Thoughts on Inbreeding

by

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Growing up in Southern California in the early 1970s, I was exposed to a 15 bird shipping limit, and I guess it must have made a pretty big impression on me, because since then, I have always maintained a very limited number of pigeons. Even when the shipping limits continued to increase all around me during the early '90s, I continued to work with 12 breeding pairs and teams of approximately 60 young birds. With so few breeding pairs, I really didn't have the luxury of experimenting a great deal with inbreeding at that time.

In spite of my limited numbers, during a five year period in the late '80s and early '90s, I experimented with one or two inbred pairs each year. Having always had extraordinary luck with pairing by phenotype (trait breeding), I was pretty disappointed with these first attempts at inbreeding, so after five seasons, I decided that inbreeding wasn't worth the pigeons that it took away from my race team. Some will say that I didn't really give inbreeding enough time and that I worked with too few inbred pairs to really determine anything. However, when compared with the rest of my breeding program at the time, inbreeding just wasn't holding its own, so I cut my losses. Looking back on it and knowing what I currently know about the subject, I can see that I probably made the right move.

After returning to the sport in the late '90s, my partners and I brought in a group of Hofkens that were considerably more line bred. Now before I go on, let me explain a few things. There is a great deal of overlap in the definitions of line breeding and inbreeding, and it tends to cause some confusion in understanding the use of these terms. For all practical purposes, line breeding is the mating of less related relatives. However, assuming that no new blood is introduced and the line breeding program continues, as time goes by, the family will by default become more inbred. Consequently, line breeding equates to a less aggressive form of inbreeding.

For my purposes, I view line breeding and inbreeding as two separate functions. I prefer to think of line breeding as anything from a loose knit to a fairly tight family of pigeons whose purpose is to produce winners from within that family. I prefer to think of

inbreeding as an effort to concentrate or maintain a much higher percentage of inbreeding to enable out crossing with pigeons external to the family for the sole purpose of producing hybrids. With line breeding and inbreeding being two separate functions, I then define the types of matings that fit into these functions. Within these two functions, I describe inbreeding as the mating of father/daughter, mother/son, and brother/sister, and line breeding as the mating of all lesser relatives from within that family.

For the purposes of this discussion, an outcross is a pigeon, line bred pigeon, or inbred pigeon that bears no relationship to the fancier's own family of pigeons. In terms of hybridization, there is a range that extends from the pairing of two unrelated pigeons (weak hybrid) all the way up to two unrelated inbred pigeons (super hybrid). A backcross is a hybrid that is mated back to the parent (usually the father, which is hopefully an inbred) that resides within the fancier's family.

Now let's return to the late 1990s. During our first year of breeding the Hofkens, we used a polygamous breeding system and pumper pairs. While I don't agree with the "pumper" approach, it did allow us to produce a rather large number of youngsters, of which approximately 20 were inbreds. Of these 20 inbreds, approximately 10 turned out to be very nice pigeons, and later that year, they were combined with another 20 pigeons and auctioned off. Approximately two years later, I started getting feedback on many of those pigeons, but it was the success of the inbreds that really caught my attention.

However, by that time, there had been a change in our partnership situation, and I was back to breeding on a much smaller scale. Unfortunately, at that time, I was working through some problems within the Hofkens family, and I didn't have any pigeons to spare for inbreeding. Nevertheless, because of the continued success of the inbreds, the concept was always in the back of my mind.

In approximately 2003, Mauricio Jemal, of the Jemal Janssen fame, encouraged me to give inbreeding another try. By that time, I had the Hofkens back on track, so for the next year I ramped up the inbreeding program, and I was pleasantly surprised with the quality of inbreds that the Hofkens produced, and this time around, the inbreeding process proved to be very educational.

The Hofkens inbreeding program was again disrupted when my good friend Ed Lorenz gave me the opportunity to purchase many of his top Horemans. Given that I was making significant progress with the Hofkens, this changeover wasn't an easy decision for me. However, I had been an admirer of the Horemans for several years, and it isn't too often that you get to take your pick from one of the top lofts in the country. Another factor that made this decision easier was that the Horemans had already proven that they could inbreed, which given my recent success with inbreeding, was very important to me.

