

The Pigeon Genetics Newsletter, News, Views & Comments.

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We begin the New Year with a topic that we hope strikes a note with each of You !

"Do You have to know Genetics jargon in order to successfully Breed Good quality Pigeons ?"

The short answer of course is NO. Genetics jargon is for Geneticists. It is the use of terminology that they have devised to enable them to properly classify each and every detail of the entire genome of whatever specimen they are studying. It helps if we are going to delve into any such discussions, that we have some basic knowledge of course.

I am certain you have heard the saying - "That person knows just enough to be dangerous". We see examples of that whenever the various topics come up on Facebook. There are always going to be a couple of people claiming to have a degree or two in the sciences or in genetics etc., who attempt to impress everyone by tossing around a few genetics terms in hopes that they will cause others to consider them as experts.

Usually it is not long before their true level of knowledge and understanding is realized. I started out from the beginning telling everyone that I have no formal training in genetics, but I have spent a lifetime applying the information to my breeding programs and my everyday explanations of just how the basics work without a need for getting into deep genetic jargon.

Most people start out by trying to buy the best breeding stock available in order to start their breeding programs. I was from a very poor family, and had to simply take whatever stock was up for grabs. I soon was competing against the best breeders and beating them. One of my friends here on Facebook once said: "If you want something good from a pair, give them to Bob to breed!" That was a very nice compliment I have never forgotten!

The first thing you need to understand is that "You will not get rich breeding Pigeons!"

The second thing is that you will not breed good birds in poor conditions with poor feed.

Thirdly You should get out to shows , join a club., join a National Assoc., and get a breed standard Book if one is available, or download the standards from the Net..

Fourth , KNOW the standard of as many Breeds as possible , NOT JUST the Breed that you keep. You need to know and understand why your birds do, OR DO NOT place against the competition.

Fifth, Always be friendly and respectful of fellow fanciers , their birds and particularly the Judges even if you disagree with their decisions.

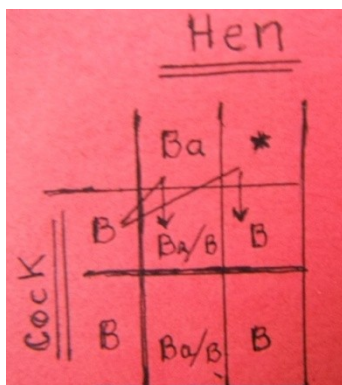
Sixth , If you sell birds , obviously you will not usually want to part with your best, so make certain you do not take advantage of the lack of experience and knowledge of others who get your birds. Be honest and fair !

Once you have used these six steps to get you started, and you have a few pair working in a clean spacious loft with individual pair breeding pens, you need to have a keen eye for every detail and apply selection carefully. Do not breed from every bird you raise , be very selective or you will soon have far more birds than you can manage and feed. That was a major mistake for me as I hated culling , and loved experimenting.

Keep Records - You should get a notebook and keep a detailed record of all your birds and if you can band them , that is even better when identifying them in the record book. Photos of each pair and their young will also be of great help.

Learn how to use a punnett square to calculate each genetic trait that will be possible from each pair. This basic knowledge will save you a lot of time and added cost as it will take away all of the guessing and raising young that are not wanted.

Punnett Square - Here is one way you can draw a Punnett square and use accepted genetic symbols to calculate your expected result from a given pair.



Here the hen is a dominant allele Ash-Red ($Ba//*$), and mated to a pure blue series male ($B//B$). You can see by the arrows that each symbol is combined and the information placed in the block below. In this case it is easy to see because the hen is a sex-linked dominant over her mate , so all sons will be her colour, and all daughters will be the colour of the male. The (*) shows that that is the sex chromosome and that that locus does not contain any significant information except gender .

Ba // B indicates an ash-Red male split for blue series. You would repeat the same combination process for the second row of blocks. The female can be listed as B//*. B males can be listed as + or +//+.

If the Blue series cock carried brown, you would have instead used the symbols B//b for the male, and on the second row down, you would get ash-Red Males split for brown - Ba//b, and just (b) in the last block for brown daughters.

