Exhibition Poultry

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Coley Potter Clanton won both Junior Champion (with a Birchen Modern Pullet) and Reserve Champion (with a White Silkie Hen) at Clanton, Alabama on October 17, 2020. *Photo by Rachel Potter.*

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Exhibition Poultry

Table of Contents

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From the Editor . . .

We've gone from no shows for months to boom-boom-boom! Show results being posted online so fast that it is hard to keep up.

With all these big wins on so many fronts I would like to congratulate Stephanie Coomer, of Daleville, Indiana. She just won Super Grand Champion Of Show at the Mega Show in Norman Oklahoma (3000+ entries) with a black Orpington hen. Stephanie very publicly thanked the 'breeder' of her Champion hen, Sarah Batz, for selling her the eggs that this awesome hen hatched from. Keep up the good work ladies! As shipping prices keep increasing for live birds more poultry breeders may be forced to revert to the methods used by our predecessors 100 years ago - spreading good lines nationwide by top breeders shipping more hatching eggs.

This issue is focused quite a bit on feed. Feed and production and conditioning. There is always a lot of anecdotal information on various feeds and feeding methods but I am the kind of person that is not happy just knowing something works—I want to know why it works. Research on one subject leads to another subject and I have many ideas stored away in the back recesses of my brain for future articles. For example: Mycotoxins—they mess up birds in every way possible—they are in the grain in varying amounts and the numbers keep getting worse each year. Did you know that fermentation kills mycotoxins? But at what levels, how long and at what temps do you need to start fermenting your feed? Did you know there are bacteria with keratinolytic activity (they eat the feathers right on your bird by breaking down the Keratin)? B. licheniformis is the most common—but it is not as effective on black feathers. Imagine finding that kind of damage on a bird's feathers right before a big show! Yes, there is too much info right now swirling around in my head. But it is nice to be able to focus on exhibition poultry for a change instead of hurricanes, elections, and pandemics.

Stay safe. Until next time. . . .

Ann Charles, Editor

APA News—November 2020

Fall is about half over and Winter approaches. Some of our fall shows have been able to move forward. I was one of the judges for the Dayton Fancy Feather Club's show this past month in Greenville, Ohio. On arrival I was surprised and honored to find out I had been selected to judge the Plymouth Rock National Meet. As a former Secretary/Treasurer of the Plymouth Rock Fanciers Club, that particular breed holds a special place in my poultry memories. I hope the breeders who were exhibiting feel I did an adequate job with their birds. They were a pleasure to judge for someone relatively new to the judging world.

Exhibitors who were at the show are to be commended for making the effort to wear their masks and social distance as much as possible. If I could make one point it would be to please have your mask cover both your mouth and your nose. For those who choose not to wear masks, that is your right but remember that your right not to wear one does not negate the rights of others to live safely in this time of Covid-19. So, for those who do not wear a mask, please remain a respectful distance away from those who are also exercising their rights as well.

The APA has been notified of the passing of Mr. Richard (Dick) Stevens of Amherst, Virginia. Dick joined the APA in 1989 and was ETL member number 32. He made arrangements in his will that a

portion of his estate was to go to the APA and we are now in possession of those funds totaling approximately $28 ,000. On the Board's recent conference call, it was decided that the funds will be used to establish a scholarship in Dick's memory. I am honored to have been asked to serve as Chair of the committee whose task will be to develop recommendations for the selection criteria, application process, and other matters. Other committee members are currently being solicited and it is my hope to have a proposal in place for the Board to consider at the 2020 Annual Meet in California. This should give plenty of time for the applications to be made available in the early spring and the selection process to be completed by summer. As Secretary I am frequently asked if the APA has a scholarship program and I will now proudly be able to say that yes we do!

By the time our US readers get this it will be very close to election day and I encourage everyone to vote. Regardless of any party affiliation you may have, it is our civic duty in this democracy to make our voice heard. The choices we make in every election affect the country we live in and we all should take that very seriously, especially in these trying times today.

Some who see these articles are not APA members. If that applies to you, I would encourage you to join today. In addition to our quarterly newsletters, annual Yearbook, and awards programs our webmaster Mark Fields has put in a lot of work on the website to make additional things available to members only. There is a lot historical information on the site as well as access to all of the newly accepted breeds and varieties in the Standard of Perfection. We would very much like to have you as an APA member!

ABA News
October 2020

Fall is here. Usually we write about the upcoming shows and getting those birds ready and let's hope to see them on champion row. This year is a bit different. There are still shows happening, but certainly not as many, and I hope in a different way. I cannot speak to any firsthand as I have chosen not to attend any. But I am assuming that shows are taking extra safety precautions and masks are being worn. The local ordinances and rules change frequently so to that end, the ABA encourages everyone to be vigilant in researching the areas that you are traveling to and of course, we hope you take the proper precautions and keep all your fellow exhibitors health in mind.

The Ohio National is having a virtual show. This is certainly a unique approach and I encourage everyone to consider participating. SATURDAY, OCTOBER 17 – ENTRY DEADLINE - NO LATE ENTRIES . To learn more about this opportunity visit ohionational.org. We at the Unraths will be participating – as long as the birds give us the photos we are seeing. Either way – I encourage you all to consider supporting your local shows and clubs – if not with your entry – with a donation or even some ideas.

If other clubs are having virtual shows or events, please share as much as you can. It's a great way to stay in touch and not put yourselves or any of our comrades at risk. If you are in an area of the country which is having shows, please be careful.

The ABA yearbooks have been mailed and should have been received. If you did not receive one and

feel you should have, please send me a note and I will research what has happened. To make things easier, send the inquiry with your $25 dues renewal. Most times the book was not mailed because your dues may be due. The Pandemic threw a real monkey wrench into business as usual. We are catching up with those whose dues have expired one at a time.

