

Introduction to Selection and Breeding Techniques

By Michael L. Smith

Perhaps this article would be best served by defining what I feel should be the goal of anyone who would claim to be a breeder.

The simple act of mating two animals of the same species is in itself lacking personal input. Selection is enhanced when the animal in question is tested. The extent that breeders of racing pigeons do test and, for the most part, use their race results in the evaluations of their matings, we can be sure that there is at least some selective process. Far too often this becomes the full extent of their personal input. This is not hard to understand when we stop to consider the lack of definitive information on the subject. There is no end to the number of books and articles expounding this subject. Books on genetics, inbreeding, out crossing, etc., are to be found in abundance. Investigation will show that they invariably describe the breeding of one genetic trait.

The modern day racer is a very complex entity. He must rely on many aspects of his physiology. The muscle, wing, frame, constitution and homing ability must be in harmony before he can be expected to excel. The day when a bird could win on one or two of its attributes is past. This realization, along with an understanding of the mathematical complexity of sexual recombination, demonstrates the degree of difficulty faced by anyone truly aspiring to be a breeder. For the sake of demonstration, the geneticist, Theodosios Dobzhanski, described the consequences of recombination in this manner:

“If the parents were to have five pairs of genes, then there would be 32 possible recombinations. If they have 20 pairs, then the possibilities amount to 1,048,576.

If they have 32 pairs, then over two billion new opportunities confront the

offspring. Yet the simplest of animals has genes in the hundreds. There are no comprehensible mathematics to describe the chances of recombination producing two identical pigeons. As you can see, the ability to predict results through any understanding of genetics is in truth impossible. It can help to analyze, but as a means of predicting results, it is all but worthless.”

The challenge of the breeder is to find ways to enhance the genetic probability of the birds within his realm of influence. Population genetics is the term that best describes and controls any evaluation of a given family of pigeons. Far more important than the individual is the genetic mix of the group. We must come to some understanding of how the individual affects the group and, in turn, how the group contributes to the individual. Within any breeding colony, there exists the extremes for its collective genetic mix. This mix determines the range of diversity that can be found within the colony. The advancement of the breed is determined by the upper limits of this genetic mix. The value of the group is reflected by the average of the mix. It is this average that is reflected as type.

The fancier who seeks to type his birds has, as a manner of speaking, found a closet to his liking. To type is to restrict probability. If you are to reject the closet, diversity must be your first requirement. A standard of quality, not type, must be the rule of selection. If we are to set our goals where they can truly raise the standard of pigeons, we must always look to the extremes.

The skilled breeder is much like a master painter. Both have three primary requirements: the ability to visualize, the tools to create, and the understanding of how to

best use his tools. The one striking difference is that the artist is free to create a vision while the breeder must live within the confines of what he can see and feel. The laws of inheritance govern his every move and it is important that he understands their limitations. God creates living entities; man blends and selects within the divergence of these entities.

The vision of the breeder must be restricted to the limits of the genetic material at his disposal. Traits must be identified as having a positive or negative effect. They must be analyzed as to their potential and enhanced or minimized in accordance with one's desired result.

Most authorities see the rock dove as the sole ancestor of all the three hundred or so domestic breeds of pigeons. In each case, men recognized and enhanced some quality of behavior, size, shape or color. When the birds in his colony acquired the ability to transmit their selected traits with a high degree of reliability, one could say he had created a breed.

It was from breeds created in this manner that the racing pigeon owes its existence. Early fanciers sought to blend these breeds. Their goals, like ours today, were to enhance the racers' ability to home faster and faster over ever-increasing distances. Intelligence, speed and endurance were the needs of the racer, and the traits that contribute to these three requirements were and still are the objectives of anyone who would wish to breed a better racer. The modern day racer has had many architects. Each had his own distinct set of requirements. The successful fanciers, whose names can be found in the pedigrees of today's winning birds, deserve credit for having identified and enhanced their chosen characteristics. However, unlike the breeds that were used in its

creation, the modern day racer must be in balance. The word “balance” can have many meanings and, for the sake of clarification, I wish to add my definition.