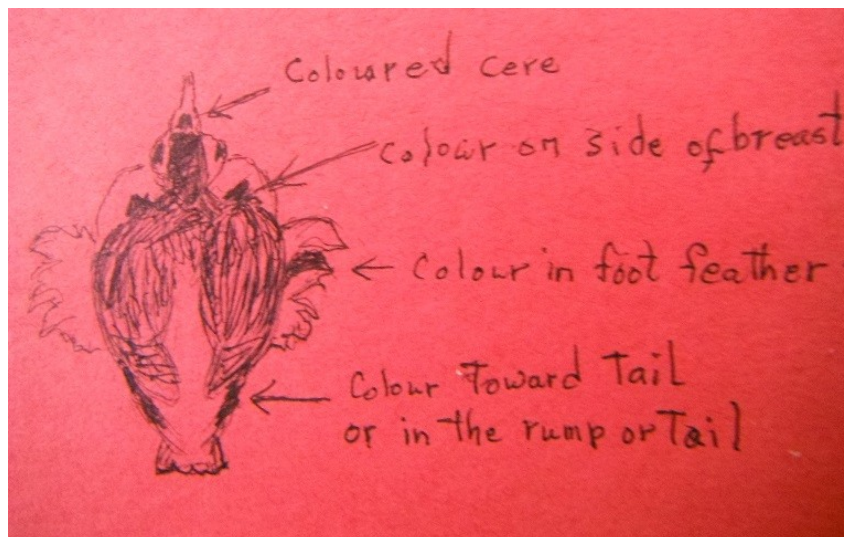
This process can be used for any and all traits. If you do not know the symbol for a given genetic trait, then you may apply whatever works for you at home., but learning and using the correct symbols is best.

If you are raising 'marked breeds' such as any of the Pied factor breeds, then I found it helpful to make rough sketches of the markings that you can see on the skin of the babies in the nest as once they begin to feather out, the exact lines become covered. It is always best to NEVER mate two birds together with the same fault, whether it is a fault in colour markings, size, type, stance, etc. etc. Many of those traits will have to be accessed later on as adults, but markings are best tabulated on the nestlings.

The feather colour usually is its darkest at or toward the tips or ends of each feather so the entire patch of skin colour will tend to move more toward the back of the bird slightly. The white feathers will cover the front edge of coloured feathers and the back edge of coloured feathers overlap the white.

Some white tailed breeds will show a line of coloured down feathers along one or both sides of the bird toward the tail. Breeding such birds together will lead to the offspring having coloured outside tail feathers.

Likewise, you need to keep track of colour of a forehead spot or other marking That stains out onto the beak cere / wattle. This may continue out onto the beak tip itself to create a solid colour upper mandible or a horn tip beak. Your sketch need not be fancy, just a rough outline. Photos would be best for your record book, if you have a printer. You would also do the same for excessive white areas.



Inbreeding is often used in various ways in Pigeon Breeding. Some people have grown up taught never to use inbreeding due to either a worry about creating deformed and otherwise weak offspring , or just the 'moral' aspect as it would also be applied to humans. Close inbreeding is more likely to cause deformities. Some breeders have no problem with culling these and just keeping the strong healthy ones and again breeding from those. Specific 'strains' are created this way. You have to decide how you want to proceed. Each time you introduce new blood , no matter how good that bird may be , you most likely will be adding a complete new batch of recessive traits that may set your program back.

Many people play with crossbreeding of various breeds usually to introduce a new colour, but this often sets the standard quality of the recipient breed back by years. Even once the birds have been upgraded to standard, they still are most likely carrying hidden surprises, and most likely not good.

Bottom line is to get the best and breed the best to the best. It does not cost any more to house and feed a GOOD quality bird than it does a poor quality one.

Health of the birds and YOU! - Keeping the birds in top health can be a major problem . This is especially true if you (1) Have a closed loft with poor ventilation that is not cleaned out often. (2) If you bring in new birds especially without quarantining them for at least six weeks. Ideally someone else should care for them who is not entering your main loft. (3) If you are attending shows and exposing any of your birds to other exhibits there, just being in the same room may infect them , so once again quarantine is required. (4) Medications - I have very little experience with all of the modern medicines and vaccines that are available nowadays, so I just advise you to try to get either a Book on the subject , or contact an experienced breeder in your local Club. (5) perhaps the most important of all is to wear a good quality mask whenever you go in the loft where the birds are flying around. That dust ends the hobby for many people every year and can eventually cause Bird Breeder's Lung Disease , and may even kill you, if you allow it to get severe. I speak from experience on that also as I became quite ill before I finally realized that I had to part with the birds altogether.

