der Vogelfänger

by Joseph G. Griffith

INBREEDING

There is, and probably always will be, a great deal of controversy about inbreeding. Much of this has been fostered by those who lack an understanding of genetics and the real purpose of inbreeding. Proof of this attitude can be seen among breeders who are always looking for "fresh blood".

What is it and what can it do? Inbreeding has two forms: breeding proper and linebreeding. Inbreeding can best be described as breeding closely related individuals: brother x sister, father x daugher, mother x son, first cousins. Line breeding is population inbreeding: a population of animals that is interbred without the introduction of any new stock.

No really good breeding program is successful without inbreeding. It is the paramount method for fixing new characteristics, for upgrading stock, for maintaining quality and for acquiring the highest degree of uniformity.

To some, inbreeding is "agin" nature. Consider that even migratory birds return to the place where they were hatched. The likelihood of pairing with a close relative is great. This applies to sedentary birds as well. Many birds spend the greater part of their lives in family groups where the opportunity to find an unrelated mate is small at best. Lovebirds, given free choice, prefer to pair with nestmates.

The strongest argument against inbreeding is that it gives rise to weaknesses. Whoever makes this kind of condemnation misunderstands the purpose of inbreeding. The "weaknesses" are already present. Inbreeding merely brings them out so that they can be observed by the breeder and weeded out of his program. A single example of what "hidden" characteristics can do will suffice to illustrate the importance of removing as many of them as possible.

As noted in a previous article, albino animals have certain occular deficiencies. They are also more susceptible to alcohol and other drugs. Experiments have shown that albino animals take twice as long to recover from a measured quantity of alcohol as normal ones. What's more, normal looking animals that carry albino take an intermediate period to recover. The albino gene interferes with some aspects of metabolism, even when hidden. The conclusion is that undesirable genes are active even when not apparent. Inbreeding allows them to be discovered and removed.

A practical breeding program must be based on priorities. What do you want to breed for? Almost anything can be used as the basis of a breeding program. Color, pattern, size, fertility, feather length or shape are some. Although a range of characteristics can be bred for, one, or at most two, must be given priority. The decision must be made at the start of the program and must not be abandoned. If occasion should arise where number 1 character can only be kept at the expense of number 2, then the sacrifice must be made. Fortunately, once a characteristic is stabilized in a line, others can be worked on.

The second principle for a successful program is selection i.e. culling. It is the indiscriminate breeder (inbreeder or not) who is responsible for so many bad animals. These are the people to whom dollars are more important than sense. They have given us nervous and untrustworthy dogs of most breeds, canary hens that refuse to feed, Gouldian finches that will not nest, etc.

Every animal produced should be carefully examined. If its faults are serious, it should be destroyed. This may appear drastic and unnecessary. Both ethics and sound breeding demand that faulted animals be rendered incapable of reproducing themselves. Destroying them is the only way of guaranteeing it.

This is comparable to the selection process that occurs in nature. When it is considered that only one out of every five Passerine birds that lives to leave the nest, lives to breed the following year, it becomes apparent that there is great pressure in the wild to select for the best.

In due course, the breeder who inures himself to the necessity of severe culling will be producing animals of such

high quality that he can command a better price and, with his reputation having gone before him, he will get it. A woman who formerly bred red-factor canaries, limited herself to five pair per year. By necessity, she was forced to cull severely. In 1956, when others were getting $35.00 for their birds, she was getting $75.00. Quantity is not quality.

The following is a story of what can be done. A young man who worked for me purchased a stock of Modena pigeons that had been closely linebred for 35 years (no new stock having been added). The stock was selected on the basis of its high quality. Subsequently, he inbred them for 11 years, never going to more distant relationships than first cousins, yet did not sacrifice quality. During the first six years he killed any bird that became ill, regardless of the reason. For the remaining five years, no bird died except from old age. Clearly, stamina need not suffer. Indeed, it can be improved.

A practical breeding program can be carried out with any number of birds, but here it will be reduced to its simplest terms. Beginning stock must be of the best quality possible. This may mean few rather than many. A cock and two hens of topnotch quality will serve. These need not be related. With birds that cannot be used in this way (cockatiels, lovebirds), two pair of related birds should be purchased, preferably two brothers and two sisters.

