

The Pigeon Genetics Newsletter, News, Views & Comments.  
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(Founded by Dr. Willard .F. Hollander)  
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December is the Month that Christians the World over celebrate the Birth of their Saviour **Jesus Christ!**

**PG. N.V. & C.** wishes all of its 400 plus subscribers a very **Happy Holiday Season** no matter what Religion.

Our Topic this Month is **BRANDER BRONZE** the gene mutation.

Readers will have seen references to many 'types' of Bronze factor, and while we have dealt with the Bronze topic many times over the years, we still get comments and questions about it.

The most often mentioned bronze is Kite Bronze which was given its symbol (K) by **Mr. Horlacher** in 1930, described as a Kitiness phenotype. The gene is a Dominant and thus the capital letter (K). It expresses in the heterozygous state as well of course, in the homozygous state, with only a slightly more extensive and rust tone, but in both cases ONLY in the inner feather vanes of the flights, thus kite.

{It is important to note again here that NO Bronze mutation expresses in areas of feathers where concentrated or condensed smooth spread pigment cells appear such as the sub-terminal Tail Band and toward the ends of the flight feathers. That does not mean that the gene is not present in those pigment cells.} Bob. R. 2020.

{ Kite expresses therefore as an "**undercoat**" in so much as you must part the feathers to find it.} Bob R. 2020. Any other gene that de-pigments usually exposes Kite if present.

{Brander expresses as an "**Overcoat**" deposited and visible with Coarse Spread pigment cells on the 'C' pattern areas of feathers in particular, but also tends to cover the entire bird in various degrees depending upon other gene mutations including Kite Bronze and recessive red (e)}. Bob R. 2020.

Brander and Kite are almost always expressed together and separation of the two dominants is rare.  
(**Paul Gibson** 1900's)

{Both Brander and Kite do NOT express on Sooty Factor in blue/Black}. Bob R. 2020.

Both Brander and Kite have been utilized in the production of "ALMOND" phenotypes. There is no such gene as a 'Tumbler Kite' Bronze as you may have seen referenced in some writings. The Kite Bronze is the same no matter upon which Breed or colour phenotype it is expressed. Usually any quality recessive red bird is also at least hetero Kite. They most likely are homozygous for the (K) gene if the red is deep in tone. Kite bronze is most commonly seen in Racers.

Branders benefit greatly by the addition of recessive red also. Well bred ones will express a rich deep shiny Rust Red tone.

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KITE ROLLER REDISHNESS AS OPPOSED TO BRONZY > **Joe Powers.**

Hope all is well there. Below are photos of a kite roller hen I bred and gave to Link Martin, who took the photos. As you can see this bird has super reddish color, even under her tail. This is the expression desired for great color. Kites that tend to go bronzy rather than this reddishness will produce almonds that are extremely dark as young birds. That pretty much means that they are only going to have a year, possibly two, as a show bird. Getting away from kites that are bronzy is quite difficult.



Editor { Here I see not only homozygous Kite Bronze but also heterozygous recessive red and.. I am quite certain you will never breed a Kite that expresses on the shield , underbody , or as far down the flights as seen here. That phaeomelanin is hetero recessive red and will express on any blackened pigment with or without Kite bronze, especially if Dirty factor is present. Note that the albescent strips and tail feather vanes are also reddened. Additional modifiers are needed to allow this phaeomelanin expression, and may possibly even include Coarse spread pigment cells. Joe has a great deal more breeding experience with Almond than I do , but I think some of these phenotypes need more examination. In this case a "Roller Bronze" thought to only express with recessive red (Paul Gibson) may be involved ??} B.R. { Joe and I will have to agree to disagree on these latter points}.

