

## Article #3

### **Possibilities, Versatility, and Initial Breeding Concepts**

By Bill "The Book" Richardson

As you may remember, in my first article, I spent a fair amount of time discussing my ranking and pairing techniques. My system is really quite simple, but most people really like it, and over time, I have gotten a lot of positive comments on it. As you also may remember, I mentioned that I make 300 copies of the ranking sheets with the cocks in one column and the hens in another.

When I was writing my first two articles, I wanted to get some feedback before they were published, so I sent them to several friends of mine. One of them answered, "The ranking system is a good idea. You spend so much time, it is no wonder you like the breeding end. Did you mean 300 copies? That seems like a lot." Well, the answer is no. I meant closer to 1,500 copies, but I didn't want everyone to think I was crazy. By the way, this doesn't include all the erasing going on. Recently, we got some new furniture, and I was banned from the living room because of eraser crumbs.

Why so many copies to pair only 18 pairs of pigeons. Only my friend Dave Shewmaker has answered this question correctly. I don't have a calculator handy, so let's do the math with 12 pairs, as I know the answer to that one right off the top of my head. Twelve pairs of pigeons will create 144 combinations, which really doesn't seem like a lot.

With that number in mind, I tried to write a computer program to do the work for me. The idea was to save time by running all the possible combinations. I thought I could just print out sheets, with 12 cocks and 12 hens on each sheet, until I had all 144 combinations which would take 12 sheets. That way I could look at each sheet quickly, and when I came to a mating that I didn't like, I would just throw that sheet away. Eventually, I would probably end up with around three sheets that I would have to look at more closely. When I finished the program and ran my 12 sheets, I could see that I clearly didn't have what I wanted. It took me a while to figure out where I went wrong.

Since then, I have asked many people how many possible unique sets of 12 pairs can be made from 12 cocks and 12 hens. Dave Shewmaker sent me this answer early last year, "The number of unique combinations that can be made from 12 cocks mated to 12 hens is  $12 \times 12$  or 144. However, if the question is how many unique ways could the 24 birds be paired (as a set) then I believe the answer is 12 factorial ( $12!$ ) or  $12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2$  or slightly less than a half billion. (479,001,600)". I am dragging Dave into this so that I am not standing out here alone. Think about that a half billion possibilities!!!

As a side note, this lends serious credibility to those that say that a pigeon is no longer part of a family the minute it changes hands. With a half billion possibilities, what are the chances that you would mate them the same way as me?

Under standard thinking, we would have a list of twelve cocks and twelve hens. We would start with cock #1 and go down the list of 12 hens until we found a mate. This would mean the cock #1 could be mated to any of the 12 hens. For this example, let's say that it is hen #6. Then we move on to cock #2 on the list. We already know that hen #6 is taken. Now what happens if the best mate for the #2 cock is also hen #6? Should it be dropped as a possibility simply because it was the #2 cock on the list and the #6 hen was already taken? Or do we evaluate each of the two cocks to see which one would be the best mating for hen #6. Let's say that we decide to evaluate, and it turns out the #2 cock was best. Now the #2 cock is mated to the #6 hen. What happens when we find out that #4 hen only works with the number #2 cock and no others? The reality is that any cock must be available for any hen at any time, and this gives us a half billion possibilities to work with.

Sure, you can eliminate a number of possibilities from the half billion. For instance, personally, I would never mate two reds together, so if there is a red cock and a red hen on the list, I can eliminate that possibility. I would rarely mate brothers to sisters and so on.

Going back to my second article, I mentioned the super pair and the possible effect that it could have on my loft. I have 13 brothers and sisters from the super pair that could wind up in the breeding loft this year (That won't happen, but it could). Assuming that I don't want to mate brothers and sisters together, this would drastically reduce the number of possible pairings. Going into the breeding season, there are always several pairs that I know ahead of time that I am going to mate together. This might change 18 unknown pairings to 3 known and 15 unknown pairings which will drastically reduce possibilities. In the end though, the possibilities will be significant, and they warrant more consideration than just four hours in the breeding loft on a sunny February morning.

