"AGOUTI" *The first diluting gene*

It is important to note that any solid colour less than Black, is effectively a dilution of Black.

The first gene that effectively dilutes black is the Agouti allele = AA or Aa.

This gene takes the 'black' out of the body coat of a black horse and gives you varying degrees of Bay. Agouti can be carried by any coloured horse except Black, Black Buckskin, Black Buckskin/Dun, Black Dun (Grulla) and Perlino Black (Smokey Cream). When Agouti is carried by a horse without the black colour gene: e.g. Chestnut Palomino and Cremello it is effectively hidden and even though it is still carried dominantly AA or Aa the effect of this gene is presumably never seen. (Except when passed on to the progeny of that horse, when the progeny has also inherited a black gene)

This should also be said for the newly discovered variance of Agouti (At) which is responsible for ***brown****.*

For many years now and since the first effective testing of horse colour we have been told that there is no such thing as a brown horse, yet standing in paddocks everywhere was 'the brown horse'. The colour gene responsible for the brown horse has been isolated and we can all breathe a sigh of relief because our brown horses are truly 'Brown'. Initially being called a variance of the Agouti allele the gene responsible is written as, At. The gene plays a big part in the true recognition of Buckskin and Dun colour just as the Agouti gene does.

When 2 copies of the Agouti allele are carried it doubles the dilution effect. It doesn't matter if they are A & A or A & At, they still combine to enhance the effect.

The Agouti allele is the same as the Base colours in respect to what progeny can inherit, only one copy of any Agouti allele can be passed on to progeny from a parent. So when a parent carries both 'At' & 'A' the progeny can only inherit an 'At' or an 'A' allele.

In future other variances of the Agouti gene are likely to be discovered, which will be very helpful in understanding the different variations in Buckskin, Dun, Bay and Brown colour.
Currently the Cream Buckskin, Typical Buckskin and Golden Buckskin (looks bay), can all have a genetic colour code that reads the same.

Colour Code : Cream = Cr, Dun = D, Black = E, Red = e, Agouti allele =, Agouti allele (brown) =At.

Please note: All horses no matter what colour, carry 2 base colour genes. Either EE or Ee (black) , or ee (chestnut). They are not bay or brown unless they carry the Agouti allele.