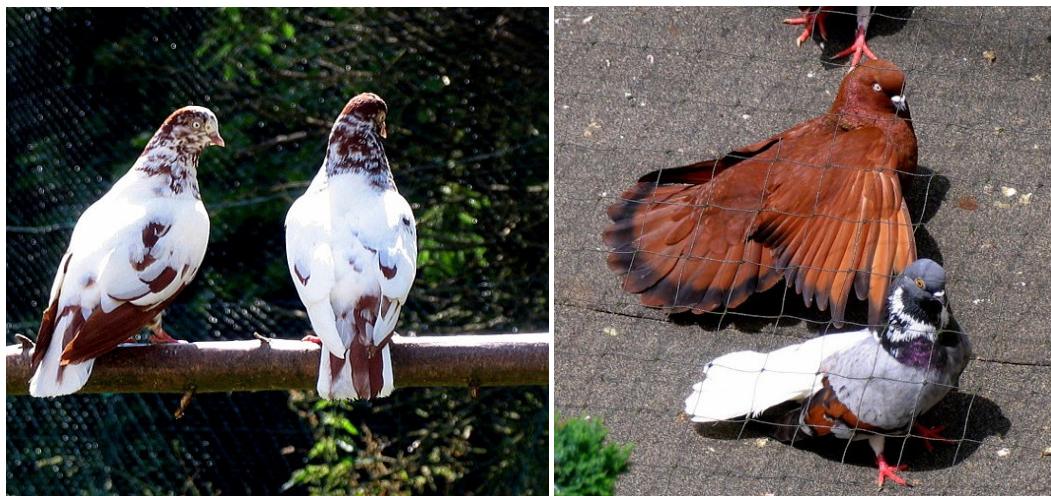
Printed in an earlier Issue by **Bill Peterson**, I am not certain if I have Bill's last name correct.

Brander is thought to be a bronze of its own. I'm still not 100% convinced that it is but cannot rule out the possibility. People find when they continually infuse kites with recessive red, the kites begin taking on more red or bronze. It is a strange phenomenon but it may explain something in what we see in those birds like bronze show tipplers, which are considered to be brander bronze. We know that they are t-pattern blues, dirty and sooty and they are het recessive red. You can argue whether they began as kites or branders. What does a brander look like if it is not het e? Like a dark kite. They get called things like "too dark brander".

I had some very black kites from Link Martin show rollers. They were homozygous dirty and sooty, tails were very black, the birds nearly looked to be spread but were not, they were t-pattern kites. Upon breeding them back to reds, they began to take on more red or bronze. I only played with them for two years and could see the difference. Tim Kvidera noticed the same in bronze show tipplers, that the kites were getting more and more red or bronze as time went on. What if we did this for 20 years or 50 years? Would we see something that people would call brander? My suspicion is that yes, we would but I have no proof, nor am I likely to have that much time to prove it. :)

Bill ( Peterson ?)

{Below a recessive red that comes from Brander like Agate comes from some Kites. This looks like Print Grizzle expression to me and I suspect Undergrizzle as well.}



**Brander (1)** het recessive red,

note the red tail , (2) no recessive red. **Mick Bassett**.



From left to right first a Danish tumbler by **Wim Halsema**, and second a Berlin short-faced tumbler and third a German show tippler Photographed by **Mick Bassett**. All are **brander bronze** free from recessive red mutation. Photos edit by **Jith Peter**.

Here are some Branders being introduced into another Breed from the Danish Tumbler by **Grzegorz Szpryngiel** . Here you can see Dirty factor and Undergrizzle.



Editor: { When I mated a shiny spread blue/BLACK Fantail to a Glossy recessive red Swing Pouter , I got what I saw as Gimpel blackwing not unlike the bronzing shown above as Brander. } BR.



First two Brander and Brander Almond by **Remco**,



A Brander Bronze Fantail bred by **Ron .M. Willis** - Here you can easily see the **overcoat** expression of Brander on the head, neck, breast, and shield as well as in the tail feathers and flights.

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"Special thank You to those who gave permission to use their photos , always appreciated !!"