As I stated before, the modern day racer is a very complex entity. If we could establish a mean point where each contributing characteristic was in a neutral state (not good or bad), it could be stated at zero (0). Each degree of good would then be given a plus factor (+) and a degree of bad a negative factor (-). When the sum or its parts were tabulated, it would be either a plus or a negative sum. The plus would denote balance and the negative a lack of balance. I might add that a bird’s quality of competition will decide where the neutral point will rest. A bird must be expected to win before it is said to have balance.

It is this kind of balance that the fancier must seek in all aspects of our sport. Pigeon health and system are the requirement of racing. We must have a balanced pigeon, in a balanced state of health on a balanced system, if we are to expect consistent results. It should be without saying that the higher degree of balance we can obtain, the better the results we might expect. We can seek to magnify our chosen traits but we must keep in mind that balance must be maintained at all times.

This requires the hardest balance of all to obtain (the balanced fancier). It is here that I would warn the novice. View with suspicion anyone who would advocate the acceptance of a theory on one of our subject’s attributes at the expense of the total bird. Too many fanciers stand with their noses touching a giant redwood while denying the existence of other trees. Seek a perspective that will allow the total view of our sport and follow a course that will allow you to see all the trees in its forest. Keep in mind where our racer came from and how it got to where it is today. It is interesting to read

interviews of the masters, old and new. They may have their areas of preference, but their one common theme is balance.

At about the time I was seeking to establish goals in breeding, I had the good fortune to come in contact with three or four outstanding pigeons. These were of the caliber of champions – that rare bird that seemed to perform under all conditions, week after week, fast or slow, long or short. Being fresh out of the Marine Corps, I drew on perhaps the only thing I learned (aside from never volunteering) and that was if you expect to be a good rifleman, you don't just shoot at bullseyes. You must shoot at the spot on the bullseye. Why breed for winners when all that is required is an adjustment of sights to breed for champions? With this in mind I set out to determine what it was that set them apart from ordinary winners.

The fastest bird wins all races. Be it fast or slow, the bird that can maintain the highest rate of speed for the duration of the race is the winner. Speed is the product of muscle, wing and desire. Endurance is the product of metabolism, frame, constitution and tenacity. Metabolism and tenacity must be tested. Constitution and frame can be seen and felt. The thing that always sets the champion apart is strength and constitution – the ability to recover from a race and be ready by the next week.

Muscle, wing, desire for speed, frame, metabolism, tenacity and constitution for endurance, speed and endurance are the physical requirements of the champion. Desire and tenacity are its mental requirements. It was at this point that I sought to formulate my personal list of requirements: (1) balance; (2) muscle; (3) wing; (4) eye; (5) tail connection/back; (6) frame; and (7) strength. Like the term “balance,” I will seek to analyze the remaining six characteristics.

Muscle: The motor, if you will, must be full, supple (not hard), buoyant, in harmony with the wing.

Wing: The wing provides lift and thrust. Since lift is in opposition to thrust, its characteristics must be reduced. Thrust is then the result of wing speed, length of wing, feather shape and feather flexibility.

Eye: The reflection of health, family traits and intelligence.

Tail Connection: The muscles that attach the tail to the back. They encase the vents and support the abdomen.

Frame: The superstructure to which all muscle is attached must be rigid.

Strength: Physical power, tenacity, constitution.

As you can see, each of my seven requirements can be broken down into a number of contributing factors and, in turn, they can be broken down still further.

Assuming that our list is complete. We must formulate a breeding program that will allow for the selection and incorporation of our chosen traits.

As I stated in the beginning, God creates, we only blend. So if we lack the degree of good we need for a chosen trait, we must acquire it. Keeping in mind that it should come in a balanced pigeon that comes from a family that is fixed for the traits we seek. Now then, assuming we have the best available desired traits, we must formulate a program that will allow them to be expressed jointly in the same pigeon.