

# The Pigeon Genetics Newsletter, News, Views & Comments.

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## "Puttin' On The Ritz"

September is usually "Show Time" depending on where you live! This is when each of us tries to come out to the local Shows with the 'cream of the crop' to make a stab at impressing the judges to pick our bird or birds as Best in its class or even better , Best of Show. Most of us know how good that feels! I spent most of my life preparing and then showing many different breeds.

This is the time of year when all of the birds have moulted in their winter coats of new feathers and these are at their best at this time of year! They are truly "Putting on the Ritz" with their best Coats and exaggerating every aspect of their Phenotype.

The summer has taken its toll. Last year's coat had become tattered and faded. You will often hear people referring to BROWNS as the ones that fade in sunlight , or Ecreu extreme dilutes. The truth is that ALL colours fade . This can be lessened by always keeping the birds out of direct sunlight , but that also takes its toll as birds and their feathers require sunlight just as we do.



Shadow effect of second feather on a sun faded tip of the first feather.

This is an intense blue bar, looks like two feathers together. . Photo - Bob R.

EDITORS: **What exactly is 'sun fading'**, is it loss of pigmentation cells in the feathers or just a form of aging stress when exposed to the strong Ultra Violet Rays of the sun? **Dr, Chuck Trost**, Emeritus Prof., Idaho State University states on "Ask a Scientist" :

**The sun's energy is made up of three distinct parts - UV, Visible, and Infrared radiation. There are parts of the feather called Chromofores. Overtime , the energy from Ultraviolet light breaks down the bonds that form these chromofores, resulting in less light of the chromofore color being reflected. To our eye the object looks less vibrant or it looks faded.**

EDITORS: **brown versus blue** -Why do the brown/chocolate melanin series birds seem to be more susceptible to fading? They in essence are very similar to blue/black melanin?

From **L. E Hawkins** , the internet , for educational purposes:

**Chocolate**, The first positive mention of chocolate pigment in the plumage of the pigeon was made only a few years ago (METZELAAR 1926), although this color is widely distributed among domestic races. METZELAAR pointed out a close analogy between corresponding types of the black and chocolate series. A year later chocolate pigmentation in the pigeon was shown by CHRISTIE and WRIEDT (1927) to behave as a Mendelian recessive to black, and to be sex linked. Homozygous black males mated with chocolate females produced only black offspring. Chocolate males, when mated to black females, produced all black male offspring, and all chocolate female off spring. Black males, heterozygous for chocolate, mated with chocolate females produced off spring of both sexes, half of which were black and the other half chocolate. Later work of METZELAAR (1928), STEELE (1928, 1931), and this experiment confirms the report of CHRISTIE and WRIEDT. WRIEDT and CHRISTIE (1925) mention a form of "braun," but it evidently differs from the chocolate described by them in 1927. They discuss matings of ("schokolade X homozygotisch braunem" in the latter paper showing that they consider the two to be genetically different. They postulate a dominant autosomal factor B for "braun" (1925), but consider it to be hypostatic to R, their factor for black. Careful analysis of their tables reveals discrepancies which may have been caused by the presence of chocolate birds in their stock. Their data could be analysed more fully if they had designated the sexes in their matings. Table 3, c, in their paper shows at least one mistake. The mating is labelled "Braun X recessivem Rot", but the formulae of the birds mated are  $rrBbXrrBb$ . According to their previous statements both these birds would be "braun." Furthermore they list two black offspring among the progeny of this mating. Black, according to them, is produced by R; consequently no black offspring should have been produced by parents both of which were rr. COLE and KELLEY (1919, p. 186 footnote) suggested that black in the pigeon is homologous to black in rodents, in that the black pigmentation is due to a factor for extension of this pigment. STEELE (1928, 1931) adopts this suggestion and uses a set of genetic symbols for basic colors in the pigeon similar to those in rodents. He employs the symbol E for the extension of black, chocolate, and dominant red pigment; recessive red is represented by e; B indicates black; b, chocolate. Dominant red retains the symbol A ; its absence (black or chocolate) is represented by a. B and A are sex linked. A black bird, then, would be EBa, a chocolate Eba, and a dominant red EB(or b)A. All ee birds would be recessive red regardless of B or A. A special effort to secure crossovers between B and A has been made in the present work but none have appeared. This