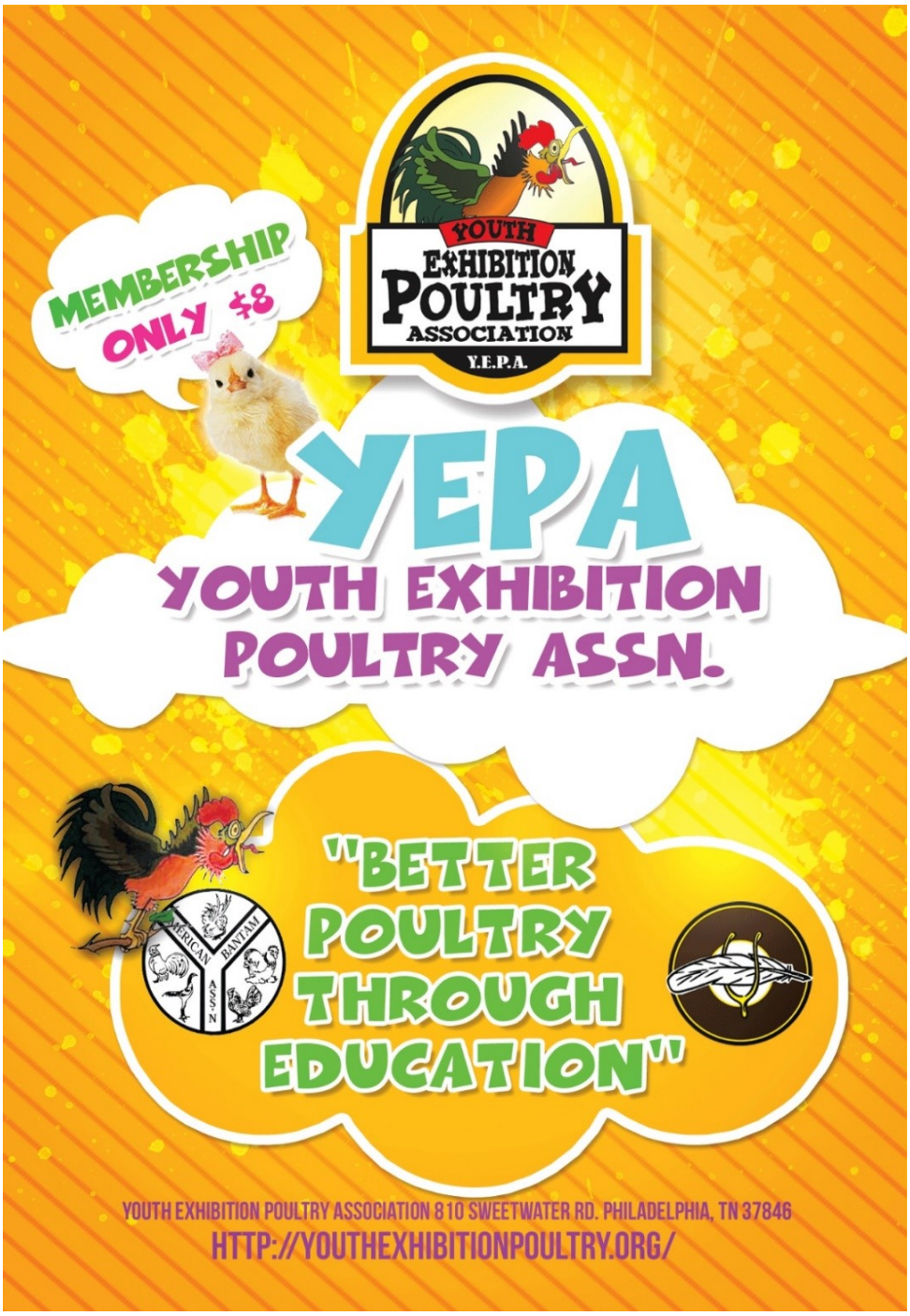
November 1st, 2020 is the deadline if you are interested in running for a volunteer director or officer position

with the ABA. You must send in a letter of intent to run and have it postmarked by November 1st to qualify. If you have any questions, you can ask your current officer or director or send a note to me at

bantamclub@gmail.com. We will be happy to answer any questions you may have. It takes great volunteers to

keep the ABA going and we are always looking for great people.

I would like to invite ABA MEMBERS ONLY to reserve your 2021 ABA Legbands. By reserving these now -you will be assured to getting low numbers. I get inquires every year for low numbers. I get it – the lower numbers on these bands are simply easier to work with – BUT they are all unique numbers – so the early birds get the worms. For now – These will be on the website soon – but no need to wait for that. Just send your order in with a check and a note……2021 legbands - .42 ea. with $7.50 shipping. (.40 ea. if you order 100 or more of the same size) Send to: ABA – PO Box 127, Augusta, NJ 07822 Attention: Members Only LB reservations 2021.



If you are not currently an ABA Member, we can help with that – Membership is $25 per year, $70 for three

years, or $100 for five years. Our mailing address is PO Box 127, Augusta, NJ 07822 or you can join on our website at www.bantamclub.com. The American Bantam Association has been servicing our membership since 1914 and we plan to continue on with your passion and help.

Good luck out there and stay safe,

Karen Unrath - ABA Secretary

Cryptic Female Choice

Promiscuous female chickens choose who fathers their chicks... after sex.

By Isabel Torres: Science editor and writer. PhD in Genetics at University of Cambridge (UK).

Sex is not much fun for female chickens. Even though they are likely to have many partners, female chickens have little choice over with whom they mate. On top of this, male chickens are anything but picky and will copulate with whoever comes their way, including their sisters. But female chickens can still have the last squawk—instead of choosing a partner, they select the sperm that fertilises their eggs.

Domestic chickens.

It's easy to understand why being promiscuous is advantageous for males: the more females they mate with, the more offspring they will produce. But female promiscuity (voluntary or forced) has long confused scientists. Mating is usually a dangerous affair for females; males are often so aggressive during sex that they seriously injure their partner. Besides, females (and ultimately their offspring) should in theory gain more from mating only with a champion male that carries the best genes—why bother with the others? In evolutionary terms, female promiscuity just doesn't make sense. So why is it so widespread in nature?

Male and female red jungle fowls (Gallus gallus)

It appears that promiscuous females can pick who fathers their children after copulation. This so-called 'cryptic female choice' has been described in insects, reptiles, snails, spiders and birds. Which takes us back to chickens. After forced mating with several males, female red

jungle fowl—the ancestor of the domestic chicken—can squeeze out unwanted sperm and keep only the sperm from their favorite mate in their reproductive track. Fowls use cryptic female choice to avoid inbreeding, for example, by selecting against sperm from their brothers. But it's also possible that sperm is selected based on genetic compatibility of particular sets of genes.

Researchers from the Universities of East Anglia and Oxford (UK) recently tested this hypothesis in fowls by looking at major histocompatibility complex (MHC) genes, which encode for key proteins involved in immunity. MHC genes come in a lot of 'flavors' that are linked to an effective immune response—individuals with a diverse mix of MHC genes are less likely to get sick and die from disease.

Hanne Lovlie and colleagues asked whether fowls use cryptic female choice to make sure their offspring inherits a mixed MHC gene pool. They singly mated females with related or unrelated males after sequencing the MHC genes in all animals. They then calculated the fertilization rate of each mating by scoring the number of holes made by sperm cells in egg yolk membranes.

The researchers found that more sperm reached the eggs when males were unrelated to the females, and this effect was even stronger when these males had a very different MHC gene mix from their partner. However, when the females were insemi-

nated artificially, the fertilization bias disappeared—eggs were fertilized at a similar rate by all sperm. These results suggest that female fowls somehow pick the male with the best set of MHC genes during mating, and then get rid of the sperm from other males by cryptic female choice. Evolutionary speaking, girl power wins.

(This article was originally published in Lab Times on 11/19/2013)

References:

Lovlie H., Gillingham M.A.F., Worley K., Pizzari T. & Richardson D.S. (2013). Cryptic female choice favours sperm from major histocompatibility complex-dissimilar males, Proceedings of the Royal Society B: Biological Sciences, 280 (1769) 20131296-20131296. DOI: 10.1098/rspb.2013.1296

Lebanon, Indiana
October 17, 2020
- Open Show Results -

Total 3884 birds exhibited by 308 exhibitors.

Open Large Fowl Champions

American (105 entries): White Plymouth Rock Pullet—Schaal. Reserve: White Plymouth Rock Pullet—Schaal.

