American Guinea Hog Association

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Guinea Hog News

From the President's Desk

Greetings from the president's desk,

I hope all of you are hogging well. The year is winding down but there is a lot that the board needs to accomplish before next year. We have many things to get into motion.

One of those things is the election that needs to take place. We want to increase the present board of 5 members to 9 members. We also want to have the different regions of the country better represented so we will be asking you to help. More of you working with us can help get more work done. This should help the hogs, which is the reason we are here to begin with!

I want to encourage breeders to be choosy when selecting breeding stock. Consume those that need to be consumed. Keep those that are good breeding stock for that purpose. It is as simple as that. This is what conserving the breed consists of and makes them sustainable. Conservation and sustainability should be important to our members.

Have an enjoyable time with your hogs,

Kevin Fall

First Place winner of the Photo Contest also winner of AGHA T-shirt and bumper sticker. Congratulations!!!

Leah Mack - Grazy Day Family Farm

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Inbreeding, Line Breeding and the Computerized Co-efficient

Trusting a Computer to Calculate Your Pigs' Genetic Inheritance

By Micki Taylor

The problem with getting a computer to spit out which animals to breed is that genetics is a roll of the dice and the computer has no way of knowing how the "DNA dice" rolled in any particular piglet. This message is NOT meant to be the last word on genetics--just a brief note on mathematics.

Genes/chromosomes come in pairs, one from mom and one from dad. The computer cannot know which of mom's two chromosomes any specific baby got, nor which of dad's two chromosomes the piglets have. Swine have 38 chromosomes, that is 19 pairs. When a pig breeds, each piglet gets a random set of 19 of mom's chromosomes and a random set of 19 from dad.

One fallacy in the way genetics is often discussed by lay people is percentage of inheritance. Let's say we breed two hogs, Mr. and Mrs. Smith. Each of the baby pigs is genetically half mom and half dad. Exactly 50%! That is not the fallacy. Now breed the Smith kids to the Jones kids. <u>This is the main point of this whole essay</u>: each grandchild is NOT usually exactly 1/4 Grandma Smith and 1/4 Grandpa Smith and 1/4 Grandma Jones and 1/4 Grandpa Jones. That 1/4 (25%) IS A GUESS ONLY based on the law of averages, which means chance. On average, Grandpa Jones pig will pass on 9-10 of his chromosomes to each grandbaby pig. Pigs have 19 pairs (38 individual chromosomes), so 1/4 would be 9.5 chromosomes.

For purpose of this note, consider that impossible (getting into passing on part of a chromosome is best left for grad school). So it is extremely unlikely that any piglet would really be exactly 1/4 each grandparent. The 1/4 convention is used so often that it is easy to forget it is just an ESTIMATE that an animal is 1/4 each grandparent.

But it goes even further than an "average of 9-10." If you understand the concept of a bell curve, sometimes granddad will pass on to a specific grandchild very few chromosomes and sometimes quite a few. (If you consult a statistics book, 66% of the time he will pass on approximately 1/4 more or less, maybe 8-11 or 7-12 chromosomes, while 17% of the time he will pass on significantly more than 1/4 and 17% of the time significantly less. Wikipedia might have a good explanation of statistics and bell-shaped curves.) Any particular "grandchild pig" could have 0-19 chromosomes from any one grandparent. (Yes, 0 would be as rare as 19, but not impossible.)

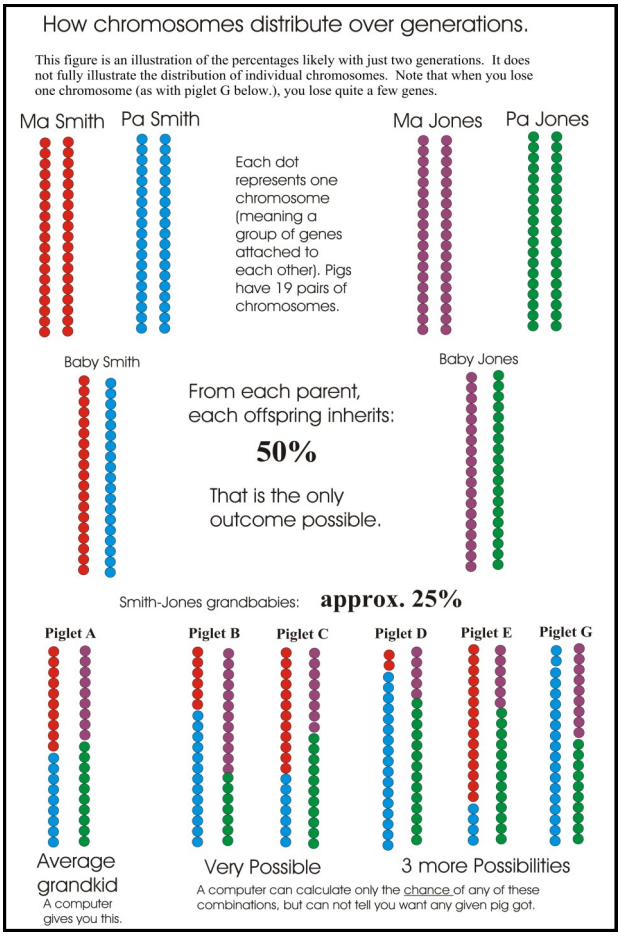
So, what's the big deal? Each generation there is a chance of one or more chromosomes not getting passed on at all. The more generations, the more likely the loss of a chromosome, or two, or three. The point is that the computer can only calculate mathematically 50%, 25%, 12.5%, 6.25%, etc. Only the number 50% for the first generation is guaranteed accurate. The others are estimates. So do not believe it when the computer spits out that a pig is one-eighth "grandpa pig Smith." That pig is probably somewhere between 0 and 25% "grandpa pig Smith". The computer cannot know the exact number. There is an illustration of the percentages likely with just two generations.