{Everything we see on a Pigeon is controlled by genes just as they are on us and all creatures large and small.}

So when we say Brander , or KITE , we are referring to genes. They each express differently yet look similar. The base colour may be totally different in each bird. The modifiers may also be totally different, and the genes that cause a "BRONZE" phenotype may be totally different. We know that all bronze traits are not the same , and we know that they are not alleles at the same locus. This has been proven by a number of people over the years as they tested the interaction of these genes. We know that Brander and Kite appear together on the same bird thus not alleles, but still we do not know the full story.

BRANDER and KITE seem to always be together , so how can we separate them? How can we decide if they are not simply one and the same? I think one way is to look at them as to how they affect the phenotype of feathers. I said earlier, Brander appears as an OVERCOAT while Kite seems to only express as an UNDERCOAT. This alone seems to separate the two as distinctly different. Both traits benefit from the presence of recessive red so I believe that many people are looking at the effects of the combination of the bronze with recessive red, and giving all of the credit to the bronze when in fact that may not be the case. Kite as an undercoat would express on the inner vanes and recessive red would tend to extend the phaeomelanin further out along each flight feather. Brander on the other hand expresses as an overcoat extending more phaeomelanin all over the outer surfaces of all feathers especially those on the head , neck and shield.

The point is that if there cannot be an understanding about the very basic facts of pigment colour , then there is no way that we can believe statements being made about the much more complex colour genes. Case in point, the Bronze expressions. There is no doubt that some bronze expressions seem to have been BREED SPECIFIC in the past. However now just about every Breed has had most of the known genetic colour traits introduced.

I have heard it said that Spread factor masks Kite. We know that spread factor causes the smooth spread of the sub-terminal tail band to be deposited into /over all feathers to create a bird solid for that colour. We know that both Brander and Kite do not express in the sub-terminal tail band . Below is a photo by **Rashed Parvez** of a homo Brander T-Pattern, which reveals exactly what I have been telling everyone about the Brander and Kite genes. Look at all of the areas of condensed smooth spread on these two birds. Only these areas are void of the brander and Kite expressions. They are the sub-terminal tail band, the vanes toward the tip but not the exact tip of the flights and the ends of the secondary flights. Also note that these birds are homo Dirty (V) by the blackened feet and beak. The rump and basal tail feathers however are almost void of bronzing but not completely. Here is the main region that is difficult to get bronze to express on in Classical Almonds. The answer lies in the modifiers and another pigment granule "Coarse spread" normally seen in the wing shield patterns..



People have been asking what does a hetero Brander look like . I have given a number of photos in past Issues to demonstrate Hetero and homo Brander both with and without recessive red. Here is one that I feel shows clearly just hetero Brander by **Afzal Hossain**, of BD. on a Sooty blue T-Pattern



Note: the overcoat effect even with Sooty.

{ The following is an exchange of views between **Joe Powers** and myself on the Kite topic.}

Hi Bob

Hope all is well there. Your almond sheets are pretty good in many ways but also makes me wonder if you ever bred the true ESF almond of twenty five plus years ago. Once the Portuguese Tumbler hit our shores and breeders started crossing with the ESF Tumblers the almond family expressions changed.

These crosses are also happening in Europe. Many ESF shown in the shows there express (what I call) improper classical almond coloration.

I'm going to try and follow some of your points from the beginning of your article.

i am not sure that breeders decided that spread shouldn't be used because it masked the bronze.

Whether black even existed in the 1800's is another question. Back then the Almonds were not normally referred to as ESF but rather as a separate color and (seemingly) a breed of their own. Hence the referral to them as Almond Tumblers without the use of ESF. It was one of the most popular breeds of that era. The breeders were probably "purists" with few going outside the typical classic almond expression if they wanted to do well in the shows or sell any excess birds. Most breeders surely followed what the majority were doing.