Asiatic (64 entries): Blue Cochin Pullet—Banks. Reserve: Light Brahma Pullet—Peterson.

English (89 entries): Black Australorp Cock—Tollakson. Reserve: Black Orpington Hen—Mills.

Mediterranean (39 entries): Single Comb White Leghorn Hen—Jeff Shenck.

Continental (77 entries): Black Copper Marans Pullet—Bittner. Reserve: White Marans Pullet: Bittner.

AOSB (57 entries): Black Ameraucana Cock—Nate Rynish. Reserve: Black Naked Neck Pullet—Michelle Bauer.

Champion Large Fowl: Single Comb White Leghorn Hen—Jeff Shenck. Reserve: Black Australorp Cock—Tollakson.

Open Bantam Champions

Modern Game (72 entries): Brown Red Pullet—Samantha Wulff. Reserve: Black Pullet—Phillip Newendyke.

Old English Game (173 entries): Blue Wheaten hen—Matt Haehm. Reserve: Lemon Blue Hen—Matt Haehm.

SCCL (298 entries): White Plymouth Rock Cockerel—Kraig Shafer. Reserve: Rhode Island Red Pullet—Jacob Bates.

RCCL (391 entries): Black Wyandotte Pullet—Jerry Little. Reserve: Black Rosecomb Pullet—Eric Lodes.

AOCCL (105 entries): White Laced Red Cornish Pullet—Miskimon. Reserve: White Ameraucana Cock—Jerry DeSmidt.

Feather Legged (321 entries): White Silkie Pullet—Mark Webster. Reserve: White Cochin Cockerel—M & M Poultry.

Champion Bantam Chicken: Black Wyandotte Pullet—Jerry Little. Reserve: Brown Red Pullet—Samantha Wulff.

Champion SCCL: White Plymouth Rock cockerel exhibited by Kraig Shafer. Photo by Kraig Shafer.

Champion Ducks

Heavy Duck (140 entries): Black Muscovy Cock—Padgett. Reserve: Black Muscovy hen—Jacob Bates.

Medium Duck (107): Cayuga Cockerel—Nate Vanway. Reserve: Buff Hen—MJ Waterfowl.

Light Duck (111): White Runner Cockerel—Pete Dempsey. Reserve: Gray Runner Pullet—Pete Dempsey.

Bantam Duck (562): White Call Cock—Monk's Poultry. Reserve: Black East Indie—Lou Horton.

Champion Duck: White Call Cock—Monk's Poultry. Reseserve: Black Muscovy Cock—Padgett.

Champion Geese

Heavy (43): Brown African Cock—Jacob Bates. Reserve: Gray Toulose Hen—Jake Herdzel.

Medium Goose (58): White Sebastopol Cock—Lund Poultry. Reserve: White Sebastopol Hen—Lund Poultry.

Light Goose (27): White China Cock—Pete Dempsey. Reserve: Brown China Cock—Pete Dempsey.

Champion Goose: Brown African Cock—Jacob Bates. Reserve: White Sebastopol Cock—Lund Poultry.

Champion Turkey (21): Bronze Cock—Jacob Bates. Reserve: Narragansett Hen—Mills.

Champion Gunea (20): Pearl Cock—Sammy Guy. Reserve: Lavender cock Sammy Guy.

SHOW CHAMPION: White Call Cock—Monk's Poultry. Single Comb White Leghorn Hen—Jeff Shenck.

Reserve Junior Show Champion: Black Australorp Cockerel exhibited by Rylee Brattlie (left) & Hanna Brattlie.

Lebanon, Indiana
October 17, 2020
- Junior Show Results -

Total 1004 birds exhibited by 118 exhibitors.

(213 Large Chickens)

Champion Large Fowl: Black Australorp Cockerel exhibited by Hanna and Rylee Brattlie. Reserve: White Plymouth Rock pullet exhibited by Michael and Ashley Schaal.

(517 Bantam Chickens)

Champion Bantam: Pastel Call Hen exhibited by McKayla Monk. Reserve: Buff Brahma Pullet exhibited by Keagen Plentenga.

Champion Land Fowl: Black Australorp Cockerel exhibited by Hanna and Rylee Brattlie. Reserve: Buff Brahma Pullet exhibited by Keagen Plentenga.

(274 Waterfowl)

Champion Waterfowl: Pastel Call hen exhibited by MaKayla Monk. Reserve: Black Cayuga Cock exhibited by Wyatt Russian.

Show Champion: Pastel Call hen exhibited by MaKayla Monk. Reserve Show Champion: Black Australorp Cockerel exhibited by Hanna and Rylee Brattlie.

Fermented Feed Results

By Mike Badger

Fermenting feed for the flock has become an increasingly popular idea among small flocks, but there are a couple important questions that need answered:

- Can fermentation be done safely?
- Is there a return on the additional labor required to ferment feed?

Early in 2020, Western SARE published "The Foothills Farm Fermented Feed Study" by Matt Steinman and Louisa Brouwer, PhD. The report compares feed consumption, labor, and egg production of hens on a fermented feed, a hydrated feed, and a dry feed. Over the course of the trial, the numbers were collected and then extrapolated to compare the net revenue from the sale of eggs of the three groups. The trial showed that the fermented feed group resulted in more revenue over the course of the trial than the dry feed group. I'll share some of the key numbers from the report and from my interview with Matt and Louisa, and then provide analysis, as appropriate.

The Feed Problem

Most solutions start with a problem, and this one is no different. In APPPA Grit Issue 107, I published "Fermenting Feed on Any Scale" by Diana Ambauen Meade. That article, available in the APPPA Grit archives at apppa.org/members, profiled Matt's experience with fermenting feed and alluded to a future trial, and that's the trial we're now discussing.

When he started raising layers in 2014, Matt explained on my podcast that the big problem he faced was in getting his chickens to consume all the purchased feed. He feeds a whole grain, soy-free feed. The fines would settle in the feeder, and the chickens wouldn't eat them.

Soy-free feeds have an inherent issue that is amplified in the context of a whole grain feed. The fines easily settle to the bottom of the feeder. The problem is compounded because soy-free feeds often have more powdery ingredients compared to a soy-based feed.

If the hens won't eat the fines in a soy-free feed, you're going to experience a few problems. First, you're wasting feed and money. Second, fines are a significant source of vitamins and minerals in all feeds. Not consuming that portion of the feed could lead to longer term health issues. Third, if the fines contain a significant source of protein, then the egg production will drop because the hen isn't consuming enough protein to maintain a high level of production. Protein deficiencies can also lead to stressful behaviors, such as agitation, feather pecking, and cannibalism.

Matt explains that his feed supplier, Scratch and Peck, encouraged him to try fermentation. "We tried it and instantly, I noticed they ate everything. It made it easier to feed and know that we were getting a complete ration. It seemed like we were getting a higher lay. I had only been feeding dry feed for six months, and it was a small flock."

"The other thing I really noticed with fermented feed is in the middle of the summer here in Washington, it gets really hot. People talk about Washington being a really wet climate, and it is for nine months out of the year," says Matt. He compares the Washington summer to a warm, dry Mediterranean climate.