Here again, let me detour for a moment. For the most part, inbreeding has been used to change color, make things bigger or smaller, more useful and so on. In performance animals, inbreeding has most notably been applied to dogs and horses. However, it has also been practiced to some degree in pigeon racing.

Successful inbreeding is still very much a wide-open field, and the more I read and listen to other fanciers and even geneticists outside of our sport, the more I realize that there is a lot of room for improvement. Unlike inbreeding of other species, especially cattle inbreeding, there is virtually no scientific documentation on the methods of inbreeding used on racing pigeons. Without this documentation there is no knowledge base being developed, and as a result, fanciers interested in inbreeding must learn each of the basic steps, i.e., breeding by phenotype, line breeding, inbreeding, out crossing and backcrossing. Each of these steps presents its own challenges, and as a consequence, each step takes time to conquer.

My hope here is to provide a list of pointers that I have learned about inbreeding the hard way, and then I hope to end this article by explaining a few of the mistakes that I made early on, which is essentially the reason I have been dragging you through the history of my loft.

In my view, inbreeding comes down to three basic factors, gene alignment, tolerance to inbreeding and genetic compatibility. Because it is the fancier that is responsible for pairing his pigeons, it is also the fancier that is responsible for the genetic alignment of his family. If the fancier's methods are erratic, or he moves forward too quickly with the alignment process, he is likely to fail, especially in the beginning stages of the alignment process. When it comes to genetic alignment, I am not convinced there is any one way to succeed. There are many rules to the genetic alignment process, and there is a lot of luck involved in getting off to a good start, and from experience, I can tell you there isn't a lot of information available regarding how to approach starting out. In my view, it is probably best to start with pigeons that are already somewhat aligned and have proven their inbreeding value, as this will save the fancier a lot of time and effort.

Genetic Alignment

Here are seven rules that I try to follow when developing genetic alignment:

First, identify the foundation male that you want to work around as early as possible. Since you probably haven't done this before, I would recommend selecting two to three cocks that you believe have the potential to become a foundation cock and continue to work with them until one of them proves worthy. I would always choose a proven breeder over a race winner unless they happen to be one and the same. Work with these cocks until you see which one best lives up to the following rules.

Second, in selecting your potential foundation cocks, try to choose from pigeons with dominant traits such as yellow eyes and dark feather patterns. Do not choose a red or silver as your foundation cock unless you have a substantial number of hens with dark feather patterns to mix in with them. If you must chose a blue bar or a red, then choose one with a yellow eye. Avoid white flights where possible, but if this is your only option, then choose pigeons with no more than two white flights on each wing. Avoid bull eyes altogether. While you can incorporate a dominant trait over time, doing so will turn into

a race between how quickly these traits can be introduced and how quickly these traits will be needed. Realize that inbreeding tends to emphasize recessive traits.

Third, always try to select a proven breeder of cocks for your foundation cock. If you haven't owned the cock long enough to know about its ability to breed cocks, then don't make the decision until you do. The reason for selecting a cock that produces good cocks coincides with rules four and five.

Fourth, always follow the foundation male line over the other male lines within the family, and overall, always follow the male line (foundation line or not) of the family over a male from outside of the family. In a sense, I outcross other lines within the family to hens from the foundation line, and then I backcross hens from this mating to the foundation line. For an external outcross that I intend to backcross, I will use an inbred foundation cock or any other inbred cock from within the family. If the outcross is new, I try it out on something other than the foundation line, and if this is successful, then I mate the cross to a cock from the foundation line. That way, I don't waste time in the foundation line on unknown quantities.

Five, maintain the male line from generation to generation without any breaks in the line. There will be times when a fancier will want to mate a hen from the foundation line to a cock from another line. However, the fancier should only bring the hens from such a mating back into the foundation line.

Six, since most inbreds are never flown, it is very important that they are crossed out externally from the family very early in their careers, as this is about the only method of ensuring that they will still have their winning ways.