Whole colored agate is not the proper term. Proper name is "whole feathered agate." Are they really agates? Not to my thinking when trying to genetically tie to the 'normal' agate. But if you bred ESF before the crossing affected many lofts you would know without a doubt that this 'variety' (expression)

truly exists. It appears in mostly reds though I have seen some yellows and bred a few of them. When the bird is standing it appears to be a normal red/yellow expression. But when you open the wings up the flight feathers are pearled in a manner that is very much like undergrizzle. Is it undergrizzle? I never tested to see so I can't say. But in a proper colored family of classical almond you will breed some. They do not get white feathers anywhere, so whatever causes the pearling of flights is apparently blocking the whitening effect seen with true agates and the rosewing - whiteside family.

Another unanswered question?

I don't think that you truly understand (as you call it) the "so called kite." I've written to you about it several times. Doc Hollander told me numerous times it was exclusive to the ESF/LF Tumbler in classical almond. Ken Davis has written about it. Scott Sharp has as well. Charlie Hubel talked about it. Your descriptions of it are wrong. It is NOT a blackish bird. It certainly is a very saturated T-pattern bronze, heavy with dirty. When I tested in the mid seventies I never segregated sooty, smoky or grizzle from the classical almonds. So I do not think they were in the mix back then or before. A good colored 'true' kite not only expresses a lot of reddishness in the wings, it also expresses in the vent and underside of the tail. In addition the good colored ones have a bluish cast to their feathers, especially the wings and cover feathers over the back. Not black! Yes, the tail was dark and the tail bar hard to see on many. But the tail bar is there.

These black bronzes you keep talking about fit the dark bronze of the Portuguese Tumblers to a "T." This Portuguese bronze is why I no longer have any T-pattern almond Portuguese after importing numerous pair from Germany. This bronze actually has two phases - a lighter expression with a bluish undercarriage often called blue belly bronze and then the very dark expression. Neither of which, even after numerous generations of going to recessive red, get any where near the amount of color that true kite does in the vent and tail area. Nor do they show any of the true kite typical bluish cast. This bronze makes the almond base color browner than the ESF classical almond. The deroys are browner as well. It lessens the amount of black flecking in many. I was told (and believe it's correct) this bronze comes from the French Tumbler that breeders in Portugal crossed in to the Portuguese to make the Tri Color.

I kept several T-pattern almonds I bred and put them on blacks in 2022. I kept three young to breed from in 2023 in my quest for sprenkles. It's just a matter of finding the proper blacks with no bronze or recessive red to get clean white or silvery base color to have pretty sprenkles.

This past issue you show a pair of almond rollers bred by Link Martin. You also show a ten month old cock

I bred from Link's family, but with a cross of ESF Almond crossed in to make my family. Link likes his almonds darker than I do. I prefer mine to be much like the ESF almonds so they can be shown for several years longer before they are too dark. I like to breed my classical almonds in the ESF manner using more of the 'components,' AKA varieties. Most roller breeders prefer to breed with just almond and bronze T. To get darker almonds you select dark almonds and bronze T's with a purple sheen to the neck. For the lighter ESF expression you want to cull these purple necked bronzes. A few generations (either way) is all it takes to move to either of the two expressions you prefer to have. To speed the lighter expression up you can take any of the various red expressions to the T-Patterns to make the bronze even richer to make almonds the color of my young cock shown.

You write that this True Kite (as I call it) can be moved to any color and pattern. While I know that can be done with most bronzes I do not know that it can be done with ESF True Kite. Or Brander. When I was testing in the seventies I never got a bronze to express in any pattern other than T-pattern. Why? Same



with brander when I had Bronze Show Tipplers in the early 2000's. That was my experience with them. Curious if others had different results with the two.

Agates: I started with almonds in 1971. My agates for many years, into the early eighties, had white feathers in their baby feathers. This white didn't increase by much more than 10% in their following molts. Then it changed. Why? What caused it to happen? Very few had white in their first feathers. In a few years the white in baby feathers ceased completely. They started getting white feathers after they left the nest in the same manner as my whiteside LF Tumblers. Why this change to what the LF Tumbler breeders called the 'recessive red whitening gene' that I had bred for twenty years. Obviously, after years of breeding ESF there was no grizzle in the mix to be part of this change.