Meantime, I am sitting with my rating sheets night after night trying to get all of my pairing straightened out. During this process, I have learned to color code brothers and sisters so that I don't waste time on them. I also identify the cocks and hens that demonstrate the versatility to be mated against more than one of the opposite sex. The higher the versatility of the pigeons within a family, the more valuable the pigeon is to that family. I really take a hard look at the cocks and the hens that are limited to one possible mating because they often don't fit the family.

We are about to change gears here. I am going to start to ease my way into some general breeding topics. I can turn this into a text book example, or I can apply it to my situation. I think over time, it will be much easier to follow if you can look at breeding through my eyes, when applied to my loft. As you know my family is Hofkens based, and is an easy example to understand. It also will be easier for me to use as an example because I can explain why I have done everything.

Initially, I started with four lines: De Welches, Merckx, Bird of Paradise (BOP) and Topman. More recently, I have added the bloodlines of the very great racer, Hollywood that is currently owned by Mike Ganus. The following will describe my methods of blending these lines into a single family. For illustration purposes, I will include three examples. The first will be an example of how these lines were blended. Another will show how I intend to reintroduce my foundation hen. The third will illustrate the difference between parallel and series breeding.

In my second article, I discussed signs of improvement within the family. As I mentioned above, versatility is very key sign of improvement. Generally, as the family becomes closer from a genetic standpoint, the pairing possibilities converge. However, because the genetic pool is getting closer, theoretically, they should have many more traits in common thereby making it easier to pair them together. Therefore, if things are going right, it should be a trade off between fewer genetic possibilities, but more versatility within the group.

In my case, I started with a fairly diverse group of pigeons from five distinct lines and several offshoot lines. I didn't really have enough pigeons from each line to maintain the lines themselves. Therefore, I had to start blending the lines together right away. This is a very common problem that we are all likely to face in the initial stages of build or realigning a family. I didn't have enough depth within the lines to really measure versatility. However, across the lines versatility was about average. In general, this meant that most pigeons could be mated to at least two other pigeons within the pool. There were only about six pigeons (1/6) that were what I would classify as extreme versatility. These are pigeons that can be mated to five or more pigeons within the family. As a comparison, today that number would be around 50%.

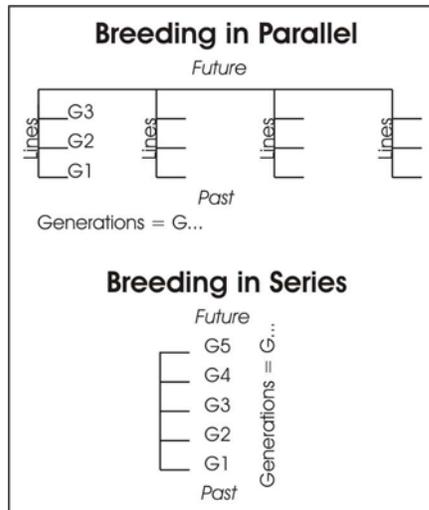
So why did I blend the lines? When a fancier has several lines within his family, the number of pigeons he must keep to maintain those lines will grow rapidly. It usually takes at least 20 pigeons per line to keep the line going. Therefore, if the fancier has five lines, he must keep at least 100 breeders. The fancier will gain some advantage through better diversity within the loft, and when something goes wrong, it will affect just one line instead of the whole family. This will give him time to correct the defective line while he continues to breed out of the rest. It is kind of like having five families within a family. However, it is very tough to maintain true segregation between lines.

In my case, I don't want 100 breeders, so I began blending five lines into a single-line family. The advantage here is focus and quality. The major disadvantage is that, if I am not careful, the genes will converge much more quickly, and should there be a problem, I won't have the ability to fall back to another line within the family.

Let's take a moment to discuss two electrical terms, parallel and series. Parallel means that several things are being developed at the same time. Lines within a family are developed in parallel. Series means one event followed by another. Single-line families tend to be more in series.

When we are developing a parallel or multi-line family, the lines themselves will generally be two to three generations deep. The more generations represented in each line, the more pigeons the fancier will have within those lines, and the more lines within the family, the more pigeons the fancier must own.

When multiple lines have been blended into a single family line, the process changes from in parallel to in series. Essentially when we consolidate multi-lines into a single family line, we are reducing parallel width and increasing series length. (See diagram).