Predators : If there are pens of birds with grain in dishes , there will be other animals that will come either to hunt and kill the birds or to share the food supply. Either way it can prove to be a disaster for your birds. There should be no opening larger than 1/4 inch anywhere in your loft for optimal protection against small rodents such as shrews and mice. Both will kill and eat baby pigeons . Mice will bring in lice and bacteria and spread them throughout the loft. Once inside your loft , one pregnant female mouse will soon multiply rapidly into hundreds if not quickly exterminated. They contaminate the food and water and the birds soon become ill and die of a host of diseases. Outdoor flights should have an additional stronger mesh wire over the small so that larger animals cannot chew or claw their way in. In some countries even snakes can be a major problem. An ounce of prevention is worth a pound of cure , and you need to be extra careful.

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Here are three photos of a phenotype in a standard Fantail presented by **Des Bryson** in my Face book Group "Unnamed Unique Pigeon Colours" . The Fantail is affected by the "STIPPLE" gene . This shows us what happens when that gene has very little resistance to its natural effect which is to depigment base colour. In this case the base colour is blue/Black series on a pattern series bird. Almost all pigment has been temporarily cut by the depigmenting process. Due to the very unstable effects of this gene , there is no way to predict how much pigment will be blocked from expressing or where. Some feathers may grow out without the loss of any pigment whereby others will appear nearly pure white. When a bronze gene , especially "Kite" bronze is present, it suffers very little if any depigmenting effects by the Stipple gene. The aim in creating typical Almonds is to fill all of the white Break on the bird with bronze. This can also be enhanced with one dose ( hetero), of the recessive red gene. Notice that partial depigmentation of the base pigment causes a 'greyish' colour of many feathers especially in the tail and often in the flights. The only place where white Break is desired is in the Tail and flights where concentrated smooth spread is found. Bronze does not express in those areas. It is rather common in Stippers to have one or more larger areas where no depigmentation has occurred . These give false impression of being a Mosaic , but are not due to that manifestation in Pigeons





As this bird ages , it will undergo what is referred to as 'reversion'. That colour pigment reversion brings back much of the base pigment as the effects of the stipple gene wanes. This is mistakenly also called break by a few who do not understand exactly what is happening by the presence of the Stipple gene.

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Here is another example where the Stipple gene is used on a blue/Black series bird but one which is apparently either hetero recessive red , or also hetero for a bronze factor . The photo does seem to be slightly enhanced by the flash and other lighting, but you still can see how the addition of the red melanin fills the otherwise white Break. This bird will also revert to more blue/Black base pigment as it ages which creates the stippled black flecking so typical of birds of this genome.



Voiajori Colorati - Romania , shared by

Octavian Sarafolean on my Face Book Group - "Strictly Colour Genetics for Pigeons" .

Here is a list of all the recessive sex-linked genes : NOTE: All traits are listed as recessive, partial dominants , or Dominants as they relate to "WILD TYPE" , not to one another.

(sources : The net., Dr. Lester .P. Gibson "Genetics of Pigeons", Axel Sell "Pigeon Genetics")

- (1) the base wild type blue/Black and its two alleles , ash/Red, and brown/ Chocolate.
- (2) dilution and its alleles Pale , and possibly Extreme dilution/ Ecu.
- (3) INO (which may include the Extreme dilution gene)
- (4) reduced and its allele rubella

Here is the list of dominant sex-linked genes :

- (1) the Stipple gene and its alleles: Hickory, Chalky., Harlequin, Sandy, Qualmond, Faded, frosty, and Whiteout.

Here is a list of the Partial dominant Autosomal (not sex-linked) genes:

- (1) Classical Grizzle
- (2) Print Grizzle
- (3) Ts2
- (4) Undergrizzle -Variable.
- (5) Pencil

Here is a list of the Dominant Autosomal genes :

- (1) Spread factor
- (2) Sooty (may possibly have a recessive form as well).
- (3) Dirty
- (4) Ice
- (5) Erased
- (6) Anthracite
- (7) Dominant Opal - variable.
- (8) Indigo
- (9) Ts1

(10) Bleached

(11) Juvenile Bleaching

(12) Speckled

(13) Bronze (the full story on Bronze is not completely known). There may be a number of different dominant forms and at least a couple recessive forms. Some appear to be nebulous forms.

(14) Saffron

(15) Khaal

(16) Tiger grizzle -variable.

(17) Drizzle

(18) Grizzle head

(19) Dusky.

Here is a list of recessive Autosomal genes:

(1) recessive red and allele Ember and possibly Orojo.