Interestingly, the German bred almond Portuguese family are much the same in getting white feathers in. Though for some reason it seems that a high percentage of the Rosewings only get a small number of white feathers on the very edge of the wing butt. The ESF got more white feathers and these feathers were into the wing shield some. Why are the German family different in this regard than the ESF and the LF Tumblers were. What's causing the difference in this between the breeds? Doubt anyone has looked into that.

Doc Hollander felt that the agate, like the true kite, was a Tumbler specific expression. Yes, it can be moved to other breeds. But only if there was no other bronze in the birds used? I say that as I think true kite is recessive to some (all?) other bronzes. Speculation on my part, based somewhat on the Portuguese. The Portuguese did have True Kite once, and may still have it in some breeders birds. I think that there are some brander Portuguese around as well. But this 'main' bronze is dominant to both of them I believe. How are True Kite and Agate tied together? Or not?

Today there are so many crosses being made that without testing and more testing we cannot be sure of just what all is in the mix. Bronzes of all variations need more study. What is the actual dominance order between them all?? A very difficult order to figure out.

Your four blue tail feathers do not appear to be from a good (true) kite. There should be bronziness or reddishness if the kite expression was good.

I think that a lot of the more technical things you wrote make sense. Yet, I can see the side of some who disagree on some of them. If you haven't bred and tested the actual ESF kite (from years ago or a breeder who hasn't gotten crosses mixed in) then you are not being accurate with your comments. When push comes to shove, the old Fulton almond information is still the best way to breed for great classical almond expression - IF one has the proper colors to work with. It's been a proven way for the serious ESF breeders for a very long time. No short cuts. No crossing. Just the original way of breeding classical almond. Not following the proven way is why many cannot get the great expression we want to see.

Joe Powers. (An S is part of my last name)

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**Editor's response { Just with one read and an overall impression , I will start for now from the last comment up: (1) Sorry if I left out the "S". (2) Frankly I wonder how any of you could say anything that Fulton said or did can be attributed to QUALITY Classical Almond colour when no one has any idea what the birds they bred looked like , as Murray Gaskins asked , does anyone have a photo or even a skin ?? Of course the answer is NO. Here on**

facebook we regularly see comments such as "Awesome", "Cracker", "Beautiful", and "Good Job" etc., yet the birds that they are commenting on are some of the worst looking specimens out there! I strongly suggest that the same would apply with most of the birds produced back in the days of Fulton, Moore, and Lyell. (3) I have not bred ESFT Almonds no, but I have spent a great deal of time comparing notes with those who do. Joe, I have yet to see these so - called "great Classical Almond" expressions from ANYONE.

(4) The four blue tail feathers were not (Kite), they were presented to show the pigmentation needed to support the expression of the kite (K) gene in tail feathers.

(5) you are repeating what I have been stating in a number of issues here , Yes Bronze requires much more study and Yes there have been so many breeds / components/ modifiers etc. added to breeding programs that I agree no one knows what they have in their lofts even when they feel certain they do. Print Grizzle is just as misunderstood as bronze and I feel certain it lurks in many families. I am convinced that Brander has most all of you totally confused especially as it seems to always be combined with Kite.

(six) I do not agree with Hollander if he said that true Agate and Kite were esft specific. I was working with Bronze when I had to part with the birds. I had chosen a mix of breeds , Lahores, Fantails, Swing Pouters , Racers, to name a few. I bred all to have Kite expression in their flight feathers . The Swing Pouters were deep shiny recessive reds that when mated to the Black shiny Fantails produced Gimpel Design very dark wing bronze underbody young that had brassy red beaks in the nest that later turned black. None of the lines produced any Agates. ( as in a mottle wing) , they were solid reds. ) Kite never went beyond the flights. Some had what I assumed was kite in the 'underfeather ' of the shields , but NEVER out on the shield , thus my observation that Kite was like an 'undercoat' and Brander an "Overcoat". They complimented one another along with hetero (e) to produce what is generally considered a true Brander expression.