apparent complete linkage of B and A, together with other evidence which will be presented shortly, strongly suggests that dominant red, black, and chocolate constitute a series of multiple allelomorphs. Consequently a change will be made in the above symbols. Black pigment is found in the wild Rock pigeon, which is generally accepted as the wild type of *Columba livia*, and B will be retained to represent the gene which produces black. Chocolate is recessive to black and the gene for chocolate will accordingly be indicated by b. But dominant red is dominant to both black and chocolate. Since A has been used heretofore to designate dominant red the symbol BA instead of A is suggested. Taking the E factor into consideration, a black bird would be EB, a chocolate Eb, and a dominant red EBA. All ee birds would be recessive red as STEELE suggested. At least five color patterns of chocolate, based on distribution of pigment as in the black-blue series, have been observed in the course of this work, and it seems probable that all six patterns exist. This classification has not been definitely established genetically, but it seems very probable that chocolate pigment is distributed over the bird and the individual feathers in a manner similar or identical to the distribution of black and dominant red. The same set of genetic factors undoubtedly controls the distribution of all three kinds of pigment. All the classes within a series may be considered collectively in so far as this work is concerned. The study is of the relations of the different kinds of pigment, black, red, and chocolate with one another, without regard to the mode or degree of distribution of the pigment over the body of the bird. Hence in further reference to colors, unless otherwise indicated, it will be understood that black includes all six classes possessing black pigment and similarly for dominant red and chocolate.

Breeding Dominant red: black, and chocolate Matings of black with chocolate produced results in agreement with the findings of other workers (CHRISTIE and WRIEDT 1927, METZELAAR 1926, 1928, STEELE 1926,1928). Homozygous black males mated with chocolate females (BBXb-, table 1, 7) produced only black offspring, both males and females, which confirms the complete dominance of black over chocolate. The reciprocal cross, chocolate male X black female (bb X B -, table 1, 5) gave black male and chocolate female offspring, and shows the sex linkage of black and chocolate. (end)

EDITORS: **Dilution**, Oddly dilute birds do not seem to be nearly as likely to show contrasts of fading, while birds labelled as extreme dilution do in fact express a much greater fading. Interestingly, the extreme dilution factor has much less effect on the brown series patterns than on blue black or Ash-Reds, yet - brown/chocolate fades much more than blue / Black and ash-Red.

(LLOYD-JONES 1915) : The difference between intense and dilute pigmentation in the pigeon is one of amount rather than kind of pigment. In general it may be said that the pigment granules in the intensely colored bird are much more numerous and packed closer together than in the dilute feather. This causes the former to absorb more light, and consequently they are much darker in color than the latter. (end)

EDITORS: Below a more exact reference to the term **Mealy** to describe the scattered red in the bar of a spread factor Ash (gray) bird, and/or the Black or Chocolate flecking on a spread factor (gray) ash-Red.

**L.E Hawkins : Some of the dominant grays have a small sprinkling of red ("mealiness") in the region of the wing bars and on the head and neck, or in some cases there may be noticeable "flecking" of black or chocolate over various parts of the body. (end)**

EDITORS: **Sun benefits** - Another interesting effect of sunlight is that while it does indeed fade feathers over time , it will actually increase pigment production in areas such as the skin, beak and toenails of white and pied Birds that have pale coloured orbital eye skin in a closed loft but will sport bright red coloured skin when allowed freedom to be out in the sun. This fact may however also be enhanced by the free range activity allowing these birds to eat more green food and to obtain more selected minerals and even insect live food. Variety is the spice of life !

Pied factor birds that spent a great deal of time out in aviaries at my lofts , frequently developed a dark spot on their beaks similar to a horn tip which gradually faded during the winter months.

**We** have talked about 'spread' factor and recessive red factor many times before. We have talked about the controversy as to whether they should be referred to as self or solid colours . Along with this came the argument about 'epistatism' and if a white pigeon should be referred to as also being epistatic. I believe that it is not correct to consider the recessive white gene as epistatic as we cannot mask, cover or hide that which is not expressed there to begin with.

**Quinn** tried to get around this by saying there are two TYPES of epistatism. (1) the traditional meaning that masks or hides a base colour ., and (2) the other that stops or shuts off the base colour altogether. It is this latter category in which he places recessive white.