(2) milky

(3) smoky

(4) ts3

(5) Frill stencil

(6) Lead

(7) Flash grizzle

(8) recessive opal and allele Cherry

(9) recessive white

(10) Azuro

(11) Rusty

(12) Pastel

(13) Pink eyed dilute

(14) Albino

(15) Homer Albino.



Here is a photo presented to me by **Mohannad Atiq** . Now it seems to be the same bird in two different photos which are photoshopped together. The question was : "Is this dominant Opal or the stencils. My reply was Full Complex Toy Stencil. Dominant Opal does more: It lightens overall colour and usually leaves a bit of bronzing which gives a pinkish look to the pattern. Opal also affects the vanes of the flights which is not seen here. Frill stencil would also whiten the flights so I do not believe it is present either. I think we are looking at T-Pattern as opposed to spread factor, but that is a bit difficult to say for sure. This expression in Lahores is very popular in India and Bangladesh I am told , and quite a few may have been imported from Europe.

When I was a boy I had some spread ash Lahores . They present as a red or yellow laced bird, and I can recall wishing I could create the same effect in blue/Black. I got some Blondinettes, but proceeded to introduce that into my African Owls first , and never did get to do it with my Lahores.

It looks as if **Mohammad Atiq** got this photo from the Net -- Youtube.com , and presented there by one **Osad Haron** whom I was not able to contact.

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I will do a bit of guessing here. The Father looks like he may be a Toy Stencil recessive red, and therefore may also be masking other traits and any one of the three base colour pigments along with the white head pied factor. The Mother looks pure white so can be hiding almost anything. The offspring is spread factor blue/Black with either some bronze Or simply just hetero recessive red. It also is expressing that typical white head gene with associated white flights and belly band.

[Mosaic Pigeons](#) Yes I think you are right.



[Malik Hamza](#) why couldn't spread mask the bronze on shield?

My reply : That is a good question and the answer lies in a better understanding of the bronze factor/factors. If this red is simply the effect of hetero (one dose) recessive red., then that is one thing. The red pigment on the second chromosome is having a slight effect on the overall phenotype as recessive red is epistatic ( masks) spread factor and base pigments when in the homozygous (double dose) pure state, so still can express a bit in the heterozygous state. Kite bronze is said to be covered / hidden/ masked by Spread factor ... I do not totally agree with that . Other bronzes will express on black such as Ts1.

[Malik Hamza](#) - This is a Gulldar Bronze which also do not mask by Spread factor



My reply - Yes , actually I believe that this is Brander bronze but expressing variably with spread factor and I think two pied genes and saturated T-Pattern. No one has successfully worked out this genome .



The birds are whitewing and moult in the bronze so an enabler gene may be present.

Here we are beginning a NEW YEAR - 2022 amid a pandemic which has no sign of subsiding , and in fact it is raging throughout many Countries. Most people are trying to live life as usual and are going about their business the best way they can. I sincerely hope this does not make the situation worse. We know that the less we intermingle , the less likely this Virus and its variants will get to spread ! It seems that vaccinations are helping some and fewer people may be dying, but you can STILL get the disease , and you can still spread it to others. I sincerely hope all of you will be careful and considerate of others.

About a month ago , I went to hospital with severe stomach pain. After many tests and probing , it was decided by one Doctor that it was inflammation of the stomach lining, and that the Gall Bladder was good, no stones . However at another Hospital the CT Scan, and Ultra sound tests were supposed to show that my Gall Bladder was blocked with stones. I was booked for surgery and kept there. After the surgery , the surgeon asked why was I on pain killers. I explained. He said , " well when I extracted the Gall Bladder , it was fine , no stones , anywhere !"

I was sent home , and the trouble was just beginning. Normally the stomach swells , but I had swelling of everything below the waist as well. I had to have a catheter inserted , removed and inserted three times. This third time is ongoing for another week. The original abdominal and back pain has started up again in the past 24 hours. They will not pay any attention to that as the blood tests are normal. I am a bit late with this Newsletter as a result as it is painful just to sit upright. I sure hope something changes for the good in the very near future.

Amid all of the doom and gloom, I hope everyone will have a great New Year! Make HOME your place to be and enjoy with your family!

Here is a photo from Facebook of a youngster that is out of an ash-Red hen and sired by a blue bar . The feet show dirty factor at least hetero. The shields are what appears to be Dirty factor on Sooty. This bird will likely change quite a bit with the first moult. What do you think?



Photo Greg Hodgins - breeder.

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