What do I mean by increasing the series length for a single-line family? In a single-line, we increase series length by increasing the number of generations represented. The more generations present in a single-line family, the greater the potential diversity within the series. This can turn into a real race! Consolidating multi-lines into a single-line family is always a very risky move. If genes converge faster than the generations can be increased, the family will become too closely bred.

I came very close to this problem in 2001. The Hofkens were not a clean parallel family. By this, I mean that the lines had already been mixed to some degree. Many fanciers name their lines after the super cock in that line. However, in practice they will use a hen out of another line, and this means that the lines are not as segregated as they appear. In my case, while the transition went faster because of this inter-line mixing, I was collapsing the lines faster than I could increase the generations.

When this starts to occur, the breeding options become very limited. Almost everywhere I turned, I was faced with what would be classified as a heavy line breeding to light inbred mating. As I had not achieved alignment within the family, I was very concerned about making these types of pairings. Once you are forced down that road, the situation continues to get worse. You may still increase the number of generations, but you are increasing the inbreeding coefficient at the same time and this is of very little value.

I assessed the situation night and day for almost a year. The whole thing came down to three pigeons. I felt confident that I had the right pairings for two of them. The third one was one revolved around a pigeon that lacked pairing versatility. Fortunately, it lined up with a very versatile pigeon. Also at that time, I brought in the Hollywood blood as a precaution. As it turned out, this wasn't necessary, but as I will show you in a minute, it may have been rather fortuitous.

I started the blending process in 1999. As we discussed, this was a two step process which requires the blending of the lines and increasing the number of generations available within the single-line. Using De Welches as an example, five years later, I currently have a son, grandson, 4 great grandchildren, 13 great great grandchildren, and 6 great great great grandchildren. The great great and great great great grandchildren are now all a pretty equal blend of (BOP), Merckx and Topman bloodlines.

This year, I will mate one of the great great great grandchildren back to the son of De Welches. As they are four generations apart, the son to De Welches is really considered a distant relative. As you can see, I am now working in series. The more generations that are present, more in series I become. I now have alignment within the family. The pigeons are much more uniform, and I have a range of acceptability within that uniformity, and I now control the level of line breeding that I want to go to. What a difference two short years can make.

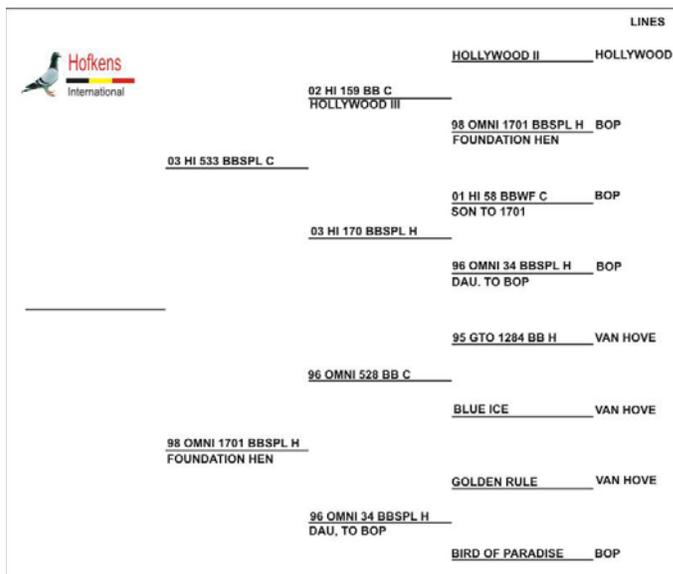
As I mentioned in my first article, to me, age is very important. Unfortunately, age becomes the limiting factor as to how long the series in a single-line family can get. I have been very fortunate to have successfully bred five or six generations down in such a very short period of time. Currently, I own 2 pigeons that are older than 1999. In fact, I still own most of the base pigeons that I used to move from a parallel to a series program. Going by my standard of seven years, I still have at least three years on most of the originals.