Editors : **You may ask** , how do we know when our birds are at their best expression of their given colour trait? This is usually outlined in detail in the written adopted standard for each Breed. This may vary from one Country to another and even from one Club to another within a Country. This is perhaps due to individual clubs catering to the overall general quality in any given area or simply by the fact that the people writing the standards did not fully understand the genetics of colours or the proper terms that should be used.. This can however lead to some problems in the Show Rooms . If you hire International Judges , then obviously they will be judging by a National Pigeon Association set of Standards which they use in their homeland. If you use local judges , they will be familiar with your locally adopted standards and judge accordingly, however IF some of your members have decided to import birds then they may not be pleased to have their entries put down in the Judge's preference for something within the local standards.

The way around all of this is to **KNOW** your International Standards , and choose judges that will best serve your local needs. Design your Classes so that they comply with the International Standards of your Club's collective choice.

Each Country usually has a NPA. That is their own 'National Pigeon Association' . Many Countries feature Breeds in their Book of Standards that they have specifically developed. A good example is the Modena Pigeon.

**Italian, German , British, and North American.**

These standards are completely different to the point that they no longer resemble the original !

The Breed characteristics have been changed drastically from the original Italian Flying Breed in order to please the various Clubs around the world. The fact is that many Breeds are undergoing changes on a very regular basis. Some argue that this is not all for the better!

Many European Breeds have been developed with 'WILD Field Pigeon TYPE' governing their overall body appearance. They are bred mainly as "COLOUR PIGEONS" but do in fact have subtle breed type differences and may have a variety of different 'ORNAMENTS' . These may be crests , neck frills , foot feathering , and the number of tail feathers.

Below a Mick Bassett photo of a white wing Archangel bar pattern with a peak crest and field type.



The following from **Paul Gibson**:

**I rechecked the inheritance of gp. I originally did this work on it nearly 20 years ago. When I mated Archangels to either Ice, Damascenes, or wild type; I got all young without any sign of bronze or of gimpel pattern (gp). This assures me that I was correct in my original designation. In 1993, I listed it as a recessive or nearly so. That was because some F1s showed crop bronzing. Now I know this was because the blue birds I used had a trait for darkened crop, a modifier which lets the bronze show there.**

**I also mated Archangels to Brander bronzes to check if there was allelic connections there. The F1s were all grizzled Kites just like one gets when Brander bronze is mated to wild type.**

**I mated Archangels with sulfured blue Egyptian Swifts and all young were consistent with Archangel markings. Segregation in F2s produced only Archangel bronze and Swift bronzing.**

**I mated Archangels with Kites and produced only Kites or Kites with bronzing on the crop.**

**These results also showed me that I was right originally in my designation of gimpel pattern as a recessive.**

**EDITORS:** { Paul's work may also indirectly explain something presently being discussed on the various "Stipper" Groups involving the so-called Kites ., or "black kites". Breeders have been tossing around the idea that they sometimes get grizzled kites. Perhaps this is a key to discovering that Brander Bronze is involved. }

While on the subject of New Feather , and rich colour , perhaps we can refer back to last Month's Issue " Lighten Up Dude " . The fact that we are experimenting more and more with new mutations has been taking us away from those beautiful rich Intense phase base pigments and

creating a host of rather indefinable colours . It is only common sense that if you take a gene such as Classical Grizzle that 'whitens' about half of the overall base colour , then apply one or more other whitening mutations, you are going to end up creating a lighter and lighter specimen and perhaps even end up with basically a pure white bird. In the process , there will be times when some phenotypes do not reflect the expected hetero state of the original mutation., but instead look much more like a homozygous state due to the additional whitening of a second mutation. The person with an experienced 'eye', usually can spot the differences quickly.



(1) Hetero Print Grizzle blue bars by **Md Saiman Rahman Khan**. (2) Hetero Classical Grizzles Blue T-pattern and Blue Bar by **Golam Rabby**, BD. If we think about adding to any of these specimens the mutation Qualmond, then the only areas that the qualmond gene will actually have an influence that we might see, will be on the darkest areas of the shields. Both Grizzles and the qualmond mutation have minimal effect on the flight feathers and the tail feathers. The result would obviously look very similar to a homozygous Grizzle or (Stork) marked bird. Consider using a Barless Blue Classical Grizzle , and the effect would look much more like a homozygous Print Grizzle.

