The New Line Breeding : Frame, Feather, Pieces and Parts

By Mike Rankin

If you pick up any book on Budgie breeding you will find a chapter on line/in breeding. The practice is based on the premise that you find a great Budgie and clone that bird by a serious of mating of closely related birds. This example is the summery of both line breeding and inbreeding.

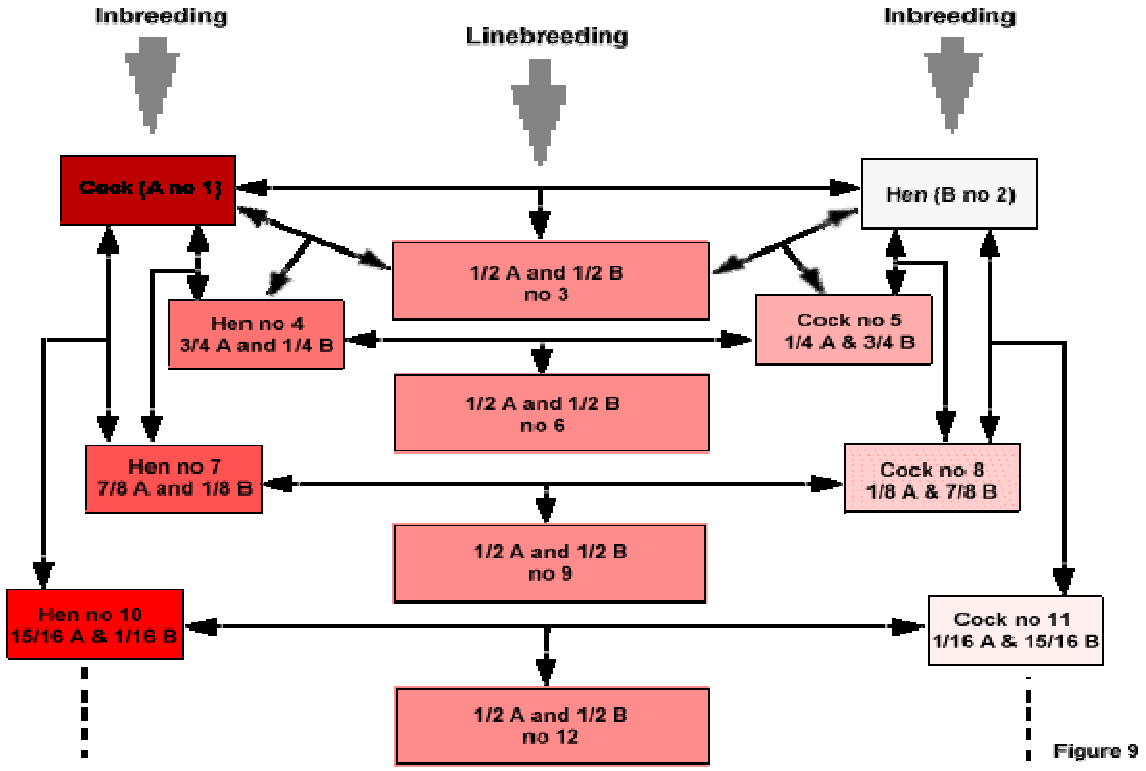
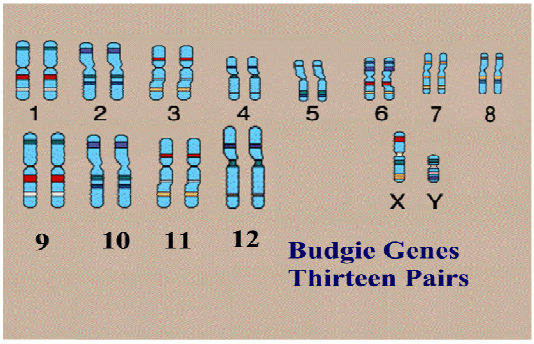


Figure 9

The problem with this plan is the initial great budgie. It is a real challenge to come up with that great Budgie. In addition this plan does not take into account the advancement in genetic knowledge. With the in-depth knowledge of genetics we can now put together a plan based on the strengths of many good budgies.

For the sake of those people that missed genetics 101. Genes are the building blocks of life. In this genetic material are the building plans for life and all the characteristics of each living thing. Budgies have thirteen pairs of genes. Twelve complete sets and the sex determining gene. Each gene carries the coded information for each individual budgie.



Each gene is a pair, one part from the father and the second part from the mother. The gene itself is a double helix with the actual coding on the rungs between the helix. This coding is a protein based code noted in figure one.