As you may remember from above, I discussed the importance of versatility within the family. Now let's tie versatility to a single-line family. Because De Welches, BOP, Merckx, and Topman were the base pigeons for the family, it would seem reasonable that the family now shares a resemblance to them. The fact is that while I can see something from each of these pigeons within the family, the family is already starting to take on a look of its own. However, there is such a high level of versatility within the more recent generations that I could pick any hen from this years breeding and mate them back to the son of De Welches and have an excellent chance for success. I can also do the same with the Merckx and Topman. This shows excellent line versatility.

My foundation hen is a granddaughter to the BOP. She is in the blood lines of almost every pigeon I currently own. She is a longer cast pigeon with a little more distance. Most of the Hofkens are very good through a light 500 mile race. She can go 600. This has a lot to do with why I selected her as the foundation hen. Because De Welches, Merckx, and Topman are much more similar pigeons to each other, as the generations go by, the more recent generations seem to line up with them, which makes sense because

the genes of three pigeons are pulling against the genes of the foundation hen. However, they are going to continue to need that long cast to keep them honest through the 500's. I am mentioning all of this because I want to illustrate an opportunity. (I will discuss opportunity, strategic planning and contingency theory later on in another article.) For now we will consider opportunity as the possibility for a change in direction.

The foundation hen is a granddaughter to the BOP hen and daughter to the OMNI 34 hen. While these two pigeons are no longer in the family, both bred a number of great pigeons. As a 1998 pigeon, the foundation hen is the oldest pigeon within my current family. (See Pedigree)

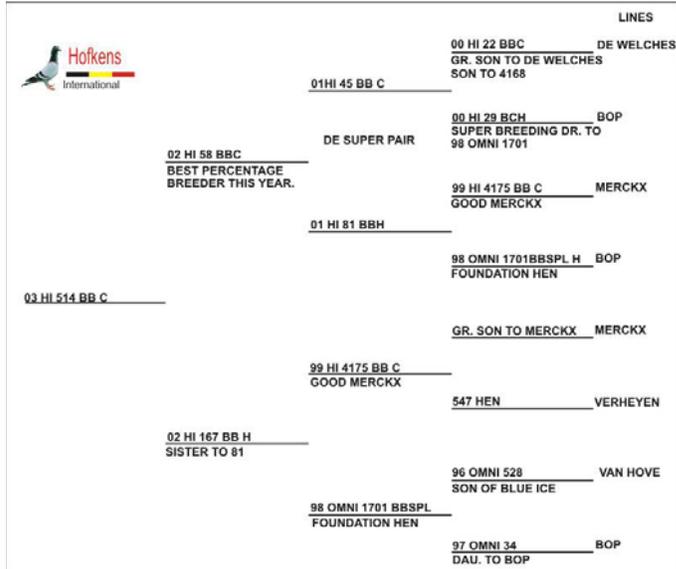


As you can see from the pedigree, I intend to mate the foundation hen to 533. The foundation hen is the grandmother and great grandmother to 533. The OMNI 34 is the grandmother, great grandmother and great great grandmother to 533. It turns out that 533 is almost identical to the foundation. (It must have something to do with the breeding!) This is a very big development for me because, if the mating is successful, I will get at least several more of the longer cast pigeons to mix into the family. With more of these pigeons, I will be able to counteract the cumulative effects of De Welches, Merckx and Topman. This will be excellent timing because I now have good family alignment.

Mating these two together will provide a number of benefits. This is an excellent opportunity to reintroduce and recreate the foundation hen and at the same time, introduce the Hollywood blood lines. I say reintroduce because the offspring can be used right away. I say recreate because 533 is already so heavy with BOP blood, that the doubling effect will be very high. In my opinion, this is an extremely high probability mating.

Let's recap. We now know that 12 pairs of pigeons presents nearly a half billion pairing possibilities. Pairing versatility is very important to the family. We learned the difference between parallel and series breeding. We learned that no matter what happens,

I am not going to have 100 breeders. We learned that collapsing a multi-line family in favor of a single-line family can be necessary and is possible but it is also somewhat dangerous. We learned that the way to increase versatility within a single-line family is by increasing the number of generations present. We also learned that age becomes a factor for determining the length of the series within a single-line family. And finally, we learned a method to reinvent our foundation pigeons. Until next time!



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