Those warm, dry months required extra labor to

Trial Results				
	Lay Rate	Feed per Hen per Day	Feeding Labor	Egg Size
Dry	71%	137 grams	109 hours	68.4 grams
Fermented	77%	135 grams	182 hours	69.3 grams
Source: The Foothills Farm Fermented Feed Study				

refill the waterers with cool water. Matt explains the advantage he notices with fermented feed. “We noticed that we didn't have to do that. “

The Trial

Louisa Brouwer, PhD, designed the trial to compare dry feed, wet feed, and fermented feed. She earned her PhD from Washington State University in 2017 and currently manages an organic seed company.

She provided technical assistance on the research project. The wet feed was added to distinguish a difference between fermentation and simply using a hydrated feed. The wet feed group did not show any advantage over the dry feed or the fermented feed, and I don’t cover it in this review. The wet feed was mixed 15 minutes prior to feeding while the fermentation process took 48 hours.

Each feed type was replicated three times and each group contained ten hens. She organized the birds in a Latin Square design, which essentially forms a grid where each feed type was represented in each row and each column of the grid. This helps to control for variable environments, Louisa explained.

In terms of mixing ratios, Louisa says, “It was 3.2 parts feed to 4 parts water for the fermented [by weight], and 3.2 parts feed to 3.3 parts water for the hydrated. And the reason for that difference was the consistency of the feed. If you added too much water to the hydrated feed, it would just cover the feed in the trough, and feed would float to the top.”

The Fermentation Process

For the trial, feed was fermented for 48 hours before it was fed. The starting temperature of the water used to ferment the feed in the experiment, according to Matt, was 70° F. The trial fermentation process varied from the fermentation process Matt uses in his current production flock. The key difference is the starting temperature of the water. He found that by using a starting water temperature of 90° F, he could keep a consistent fermentation process. Previously, the duration to ferment could range from two to four days and may not actually ferment at all in the winter.

Top photo shows the stew-like consistency of the fermented feed. Bottom photos shows hens eating the fermented feed.

Starting with warm water solved that inconsistency. In discussing the fermentation time, “Anywhere beyond 48 hours in the summertime, and it’s a cake paste that wasn’t efficient for feeding.” When asked if 48 hours was enough time to ferment, he said, “It was bubbling and sour dough smelling. It was legitimately fermenting at 48 hours.”

In describing the fermentation approach, Louisa says, “It is really the same as if you do a sourdough

culture that you start from plain flour. You don't really need to add anything. It just starts fermenting on its own after a while. It's reliant on the microbes that are present in the environment."

Comparing the Data

The bottom-line comparison for this trial compares the amount of eggs against the labor. I'm only interested in the comparison between the dry feed and the fermented feed because the trial showed no benefit to the hydrated feed treatment. According to the trial report, the hydrated group laid 11% fewer eggs and ate 4% less feed compared to the dry feed group. The trial results are summarized in the table below.

Digging into the differences between the dry and fermented feeds, the following table captures some of the results across the trial. The most surprising result of the study to me was the comparable feed consumption of the dry and fermented groups. These numbers do not show a feed cost savings using fermented feed. Both groups are using approximately five ounces of dry feed per hen per day, which is trending to the high side of feed consumption. The fermented group shows a higher lay rate over the course of the trial, but the seasonal numbers published in the report reveal a clearer trend. In the spring, both groups laid at nearly identical rates. Inthe heat of that Mediterranean-type climate in thesummer, the dry feed group averaged 73% lay rate and the fermented feed group averaged 84%. In thefall portion of the trial, the dry group averaged 79%and the fermented group averaged 87%.

I can think of two common reasons for a lower lay rate in the summer and can see how fermented feed could address the issues. The first is not having adequate access to fresh, cool water, which limits water intake and that limits feed intake. The second would be a reduction in the amount of feed the hen eats due to lower caloric needs in the warmer temperatures; typically speaking, less feed means less protein, which leads to fewer eggs. When feeding a fermented feed, you can address both problems. Water is abundantly available through the fermented feed, and it's harder for a chicken not to eat feed when consuming water because the primary water source is commingled with the feed source.

Matt did provide separate waterers to all feed groups in the trial. He noted that the waterers in the fermented feed group could go long periods (days) of time without needing to be filled, whereas the dry feed group required 44.5 hours of labor to replenish water in the afternoons. The fermented feed required no additional time to refill waters in the afternoon. The additional 44.5 hours of labor to refill waterers midday is in addition to the Feeding Labor referenced in the table.

If you're keeping tabs, the dry feed group required an additional 44.5 hours of labor beyond the daily feeding labor. The fermented feed group required an additional 73 hours of labor making the NET labor increase for the fermented feed group 28.5 hours.

> "For his production flock, Matt mixes 5.3 gallons of water to one five-gallon bucket of feed. He uses 90° F water, which enables a 24-hour ferment even through the Washington winter gets as low as 32° F."

The other data in the table is comparing egg sizes, which is nearly identical between the dry and fermented groups. A 68- or 69-gram egg will meet the size requirements to be a jumbo egg according to the USDA's "Specifications for Shell Eggs" guidance. The trend here is more eggs for the same amount of feed with a higher labor requirement for the fermentation group.

Economic Analysis

The end of trial analysis accounted for labor and feed costs compared to the revenue from the eggs. Labor rate was factored at $15/hour, and the price per dozen eggs was $8. The dry feed group had a net revenue of $4,717 while the fermented feed group's net revenue was $5,214. That a $497 dollar advantage to the fermented feed group. For a flock of 100 birds, we can extrapolate the difference to be approximately $1500 for fermented feeding versus dry.

What About Mycotoxins?

The trial did not test any of the feed for mycotoxins. For his part, Matt has never observed or identified any problems in the feed that resulted in health problems or production declines. The Fermentation Process In episode 110 of Pastured Poultry Talk, Matt describes his fermentation system for his 1,000-hen layer flock. He delivers the feed to the field on a trailer that contains two fifty-five-gallon barrels. Each barrel contains a 4" plate valve with a gasket on the bottom. In the trial, the fermented feed was mixed at a ratio of 4 parts water to 3.2 parts feed by weight. It fermented for 48 hours using 70° F water. For his production flock, Matt mixes 20 L (5.3 gallons) of water to one five-gallon bucket of feed. He uses 90° F water, which enables a 24-hour ferment even through the Washington winter gets as low as 32° F. The texture of the fermented feed is like a stew.

The fermented feed is delivered right to the pasture. He drives the up to the troughs, opens the valve, and dispenses the feed.

Wrap Up

It's clear that the fermentation process provided an economic benefit from a consistently higher lay rate compared to the dry whole grain feed. It also provides a solution to one of the biggest challenges of powdery soy-free feeds—feed waste. However, it's not the only solution to these problems and whether fermentation may be an option for you deserves analysis and observation in the context of your price points, feed types, and setup.

Matt is proving that fermentation can be done in a flock size that is bigger than a few hens in the backyard, and that's a huge takeaway here. Just don't expect to spend less money on feed by fermenting it.