Lest this be thought too close, consider an average litter of purebred puppies. There is a wide variation in size, pattern, temperament and stamina, yet they are brothers and sisters. Some genes are held in common, but the observable variance is a strong clue to how genetically unrelated they are.

The first generation of offspring from each hen (pair) should be selected for the qualities sought and bred full brother to full sister. If none of the offspring is quite as good as the parent of the same sex, then use that parent as part of one pair. Two, somewhat related lines have now been established. These lines must be kept separate for as long as possible; five generations of brother to sister being a minimum.

During the first five generations, wide variations will occur and careful culling must be practiced. All birds in excess to the program should be sold or otherwise removed to avoid temptation. After the fifth generation, increasing uniformity will become apparent. Offspring will become more and more like the proverbial peas in a pod.

Should a very serious fault crop up it will undoubtedly be a recessive and it will be necessary to test the normal appearing birds in order to decide which are "clean" and can be used for continuing the line. To do this, maintain the bird(s) that have the fault and pair the normal bird(s) with it for a single breeding only. If all of the resulting progeny are normal appearing, then that bird is safe to use in the program. If any of the progeny shows the fault, the normal appearing bird is a carrier, and should be disposed of, or used with fear and trembling.

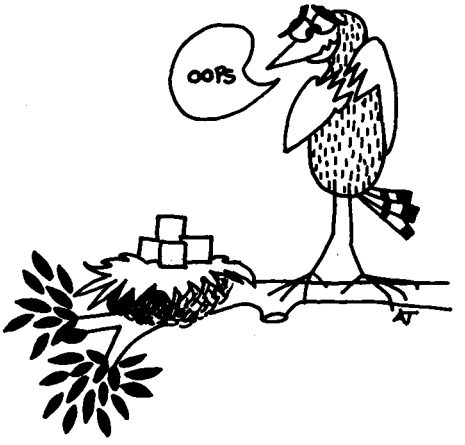
Occasionally, it becomes advisible to outcross and this is the reason for two lines. Every outcross introduces hundreds of unknown genes that may take several generations to weed out. With two reasonably related lines, an outcross can be made that will limit the amount of culling. Once the outcross is made a return should be made to the brother x sister matings.

Linebreeding is a simpler form of inbreeding and begins with a larger genetic sampling. As with inbreeding, nothing should be sacrificed in the quality of the initial stock. In this case, they need not be related. Since most birds mature in the first year, three, or multiples of threes, are recommended. Nine will be used here. Band all of the initial stock with one color. Select the best three pair of young from the first breeding season and pair them together disregarding relationships. Pair them on the basis of complementary points; a bird with a small but good head with a bird with a large head. Band these birds with a differenct color and use them to replace three pair of the originals. Severe culling is as important here as in strict inbreeding.

Each year, one third of the oldest birds should be replaced by an equivalent number of young birds. Following this procedure, and beginning in the fourth year, the program will consist of one third three year olds (peak producers), one third two year olds (good producers), and one third beginners. Two things are accomplished; there are always reliable producers in the program and the breeder is assured of a fresh supply of stock without waiting until the last moment when his birds have stopped production and there might not be replacements available on the market. Adjustment of this principle would have to be made with birds that mature more slowly, e.g. Amazon parrots that take five years to mature.

All of these birds will become increasingly related and the initial diversity of quality will be followed by increasing uniformity, but much more slowly than in strict inbreeding. The disadvantage here is that there is no reserve of related birds for outcrossing. The need is less likely to arise, but if it should, rank outcrossing is the only option.

It has been said that like will not produce like; that good birds don't always produce good ones. No one could expect anything else from birds of random genetic makeup. The majority of good or outstanding birds seen are the result of happenstance, not sound genetic programs. The difference is that inbreeding is the unparalleled tool for producing such birds consistently and predictably ■



Our humble apologies to Sue Van Couvering for printing her Finch Aviary photo upside down, page 11, Feb/Mar 76 issue.

We are in receipt of a membership payment from Anna B. Barber – with no address or other ways to locate her. Would Anna B. Barber, or anyone who knows her, please advise A.F.A.