Seven, never backcross to a hybrid. Unfortunately, many fanciers chose a winner to build around, and as most winners are hybrids, they do not outcross very well, and when backcrossed to their daughters, they do not inbreed very well.

Tolerance

The truth of the matter is that the vast majority of pigeons and/or families of pigeons have little or no tolerance to inbreeding. I see tolerance to inbreeding as an innate genetic trait that, in some circumstances, is strengthened through good alignment management. Unfortunately, the only way to determine if your pigeons will inbreed is to try it and see; however, even then, you may find that what starts out as promising in the beginning generations tends to fall apart very quickly in later generations.

Compatibility

In my view, compatibility is the most important word in any kind of breeding, and as a result, it has many different applications and meanings. I am not sure that I have ever written an article specifically addressing compatibility, but I know that I have discussed it at length on several occasions.

The higher the level of compatibility within the family, the better the family will breed both internally and externally to the family. Because there is generally a great deal of alignment in a successful inbreeding program, there is also a great deal of genetic compatibility. However, as most families become more inbred, they also often tend to become more genetically specific, and less compatible with other families. Since the point of inbreeding is to outcross, this lessening of compatibility can become a problem, and it is something that the fancier must be conscious of and continuously check. When I think of compatibility, I immediately think of the Janssen's. While I still believe that their tolerance to inbreeding was a trait found in the original pigeons, I also believe that the brothers did a masterful job during the alignment stages, and then they were able to maintain what they had created for many generations. Quite simply, the Janssen's are an excellent example of what can happen through successful inbreeding if you are lucky enough to start out with and maintain the right pigeons.

Going back to my inbreeding attempts of the early '90s, I now realize that I was working with a variety of genotypes with a common phenotype. As a result, most of what I was producing at that time would be considered a weak hybrid (two unrelated pigeons coming together for the first time). While I did work toward alignment, there was such genetic diversity within those pigeons that I am not sure that I could have ever gotten them totally aligned.

At that time, I really wasn't thinking about building an inbreeding program. Instead, my hope was to have a few inbreds so that I could produce some hybrids to help improve my results. However, as you can see, I was essentially backcrossing to a weak hybrid, which of course violates rule number seven. Therefore, I could have spent years trying to align a potentially unalignable situation, or I could have wasted years trying to backcross to these hybrids. Either way, it is very unlikely that I would have accomplished anything. The truth is that these days, there are very few loose or tight-knit families out there, so most fanciers would be running the same risks that I was running back then.

I really think that when developing an inbreeding program, the most important and most difficult thing to accomplish is selecting the right foundation cock, and I truthfully believe that it is very difficult to achieve success by focusing on any single cock right off the bat. For instance, I have always raced hens, and somehow instinctively, I always select cocks that breed better hens than cocks, which violates rule number three. In the first case, I picked out a cock that pretty much produced all hens. In the second case, I picked out a cock that produced three-to-one hens, and there just wasn't enough cocks to choose from. While the second cock was disappointing as a foundation cock, he has still produced many excellent pigeons, and his daughters will play a very key role in the family as internal crosses to the foundation line, so it was hardly a loss.

I do appear to have been successful with my third choice of foundation cocks as breeders of cocks. However, whenever I buy a new car and my wife asks me how I like it, I always say, "Ask me again in three years." The same is true of foundation cocks.

As you can probably now see, there are many complications to inbreeding, and I am not sure that developing an inbreeding program is for everyone, especially for those that have a limited number of breeding pairs or for those that have little or no genetic alignment within their pigeons. If you happen to be one of these fanciers, but you are still interested in what an inbred might do for you, I would recommend trying to buy an inbred from someone rather than trying to breed one for yourself. In my view, I would far rather buy an inbred from a winning line than a hybrid champion from any line, as they are likely to be a much better investment over time. Even three very good inbreds could carry a loft for many years.

If you are like me and short of meaningful things to do with your life, inbreeding racing pigeons can certainly prove to be a challenge!

Until next time!

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