I'd encourage you to review the full trial data, which can be downloaded https://cdn.sare.org/wp-content/ uploads/20200115180220/Foothills-Farm-study_Fullreport.pdf.

Matt and Louisa also discussed the trial on the Pastured Poultry Talk podcast, episode 110.

Mike Badger is the Executive Director for American Pastured Poultry Producers Association (APPPA) and hosts the Pastured Poultry Talk podcast. This article originally appeared in APPPA Grit Issue 119.

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Heritage Poultry Breeding

(Excerpt from November 2020 GRIT)

"As I write, APPPA has completed three livestream events with a topical focus on heritage poultry breeding. . . I estimate that approximately 10% of our membership incorporates heritage breed poultry into their farm," Mike Badger, APPPA Director.

Researching Breeds - "In the APA Standard of Perfection, for almost every breed, there is a paragraph entitled Economic Qualities (EQ). That will give a hint as to the purpose of the breed. The three most common uses are for meat, eggs, and ornamentals . . .However, it may take reading between the lines or looking to a 2nd source to verify that the Black Australorps you are buying truly do make great meat birds, or that the Plymouth Rocks can support an egg business."

Primarily Meat Production EQ's—Delawares, Plymouth Rocks, Brahmas, Orpingtons . . .Matt Hemmer

Advice From The Past (1920) . . .

Artificial Illumination of Poultry Houses

FARLEY PORTER, SODUS, N. Y.

WHEN artificial illumination was first talked of, and tried, everybody considered it a joke; and most people now think it is a matter of fooling the hens into laying an extra egg. I find that men and women in all walks of life are interested in this artificial lighting; but some think it only a matter for jesting; while others think it creates some sort of charm. But the following is the explanation of the lights increasing the egg yield. In the summertime the hens are up, eating and exercising at 4 or 5 o'clock in the morning, and until 6 or 8 o'clock at night. In winter it is not light until 7 o'clock in the morning, and the hens go to roost at 4 o'clock in the afternoon. The consequence is that they sit on the roost the rest of the time—fifteen hours. The result is that they cannot eat enough food during the short nine hour day to sustain their bodies and provide eggs at the same time.

Before we started to use lights, a ton of dry mash lasted our flocks two weeks. After the lights were turned on, at 3 o'clock in the morning, they ate a ton in a week. This is the whole secret of increased egg production. The hens eat more food and consequently lay more, having the summer length of day. If handled properly they will lay nearly as well as in summer.

We have, on our plant, a half mile of electric light line which cost four hundred and fifty dollars to install. The first year we started our lights on the twelfth of December and during the following month of January we received one thousand dozen more eggs than in any January previous. With eggs close to one dollar a dozen I estimate that the extra eggs produced during the first two weeks of January paid for the whole lighting system.

Instead of being cruelty to animals, as some think, it is a humane act to give hens a long day. How would man enjoy life if he had to spend fifteen hours in the dark all through the winter?

I prefer to let the pullets start laying naturally in the early fall and do not use the lights until November, because I have found that often pullets drop off in their production about that time, if they have been laying a month or two. With the lights turned on, after they have been laying well, they are held right there.

Our lights are automatically turned on by a time switch at 3 o'clock in the morning. The birds at once fly down and go to feeding and exercising. As the days get longer, we start the lights later in the morning, aiming to have a fourteen hour day.

We do not use the lights in the evening except for one-half to one hour, just to give the birds an opportunity to feed well before roosting. This being the main feed of the day. This half hour of light gives us a better opportunity to scatter the feed well and to stir up the litter with a fork. The lights are turned off before dark so the birds can get to their roosts by twilight.

We first tried to use the lights at both ends of the day, from 5 o'clock in the morning until daylight and two or three hours in the evening but we found that most of the birds went to roost at the regular hour and would not get down to feed, when fed an hour or two after dark; but in the early morning, when the lights are turned on, they all fly down full of enthusiasm for the new day.

Soon after the lights are turned out in the afternoon and the birds are on the roosts, about five o'clock in November, December and January, we go around with a lantern and feed for the next morning, giving one quart of scratch grain to every one hundred birds, which is scattered well in the deep litter and then buried and covered with a fork. This makes the birds very active, when they first get down from the roosts. Then in the morning, about seven or eight o'clock, we scatter another pint of scratch grain to every one hundred birds. This, also, to keep them working. We also give mangels about this time. These beets are speared on to spikes around the walls about one foot off the floor. This keeps the beets clean.

During cold days, when the birds huddle and loaf, because of low temperature, we give another feed or two of scratch grain, but not very much at these times—a half pint to one hundred birds. These small feedings during the morning can be scattered by the feeder at his feet and he can kick the litter over it, as he walks along. All these feedings of scratch grain are simply to make the birds work; for in the Summer, when they are out on range, we do not give any scratch grain in the morning.

I will say, right here, that it is the care, along with the lights, which makes the increased egg production. The whole secret of

2020 Ohio National Virtual Poultry Show Update

The 2020 Ohio National Virtual Poultry Show Awards schedule is as follows: * Saturday, November 14 - All Open & Junior Class Champion and Reserve Champion winners will be announced.

* Sunday, November 15 - The Open & Junior Champions of the Show will be announced. The Junior Show Champions will be chosen by Judge Dan Castle and the Open Show Champions will be chosen by Judge Jeff Halbach.

* Both Dan and Jeff will be picking the champions with a new twist. They will give reasons as to why they picked one bird over another and will announce the Champions of the Show.

* You can find the results on the Ohio National website www.ohionational.org

We would like to thank Tim Neviska, Show Coordinator, for the incredible job he did to help make the show a huge success. Thanks again to everyone that participated in the First Ohio National Virtual Poultry Show. We hope you enjoyed the show.

Tim Johnson, President, tejpoultry@gmail.com

White Plymouth Rock pullet was Reserve Champion Bantam at Dayton Fancy Feather Show on October 3rd, 2020. Photo submitted by Kraig Shafer.

Adding Animal Proteins to Poultry Feed

By Ann Charles

"Toss them a handful of cat food a couple times a week," was the advice I was given years ago by one of the top exhibitors of Standard bred poultry. This was in response to my complaint about the all-veggie commercial poultry feed's shortcomings when it came to either growth, fertility, or conditioning birds for show. The point being made is that our birds seem to need animal proteins to excel past the least-cost minimal rations which are marketed to feed stores and readily available for purchase.

Plant based rations that may be adequate enough for a backyard laying hen who grabs the occasional bug, fall short when it comes to fertility, rapid growth, and feather quality. There are three amino acids that are key to these important elements of exhibition poultry and those are lysine, and the sulfur based amino acids, methionine & cystine. Most commercial feed uses synthetic amino acids to make up the short fall from not including animal based proteins in their feed mixes. However, over the next few years those synthetics may be phased out of use. The regulatory winds are blowing that way.