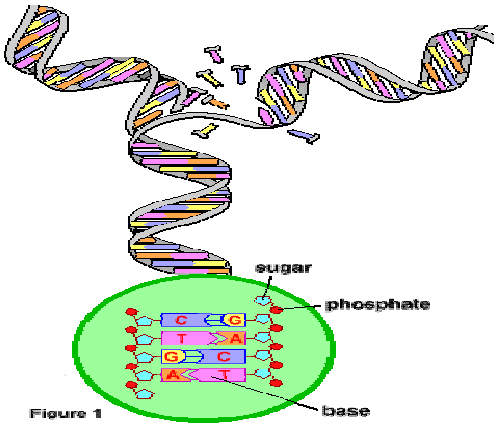


Figure 1

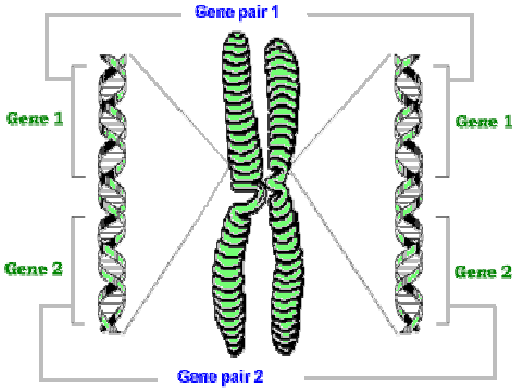
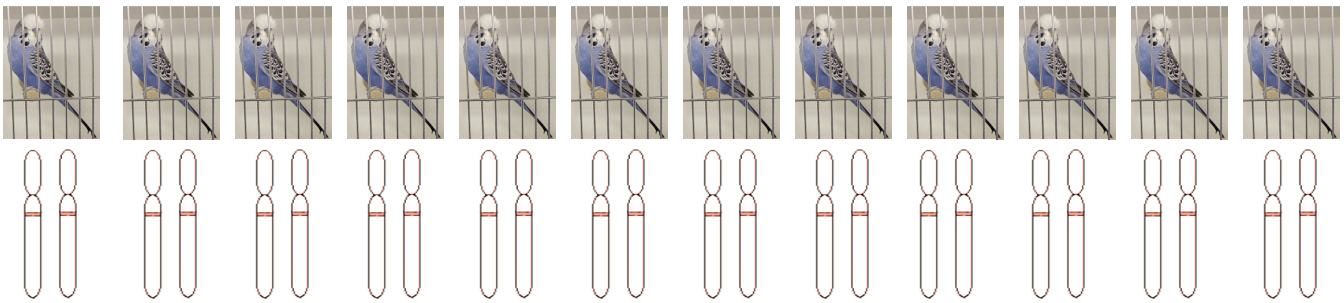


Figure 2

Now you have the basic of genetic theory. There are many good books on gene theory if you wish to get deeper into the management of genes. For our understanding the basic will do. So now we get to the substance of this article. For the sake of simplicity we are now going to assume at Budgie have only one pair of genes. In reality the traits we discuss will be distributed on any of the thirteen genes. Some traits are co-located on the same gene and travel together during replication. We will not address collocation or linkage in this article.

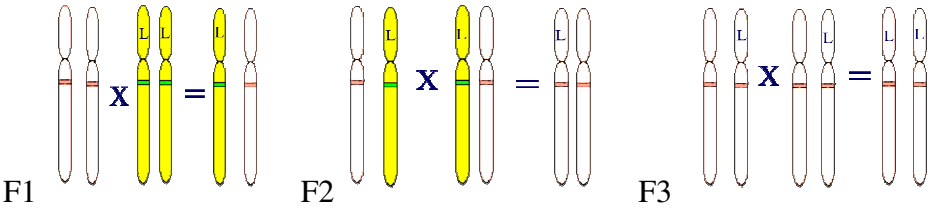
All the traits we cherish in our show budgies are recessive to the wild type. The length, width, color and size are all recessive to the little green budgie built to survive on the plains of Australia. Budgie left to their own devices will easily revert back to that wild type in a matter of a few generations

So, we start with our foundation budgies. This should be a family loosely related with above average show charities and good breeding habits. These foundation birds should not have any major faults. We should start off with at least twelve birds for our plan. They would look something like this. The white gene denotes the family. The orange bar located on each gene denotes the family gene set.