Letters from You ! :

**Robert Warry** wrote :

I really enjoyed this issue { Aug. 2021 } having Racing pigeons for over 40 years from the same address, my birds were often attacked by falcons which did little damage, my pack were out exercising when the falcon attempted a kill. It went for the only white bird in the pack, thankfully it missed. I now have a kit of Rollers flying and have lost many youngsters that are still a bit slow , also a few mature birds , always taking the most coloured ones. Thank you for your article. -- R. Warry.

Preparing for the shows often creates some unexpected problems. Bathing the birds can not only be a major chore , but also run us into some messes that cannot be corrected. Sadly , years ago one elderly Pigeon Fancier in my area was known for his 'Green Fantail Pigeons' , which of course were actually recessive whites that he had attempted to wash before the show day , but caused the bile colouring of unhealthy droppings to be spread throughout all of the feathers. That was an exaggerated observation at the time , but even the smallest stain can be made much worse by hand bathing . Keeping the lofts dry and cleanly bedded plus well scraped perches and **NO OVERCROWDING** are the best ways to assure that you have fewer problems. Allowing the birds to bath themselves , preferably in a wire bottom cage/flight outside, is even better.



Beautifully presented Saddle marked 'South German Shield' Pigeon , photo by **Jerry Sindelar**.

Always keep in mind that show day may be a year away or just days away , but you should **ALWAYS** be prepared ! The better you care for your birds the more likely they will be able to care for themselves and save you a great deal of stress on show Day!

Simple things in loft design can go a long way to helping you manage . Avoid any sort of long board ledges. This type of ledge not only allows one aggressive male to claim and patrol the entire ledge , but it provides an area where a lot of droppings accumulate and this causes not only dirty feet and balls to form on the toenails , but also it makes for dirty tail and flight feathers as the males in particular like to scrape and drag them during his courtship dancing.

Many breeders like to have bare floors that they scrape out on a daily , or weekly basis. This method again means that fresh droppings are constantly being rubbed off on to the birds in one way or another. I preferred a medium coarse soft wood sawdust as bedding . It smelled excellent., was non-allergenic unlike the kiln dried pine shavings and it was heavy enough to stay in place rather than blow to the walls leaving the center floor bare. I preferred circular perches . They can be staggered and larger ones can be placed on the walls above smaller diameter perches so that droppings from above fall cleanly to the floor.

Breeding cages for one pair each is of course the only way to properly breed pigeons for a multitude of reasons. Record keeping , Protection of the Young., Relief for the hens from excessive driving by the cocks ., as well as greater ease in cleaning nests etc.



Not in show feather condition , this Canadian Show Roller hen ( Bell Neck Design project ) splash was in a Breeding cage with Nest and eggs. Some fanciers would take a bird like this and show it as is. That is something you eventually learn not to do as there is no chance of being placed up due to condition.

Photo : Bob R.





A lovely little Pouter in show condition putting on a display for spectators and Judges , Photo by **Jerry Sindelar**.

Note the well covered in Globe so that the bare skin is not showing.



Young Highfliers **Safigul Islam Rubel PBC Bangladesh ,Sakib Azad .**

Above these youngsters are still in the nest yet look at how clean their feathers and feet are ! This is a sign of excellent loft care and management! This is also the proper way to present your photos to the public , in a tidy clean background. Excellent job!

Very often on Facebook we see not only a lot of droppings on the floors and in the nests , but also a great deal of feed/various grains scattered about . The only place you should see grain and grit is in the proper dishes. Dirty grain translates into disease and parasites as well as an invitation to small and large Rodents. When we take our birds to the shows , they in turn may be exposed to birds that came from lofts that were not kept clean and free of such problems.

Below some lovely Show Specimens truly "Puttn' On The Ritz !"



**Scott Brown .**

American Modena Solid Black by



Red Australian Saddleback Tumbler by **Michael Spadoni** .



Black Tiger grizzle Show King by **Ibrahim Ibrahim** King Pigeon Lover.

That is it for the Month of September 2021. Things have been a bit troublesome for me this past few months as I have been developing Atrial Fibrillation and have had two trips to the hospital to have my heart stabilized. One more test to go and a regiment of Pills to keep things stable . My eldest sister has been on these meds for the past forty years , she is now eighty two . Time flies by when we are having fun! Life is far too short after retirement! Take care everyone , and please try to be supportive of someone you know , you never know when you may need the favour returned. ~ Bob.