The amino acid cystine, is super critical for proper feather development. If you look at regular foods or feedstuffs that are highest in this amino acid only three out of ten are vegetable proteins. The top proteins, in order, for high levels of cystine are pork, beef, chicken, tuna, eggs, and then milk proteins. The three veggie proteins that make the top 10 list are lentils, oats, and sunflower seeds. Oats have long been held to put good feather on show birds. Methionine which is critical for breeder fertility, is also very important for breast muscle development and is usually added to rations in synthetic powder form to meet minimum requirements.

And so . . . Adding animal protein to our poultry's diets (usually in the form of cat food) was the subject of last months Q&A on Exhibition Poultry Magazine's Facebook Group. Below are some of the answers submitted.

Online Question To Our Group Members:
SUBJECT: CAT FOOD

"For what ever reason you supplement your birds with a little cat food (molting, conditioning, breeding, growing), do you use dry and/or wet cat food? What is your favorite brand and why?"

Answers:

Greg Rountree, "I use Canned Mackerel during re-growth after the Molt for my Longtails."

Dexter Fields, "I use dry cat food Merrick's brand"

Mary Bell, "I have used a small amount of kitten feed from Walmart mixed with their regular feed a couple of times a week when the silkies are molting. I would never use it long term.

Edward Holz, "Rachael Ray dry 100% Grain Free high in protein and fat . . . getting harder to find."

Ashley Marie, "Grain free Evolve or grain free Blue Buffalo."

Sue Dobson, "Dry - but they love wet too. If you cook a whole chicken, give the carcass to them they will clean it up."

Kerby Jackson, "Nope (no cat food). Might as well be feeding McDonald's to them considering what's in most cat food. I feed cans of sardines, tuna, oysters and canned mackerel for extra protein."

Eric Wagter, "I knew a breeder that fed his birds a dog food that looked a little like raw hamburger. I forgot the brand but I don't think its around any more. His birds looked great and he was a consistent winner at the shows."

Anne Bryles, " We use floating catfish food from the feedstore. Will has a specific mix we make for each breed. It is to condition them for show (weight and feather quality. We mix each time we feed (including misting with oil) and put out enough to last about a day and a half. Feed every other day. This has worked well for us. We have a book with each breed's recipe I do like to let them out in the grass some and give cut fresh veggies in the cages"

"General Comments: 8. The diet and general health of the bird during the time a given feather is being grown can have an effect on both the color and the structure of that feather". . .*(APA Standard of Perfection: 44th edition)*

If you are going to supplement your poultry feed mix with a little animal protein, read labels and know what you are buying. Both of these cans shown to the left are in the 52-53 cents per can price range. Friskies cat food lists the #1 ingredient as water, then fish, then a long list of other additives. Plus, it is only 9% actual protein. Multiply that times 156 gms can weight and you end up with 14 total gms of 'mostly' fish protein per can. By contrast the store brand tuna has 20 gms of protein per can and it is 100% tuna.

To the left are two animal protein sources that my birds love. 1) Boiled eggs: I scramble mine in the microwave primarily for the chicks. These are leftover eggs from the incubator that were not fertile. Cost? Zero to me. Protein: about 20 gms in 3 large eggs.

2) Rachael Ray Nutrish cat food.: This particular brand comes in a small size and you can pick your animal protein source—chicken or salmon or a blend of the two. Price? About $1.30 per pound, 34% protein and 14% fat. 1 lb of this particular cat food supplies 154 gms of protein, mostly animal based.

Pictured here is whey. I usually get about a gallon of this for every pound of cheese I make. The chicks like it but it is an acquired taste. On a dry matter basis it is about 25% protein and the balance is mostly carbs. Whey has been fed to livestock for thousands of years . . . For as long as mankind has been making cheese. Primarily used by body builders, whey is one of the main protein sources in the supplement Calf Manna.

"Chickens are naturally omnivores, requiring certain essential nutrients like fat, protein, vitamins and minerals. . . Feeding chickens a small amount of animal protein meets their nutritional needs and provides a purpose for otherwise discarded meat and parts" . . . *Dr. Roy Brister, Managing Director of Nutrition and Feed Mill Operations at Tyson Foods*

The Genetic Factors of Silver Phenotypes

By Brian Reeder

What does it take to make a red variety into a silver variety? Most people will simply answer that the sex-linked pheomelanic gene Silver (S) is all it takes, but this is not the case. In fact, getting to a good, clean "white" silver phenotype is much more complicated than simply adding the Silver sex-linked pheomelanic allele to the s-locus. For the last twenty years, I have been working toward understanding the differences in silver and red phenotypes. In that time, I have made hundreds of test matings and raised literally thousands of birds, and with each of those matings, I have gathered data on the segregations of the silver and red phenotypes, in addition to any other data I may have been gathering. By working with such large numbers, I have been able to, first, form a series of hypothesis about the various factors involved in these phenotypes, and second, to test those hypotheses repeatedly and within many different genetic populations, polishing them as more data emerged. Through all that work I have come to a good working understanding of the various heritable factors (genes) involved in these phenotypes.

In the April 2011 issue of Exhibition Poultry, I wrote an article titled Pigmentation of the Red Jungle Fowl. That article is the precursor to this article, and I would recommend that anyone seriously interested in this article should download the April 2011 issue of this magazine from the website and read over that article as a companion to this one. I will be using my original artwork from that article to illustrate the progression of genes that make the final, fully clean white silver phenotype. I will also be using the MC1R gene, that we call duckwing in the hobby and notate as the e-locus allele e+, as the main base to illustrate this progression from red to silver phenotypes. However, this information does not only apply to the e-allele e+. The exact same heritable factors I will be discussing herein on e+ are used on all the e-alleles to go from the red versions to the clean white silver versions. In time, I will discuss the interactions of these factors on all of the e-alleles, but for the interest of brevity in this article, I will only be using e+ in the examples. The important thing to keep in mind when applying this information to e-alleles other than e+ is that each e-allele distributes the pigments (eumelanin, Sex-linked pheomelanin and Autosomal pheomelanin) in its own unique manner, and more so in the females than the males.

To begin, let us have a quick reminder of the pigment makeup of the red duckwing, as seen in the red jungle fowl and varieties of domestic fowl similar to it, which I call red duckwing and is commonly referred to in the hobby as black breasted red (image 1). This variety includes eumelanin, the red form of sex-linked pheomelanin (s+), autosomal pheomelanin (Aph), mahogany (Mh) and usually includes dilute (Di). However, the presence or absence of Mh and Di do not change the phenotype from red and these are simply additive genes that

Image 1 - the typical red duckwing pair which is the color pattern of the red jungle fowl.

create different shades of red/orange.

In both sexes, Autosomal pheomelanin is the base pigment that lies underneath the other pigments. In the male red duckwing, the body is eumelanin, while the hackle, saddle and main wing triangle are predominantly sex-linked pheomelanin while the shoulder and top of the head show the greatest saturation of Autosomal pheomelanin and also Mahogany (as Mh requires the presence of Aph to express visually – Aph serving as the platform upon which Mh saturates). In the female red duckwing, the breast expresses Autosomal pheomelanin while the back, shoulder, wing, cushion, tail secondaries and sides of the body are a complicated layering/blending of Autosomal pheomelanin, sex-linked pheomelanin and eumelanin. The hackle is mainly sex-linked pheomelanin with a eumelanic stripe in each feather, while Autosomal pheomelanin is predominant at the top of the head and around the outer edge of the hackles. For more on this red phenotype, refer back to my April 2011 Exhibition Poultry article mentioned above.