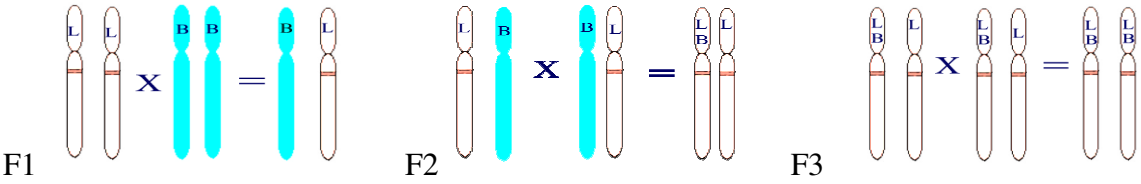


The first step in this process is to locate a Budgie with great length. We are looking for a budgie at least nine inched long. This Budgie should have a straight backline and a nice symmetry with at least thirty percent of its length below the perch. This budgie is denoted by the yellow gene with the green bar. The “L” denotes the genetic coded material for extra length. Once you have located the Budgie you want to breed that Budgie to the family. The following are the process through the F3 generation. The F1 cross is the Budgie with the length bred to the family. You will need to breed the budgie with length with at least two members of the family. The F2 cross is the young from the initial cross to the resulting half brothers and half sisters. The F3 generation is the cross of the inner family with the added length. At the F3 generation you have

established the length within the family. Subsequent mating will further establish the trait with in the whole family.

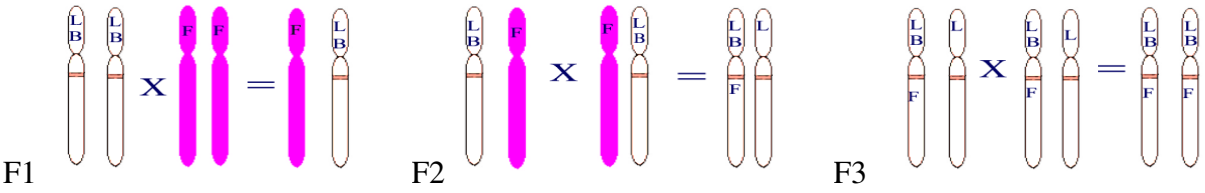


The next step in the process is the addition of feather. What you are looking for is a long wide feather with lots of down. Some would refer to this feather as buff. A good way to assess the feather on a Budgie is the spots. A spot is on one feather. If the spot is large and round then the feather is close to what you want. At this point you start the migration of the trait into the family. The F1 generation is the initial cross to the family. Remember you need to mate the outcross to at least two family members. The F2 generation is the cross of half brothers and sisters of the F1 generation. The F3 generation is the mating of family members to again establish the trait with in the family.



At this point you have a family with both length and feather established. Now you star the refinement process. These are the visual traits that set a side the nice budgie from the top bench budgie. These traits are more difficult and costly to acquire.

For me the next step was face. I wanted that bold square face that flowed gracefully through the neck to the body. We used the same process to migrate the trait to the family gene pool. In the F2 generation it is not uncommon to produce some wonderful show budgies. There is a temptation to use these birds as the family and change the dynamics of the family gene pool. I would strongly suggest you stay with the plan. If for any reason you loose or destroy the family gene pool all is lost. You will not be able to generate future competitive Budgies and you are back to owning a collection of birds.



After you have established the basic requirement of a competitive budgie in your family you can start to refine the genetic pool. Things like directional feathering, blow, width, spot size, mask placement and color. At some point I choose to break my initial family into three sub-families. This took some preplanning. First I had to generate enough basic stock to support three sub-families. The initial break was around color. After the initial break I started to refine the sub families for the specific color using the process. This created some differences between the sub families. This also created demand on any outcross bought in. In some cases I needed to breed that outcross with each sub family twice for a total of six breeding. In some cases this became a two season process. Many of the outcrosses never worked out. My average is one out of four

outcrosses actual provide value. I use cocks as the outcross for two reason. First you can purchase a higher quality cock easier and cheaper than a hen. Second there is less of a chance for breading problems. In the actual families many of the Budgie will appear relatively average. Many of the members will be carrying only a single factor for a specific trait when a double factor is required to produce a competitive budgie. Do not cull the core family because you have better show birds in the F2 generation. Remember this is all about the family and the gene pool contained within the family.

Now you have the basic practice of managing a gene pool. This is not a practice to be entered into lightly. This process requires detailed breeding records and keen observation. At the beginning of each breeding season you must write down your goals for that season. When plan "A" falls apart because a Budgie will not breed or the key bird has the audacity to die. You have to have a plan "B" to stay the course.

I can not guarantee that this will insure that you become a top breeder. All I can say is it works for me. But in the end you have to have some type of plan. Blind luck only happens now and then and if that is your plan we wish you well.