(seven) From here up to the beginning of your first email, I see a great many questions , and no suggestions as answers. I think that sums up the situation for everyone and thus why I have begun publishing these newsletter articles offering answers that of course are there to stimulate thought , testing , and comment. I will leave this for now , and get back to you later. ~ Bob .}

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Bob ,Attached are photos of a young true kite ESF. To keep things clear I will send a second email that has some T pattern bronzes that are NOT kite. All baby feathers. In the photo that has two birds, the top {first} one is the kite ESF.

It's very difficult (impossible?) to understand true kite via conversations. That includes me telling you things. One has to breed them to understand and appreciate what they are Sadly there are only a few breeders today that have proper color expressions in ESF. Most breeders have screwed them up.

Fulton's listing and info is dead on right. Charlie Hubel had his wife type the complete Fulton's Almond treatise in 1972 or 73 for me. He was the best breeder of ESF in our era. Better than Scott Sharp or other breeders in Europe. He bred by Fulton. He taught me to do the same. It works. You use all the parts and the results are wonderful. I understand Murray's thinking. But the bottom line is that if the Fulton treatise didn't work why would a few really great breeders be following it all these years later?? Again, if you haven't bred the ESF any assumptions you make are not based on the actual breed or colors therein.

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Editor's Note: { **I did not say Brander is over Kite. Brander affects outer coarse spread areas of Pattern thus like an Overcoat. Kite must be searched for basally on the feathers like the flights and thus an undercoat. They augment each other especially when aided by recessive red.**}

Brander is not over kite. You can take a bronze show Tippler and breed to a blue bar. All the T pattern bronzes will be somewhat similar to true kite. But they don't breed like true kites. Further brander doesn't make good almonds. Base color is off and so is the flecking. I've done all of this. It doesn't work. A friend got kite rollers from me and tried for years to make brander from them. He never got brander.....

Great classical almond expression is fleeting due to how the color changes with each molt. I've seen a lot of them in my lifetime. But I was tied to some special almond breeders who never showed at more than a few shows a year. So if you weren't in that group you never saw them. There has always been a lot of guys who had almond ESF. But few of them, and I do mean few, understand the way to breed them. Even some today who are showing and have attractive birds with many years of experience in them do not understand the varieties and how to work them properly and in some cases don't even get the colors named correctly.

I was super fortunate to have met Charlie H and have him take me under his wing so many years ago. He gave me a lifetime to properly enjoy the almond expression. . Stay well. Joe.



First one Joe lists as true Kite ESFT. ----- He states these other two are not.



" If You are breeding Classical Almonds and would like some of your birds featured in one of these Issues, PLEASE contact me at [Bob\\_Rodgers556@hotmail.com](mailto:Bob_Rodgers556@hotmail.com) "

Here are some examples of the colour of the Saturated T-Pattern Kite that others are using:



**Craig Denley.**



**Walter Wojeinski**



**James Ellison**



**Rob Grogan**



**Walter Wojcieski**



**Amir Hrnjic**

The lower group are also Saturated T-Pattern but without the total genome of the "true Kite " preferred by most almond breeders I have talked with.



Painting Posted on Walter Wojcieski's Group St\_Almond showing an artist conception of two of the main Components of an St^Almond and that of the Classical phenotype itself. The saturated T-Pattern pseudo black shown has an overcoating of bronzing. This in my view is what causes the black flecks to maintain that red overcoat thus preventing the rich deep shiny black that is desired by standard today. Spread factor clears this and makes better flecks but Breeders refuse to allow it to be used , however they advocate using dilution to lighten the reddening of homo Bronze and hetero (e). This causes a DUN flecking, and once dilution is carried as a recessive , it threatens to pop up at any time in the future even when not desired. Many unwanted birds can be produced using that technique , and perhaps , even likely moreso than using spread factor.