So now, if we simply add the sex-linked silver gene to the red duckwing, what does the phenotype become? To begin with, it does not become an exhibition silver duckwing. The female can only have one dose of this z-chromosome, sex-linked gene, while the male can have one or two doses. (We will only be discussing the homozygous silver males (S/S) here in all of these examples. The heterozygote males (S/s+) are visually very confusing and can appear similar to any of these phenotypes we will be discussing. Since they are not true-breeding phenotypes, they are irrelevant to this discussion). In the male, the addition of homozygous Silver (S/S) to the red duckwing creates a phenotype that would be referred to as “gold” in the hobby (image 2). The homozygous Silver changes the hackle, saddle and wing triangle to a yellow/gold color, as Aph is still present and underlies all the sex-linked pheomelanic areas, so that when the Silver gene removes the sex-linked pheomelanin the Autosomal pheomelanin is still there and is visible as the golden hue. If mahogany is present, it is also not affected by the sex-linked silver gene and will still be seen on all of the usual areas of expression and will make the tone of the gold in the sex-linked pheomelanic areas somewhat darker than if mahogany is not present.

In the case where mahogany is not present, all the areas where mahogany is usually seen will express as an orange/peach/golden tone that is several shades darker than the hackle/saddle shades. In the female, when we add S to replace s+, the hackle is changed to a creamy white shade while the rest of the bird remains very similar to the red duckwing hen. The major factor that will be visually different is that the back will be a cooler shade with a gray/gold tone rather than the more warm brown of the red duckwing hen. This hen is the “golden”/”golden duckwing” standard type hen as found in the standard description for that variety, such as in Modern Game. If the hen is expressing mahogany, it will be visible on the head, around the hackle and will darken the back and breast to a more reddish tone. This phenotype, in both males and females can easily be confused with both Diluted and Cream forms of red duckwing.

So how then do we get to a clean silver duckwing phenotype? The key is to remove (or inhibit)

Image 2 - the basic red duckwing combination when the s-allele s+ is replaced with S, but no other modifications are made.

the Autosomal pheomelanin. In my earliest research with Autosomal pheomelanin, I believed that we had a simple pair of alleles at one locus and I called those Ap and ap+ (the + being applied to the absence of Autosomal pheomelanin as I felt it also derives from a wild source – the gray jungle fowl, just as the yellow skin gene in domestic fowl has been shown to derive). However, subsequent research and test matings have shown that these two factors are not alleles of one locus. They are in fact two separate factors and are non-allelic. As I described in the April 2011 Exhibition Poultry article, I now use the abbreviation Aph for Autosomal pheomelanin. In addition, since the inhibitor of Autosomal pheomelanin is not an allele of Aph, I am now using the abbreviation Aph^I (Inhibitor of Autosomal Pheomelanin).

So once we have replaced red (s+) with Silver (S) we find that we still do not have a true silver duckwing, so we add Aph^I to inhibit the Autosomal pheomelanin. With only one dose of Aph^I (image 3), we see only partial inhibition of Autosomal pheomelanin. The heterozygotes for Aph^I will be lighter than the pair described above, showing a creamy, yellow/white tone in the sex-linked pheomelanic areas. In the female, the breast will show some spottiness, often with each breast feather showing a very pale pheomelanic edge. One of the most interesting aspects of Aph^I is that since mahogany only expresses on Aph, when Aph^I is present, the expression of mahogany is also suppressed. Thus, in cases where there is one dose of Aph^I, even when there is homozygosity for mahogany, very little expression of mahogany will be seen in the phenotype. The most prominent expression of mahogany will be on the male shoulder/back and the female shoulder/back and breast.

However, when even one dose of Aph^I is present, the mahogany expression will never be solid, and will only be spotty showing several shades of orange/red/mahogany. Two doses of Aph^I will nearly completely suppress the mahogany, so that only a tiny amount is seen at the edge of the shoulder/back area of the male. (I suspect there may be at least two alleles of Aph^I, as there is some evidence that a second form allows expression of Aph and mahogany in females, but suppresses it in males. Certain lines of gray Dorking in England, for instance, seem to attest to this but I have not had any examples to test mate or observe to date. It seems this alternate allele of Aph^I allows for clean silver males and Aph expressing females. In this regard, this allele of the inhibitor seems to show sex-expression of autosomal pheomelanin, with female expression and male inhibition. I hope to comment on this seemingly alternate allele after I have studied and test-mated it further in a future article.)

In instances where there is one dose of Aph^I, but no mahogany, we see the phenotype in the male that is called “golden”/”golden duckwing”, as in the standard description of the Modern Game variety. The standard description calls for this phenotype of male, but the female called for in that standard form is the non-mahogany form described above in the previous section. The male of this type has a yellow/cream hackle, sad-

Image 3 - When there is heterozygosity for the inhibitor of autosomal pheomelamnin (Aph^I), the phenotype is lighter and mahogany has far less expression.

dle and wing triangle while the shoulder is a darker yellow-gold to pale orange-yellow. Ironically, it is the female of this type, a heterozygote, that is the standard 'silver"/"silver duckwing" hen. She has a gray back with a slight cream tint (silver pheomelanin with black/eumelanic stippling of any size appears visually gray and layered over a small amount of Aph, there is a creamy effect), the hackle pheomelanin is white/near white and the breast is salmon, generally with a paler lace of cream pheomelanin at the edge of the breast feathers.

The true, fully silver phenotype (image 4) is very rare, because the female is not a recognized variety of any kind and most people, upon seeing one for the first time, think she is some type of Columbian or Ginger heterozygote. These hens are rather startling if you have never seen one, as the breast is extremely pale, almost completely silver, with almost no salmon expression at all. She also has no warm tones at all in any area of her feathering. When these hens do turn up in most breeding programs, they tend to be culled out as they are generally undescribed and non-standard.

Of course, the few people in the know make full use of these hens and they produce the cleanest white, Silver males. Silver/Silver duckwing has always been a double-mated variety, however, few breeders have ever known that and cull out the proper females. This knowledge has long been a carefully guarded "trade secret". The ironic thing is that breeders of Silver varieties are constantly complaining about "brassy" silver males, yet they routinely cull out the females that could produce the proper males. The true Silver phenotype is homozygous for Aph^I. The female is as described above and the male is simply a black and stark white combination, with all the pheomelanic areas, both Autosomal and sex-linked, reduced to white. In many instances, these males show a small amount of white at the upper breast and may show a few spots of white in the lower breast.

In addition to the presence of S, Aph^I and mh+, most silver varieties I have test mated also carry dilute (Di) and/or cream (ig). I am not sure that either of these genes is actually necessary to get clean silver, but they certainly don't hurt, either. Any diluter gene is only going to help remove brassiness from the silver areas. The presence of these diluters should come as no surprise. These varieties were developed long before genetic knowledge, so it only makes sense from a visual perspective that those breeders would have used any pale pheomelanic birds in their efforts to breed silver, just as any diluters and whitening genes were used in the development of solid white birds (which are known to often carry many dilution factors in addition to the major whitening gene; recessive (c) or dominant (I)).

