NPIP number) or be tested with 90 days of being sold or transported interstate. This means that if you are taking birds to a sale or swap, even if in Kansas, then your birds must show proof of a negative test for *Salmonella pullorum* disease. If you maintain a flock under NPIP requirements, then individual birds do not need testing, but you must show proof that your flock is clean (Form VS 9/3). Otherwise, all individual birds must be tested.

Sources of Testing Agent for the *Salmonella Pullorum* Test for the NPIP Program

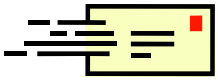
For many years, Kansas State University and the Kansas Poultry Association worked to provide antigen in small batches to reduce costs. However, as the number of suppliers that produced the antigen has dwindled, it has become increasingly difficult to secure batches of antigen. Often in the past year, our source was not provided to us so that small aliquots could be distributed in time for county fairs and the State Fair. Because the supply has been unpredictable, neither KSU nor Kansas Poultry Association can no longer supply antigen in small aliquots.

Here is a list of some local producers that can supply the testing agent. I encourage you to order your antigen early to be sure you have some ready when you need to use it. Beware that most suppliers will only sell bottles of 1000 tests.

Slippery Rock Hatchery
3587 Cloud Road
Richmond, KS 66080
785-835-6521
www.slipperyrockhatchery.com

Smith Poultry & Game Bird Supply
14000 W. 215th Street
Bucyrus, KS 66013-9519
913-879-2587
www.poultrysupplies.com

If you would like to order small but more expensive batches of antigen send an email to: testing_agent@hotmail.com. This is an internet based company that will send further information about the testing agent via email. They sell the small kit for $15.00 plus $4.00 postage and handling. The kit will test 50 birds.



If you would like to receive an electronic copy of the Feather Report, please send your email address to poultry@ksu.edu

Pullets for Sale

The Tom Avery Poultry Farm at KSU is having a special fund raising pullet sale. The pullets will be ready-to-lay and should be available beginning about July 1st, 2005. They are White Leghorns hens that have been fully vaccinated and beak trimmed. They would do great in a farm flock, and will lay more eggs than you can probably eat! Price depends on how many you buy and they must be picked up at the KSU farm. For more information, contact Bob at 785-539-5041.

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K-STATE Kansas State University Research and Extension

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