A person with good judgment, examining the pigs, is better than a computer in this case. (Check the past ALBC newsletter for an article about breeding chickens. They taught people to recognize desirable traits.)

A live person can observe the hogs and observe the visible and behavior traits they think appropriate for the hogs they want to use in breeding.

When you have a VERY small gene pool left in the world, as with Guinea Hogs, breeding is different than when there are thousands of animals. There are a lot of factors and you need an expert not just in genetics, but in the genetics of animals with very low populations. Start with ALBC publications.

Rather than a computer program, you need an educated eyeball. Know what collections of traits you want in your herd, learn what to breed for. Breed for what traits attracted you to Guinea hogs in the first place.



Trusting Continued,

Knowing what to look for in your breed's offspring can help even a small population be healthy if you breed many and pick the next generation of breeders carefully. Hence, the need for several good books, especially when dealing with animals that are in desperate need of rescue. You can't see every trait an animal has, remember. There are lots more genes for, say, immune system health, than for nose shape. That's why lots of animals are needed to keep a population healthy.

Even if you find genetics confusing at this point, you are doing some good for the breed just by increasing numbers, and as you learn more, you will do even better. You are also doing well for your family by providing meat that you know was raised the way you want. You are doing good by just letting friends and neighbors know about the issue of genetic diversity.

Guinea hogs live and breed a long time, so we have a few years to learn the basics of genetics of rare breeds. The issue of loss of some chromosomes mentioned above is why lines are a good idea. Mom and dad in a particular line may have many identical chromosomes (meaning their genes may be homozygous for many traits). Another line may have a few different genes on their chromosomes. Just by mathematical chance, if you mix up lines, your breeding stock will have a greater chance that one or more chromosomes will not end up in your breeding pairs. That is, genes lost forever. That is what breeders of rare animals want to minimize or prevent. (I'm not saying line breeding is the only way to preserve all possible genes. Get educated in depth on breeding methods. It pays to know as much as possible.) Including a figure to illustrate the loss of some genes is beyond the scope of this essay.

So don't stop learning and, by all means, enjoy the pigs!

Ann Glass

Scott Wall

Shirley Sullivan

Tina

Kris Bledsoe

Ada Kerman

~ Other Guinea Hog Groups ~

These group are not officially affiliated with AGHA, Inc. but are a great place to learn and ask questions about the AGH.

Facebook Group - American Guinea Hogs

FaceBook Group Founder :

Dona Inman

Guinea Hogs are a small breed of hogs, much smaller than standard hogs. Guinea Hogs will reach their full size at about 2 or 3 years of age, topping out at approximately 200 to 300 lbs.....a perfect size for the small farm, hobby farm or homestead. They are noted for their small size, intelligence, docile and friendly temperaments, and their ability to produce outstanding meat and flavorful lard on pasture and forage.

Groups

Yahoo group - guineahogs · American Guinea Hog Association

Yahoo Group Founders:

Ronda J. (Greener Pastures Farm)

Matt E. (Cascade Meadow Farm) moderator

Founded 2006

This group is for networking between keepers, breeders and enthusiasts of Guinea Hogs in North America. Here you can find discussion on conserving our rare and valuable pigs, sharing breeding goals, marketing ideas, feeding, housing and more on this forum.

Guinea hogs are a small farm pig that have historically been kept on homesteads because they are docile, easy keepers, produce pork in a smaller package, fare well on forage, and keep snakes away from the homestead. Farmers still find these attributes valuable today. Guinea Hogs are listed at critically endangered by ALBC; American Livestock Breeds Conservancy; www.albc-usa.org

This breed is known by the terms Guinea Hog, Guinea Forest Hog, and American Guinea hog.

YAHOO! Groups Join Now!

American Guinea Hog Association

Secretary, American Guinea Hog Association
164 Ridge Rd
Jefferson, ME 04348
(207) 380 2998
secretary@guineahogs.org

We're on the web
guineahogs.org

Membership Renewal

January 1, 2013

Annual Membership

$20

Lifetime Membership

$200

Guinea Hog News

Classified / Farm Profiles

We are interested in adding a classified section in the newsletter. If you would like to list an upcoming litter, adult hogs, or freezer pigs in the newsletter, please send the details and a photo (optional) to the secretary.

We would also like to add Farm Business cards. To add yours please send your card and a small blurb about your farm including what you do, how you got started and why you like the Guinea Hog. We will profile a farm in each newsletter.

Please send all the information to the Secretary:

secretary@guineahogs.org

164 Ridge Rd, Jefferson ME 04348

Writing Contest

Do you have a great Guinea Hog story; In 1000 words or less tell us your story. First place will get an AGHA coffee mug, bumper sticker, and their story in the next newsletter. Everyone who enters will get a bumper sticker and have their story published in the following newsletters. Get those computers (or typewriters) on and fill up the blank pages. One entry per membership, please have them in by December 21st. Good Luck!!