As you can see from this discussion, the Silver varieties are much more complicated than the simple addition of the sex-linked pheomelanic allele Silver (S) to a given red variety. This discussion applies to any silver form of any variety. That means that all silver varieties, if they are clean, true white-silver combine homozygous Silver, homozygous Inhibitor of Autosomal pheomelanin and homozygosity for the absence of mahogany and may often also incorporate Dilute and/or cream, in addition to the other genes required to make the given variety. For those comfortable with using gene abbreviations, the genes of silver are S/S (S/~ in females), Aph^I/Aph^I, mh+/mh+ and often Di/- and/or ig/ig.

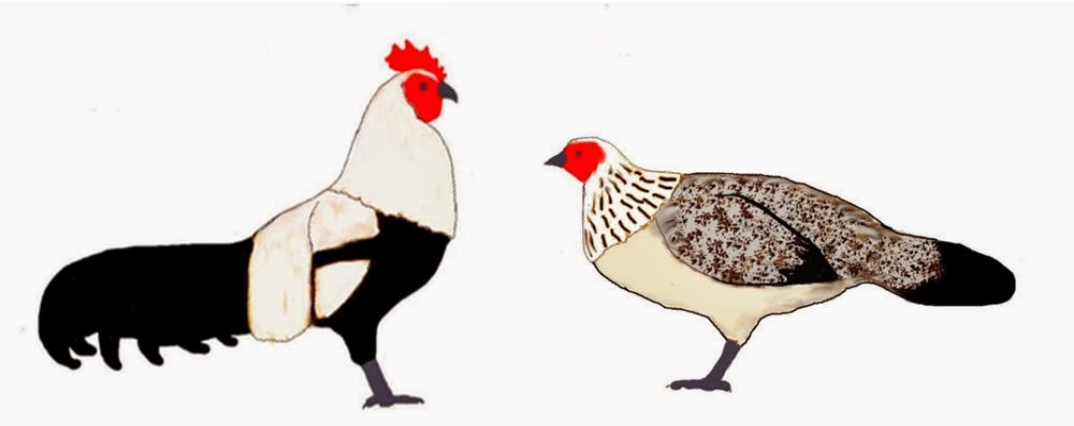
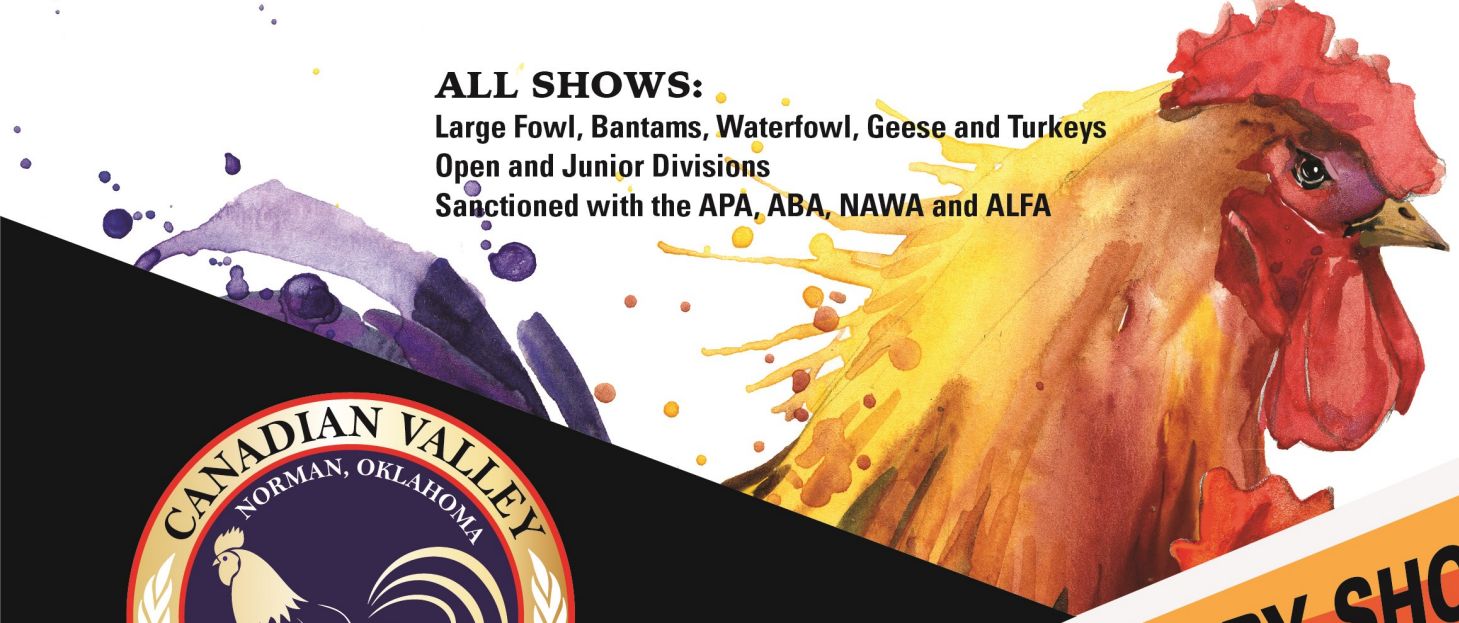


Image 4 - the fully clean, "white" silver phenotype seen with full, homozygous inhibition of autosomal pheomelanin.



ALL SHOWS:
Large Fowl, Bantams, Waterfowl, Geese and Turkeys
Open and Junior Divisions
Sanctioned with the APA, ABA, NAWA and ALFA

CANADIAN VALLEY POULTRY CLUB
NORMAN, OKLAHOMA

2020 POULTRY SHOWS

Feb. 1, 2020
CVPC State Championship
Norman, OK
Large Fowl, Bantams, Waterfowl, Geese, ALFA State Championshops and Serama Show. Open and Junior Divisions. Showmanship, Junior Contests and much more. APA, ABA, NAWA and SCNA Serama Sanctioned.

June 6, 2020
Canadian Valley Junior Prospect Show
Norman, OK
and Junior Large Fowl and Bantam Show along with Open ALFA show.

Nov. 7, 2020
MEGA SHOW, Norman, OK
Open & Junior Large Fowl, Bantams, Turkeys, Waterfowl, Geese, ALFA Show and SCNA Sanctioned Serama Show. Huge awards and premiums. NAWA North American Waterfowl Association Grand Nationals, Showmanship and Junior Events. 2nd Annual Breeder's Cup Show Bird Invitational Auction.

Nov. 28, 2020
Heart of America Mini MEGA Show
Hutchinson, KS
Large Fowl and Bantam and Open & Junior Divisions for Large Fowl, Bantams, Waterfowl, Geese, Turkeys and Guineas. APA, ABA, ALFA and NAWA Sanctioned.

Dec. 12, 2020
CVJPC Open and Junior Show
Norman, OK
Large Fowl, Bantams, Waterfowl, Geese and Serama show.

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