

The B-locus – Chocolate and Chocolate Agouti

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Origin

Chocolate was first bred in 1915 and was accepted in show standards in 1935 in the UK. In 1976 it was taken over by the NFRS, but withdrawn in 1978. In 1981 Chriss Lown reintroduced the colour and in 1983 it was again accepted in the NFRS standards (Mays, 1997). Chocolate was first scientifically described in 1932 (Robinson, 1965). Chocolate agouti is the agouti based version of the chocolate colour. Most clubs overseas do not recognize chocolate agouti since its colour is close to cinnamon and due to lack of popularity.



Chocolate berkshire doe



Chocolate agouti berkshire doe

South African History



Chocolate berkshire doe

The chocolate mutation was carried in lines imported in 2006 by Liezel Hattingh. Chocolate may be carried in pedigreed rat lines that can be traced back to MS Blue x MS Raven and to MS Wolf x MS Onyx. The MS Blue x MS Raven chocolates are originally of American origin and the MS Wolf x MS Onyx chocolates are originally of British origin. I crossed the American and British chocolates and it seems that they are genetically the same mutation.

Description of the variety

CHOCOLATE

“Chocolate - A rich, warm and even brown colour. Feet to match top colour. Belly colour to match top. Eye colour is black.” – S.A.R.F.C. Standards

The colour chocolate can vary very much in shade, ranging from milk chocolate coloured rats to very dark chocolate rats that can be mistaken for bad blacks. Chocolate rats have the same problems as

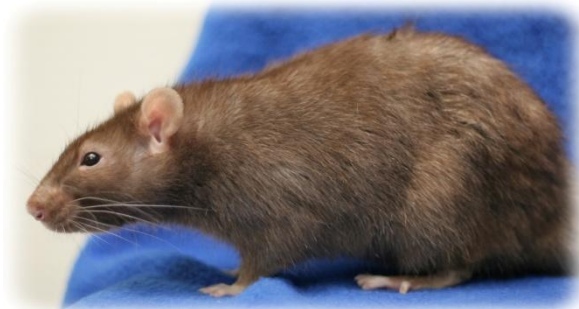
black rats with regard to breeding them for show quality. Chocolate rats can have a lot of white hairs interspersed in the coat and rustiness of colour is also a problem with this variety. Sometimes the breeders oversea use the red eye dilution gene to improve the colour of chocolate rats. They breed chocolate rats which carry red eye dilution (a/a b/b R/r) to give a warmer appearance to the coat colour.



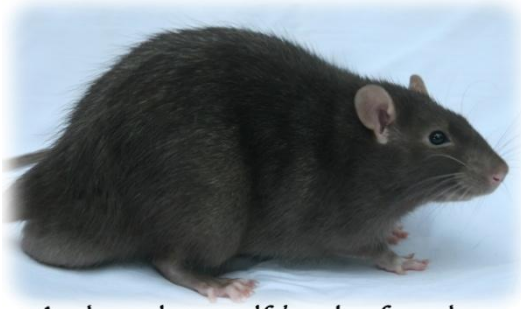
Chocolate blazed berkshire buck



Chocolate self kitten



An elderly chocolate irish buck showing rustiness of coat colour



A chocolate self buck of such a dark shade that the colour looks almost black

CHOCOLATE AGOUTI



A chocolate agouti self kitten and two chocolate self siblings

Chocolate agouti was not included in the S.A.R.F.C standards. A chocolate agouti is a warm reddish brown colour evenly ticked with chocolate guard hairs. The undercoat is grey and the belly fur is silvery grey. Eye colour is black. Chocolate agoutis appear to be a redder brown colour compared to an agouti, but when compared to a cinnamon rat it appears a little darker and more yellow in colour.

Genetics

Chocolate ($a/a\ b/b$) is caused by the chocolate gene "b" on chromosome 5. A chocolate agouti is basically an agouti plus the chocolate gene ($A/-\ b/b$). One unique feature of the chocolate gene is that it shows itself when carried on an agouti background. Agouti rats which carry the chocolate gene ($A/-\ B/b$) appear pale in colour. Black rats which carry chocolate ($a/a\ B/b$) does not seem to be affected as severely, thus you cannot differentiate between a black that carries chocolate and one that does not. This feature of making agouti appear pale is how I picked up chocolate on the MS Wolf x MS Onyx line. I got pale agoutis in the litter and bred from them which gave me my first chocolate and chocolate agouti rats.

COLOUR COMPARISONS



Agouti berkshire buck



Dumbo pale agouti self buck



Chocolate agouti self doe



Dumbo cinnamon berkshire buck

Agouti is the darkest colour. Pale agouti is a bit lighter than agouti. Chocolate agouti is yellower whilst cinnamon is redder when compared to each other.



Chocolate berkshire buck



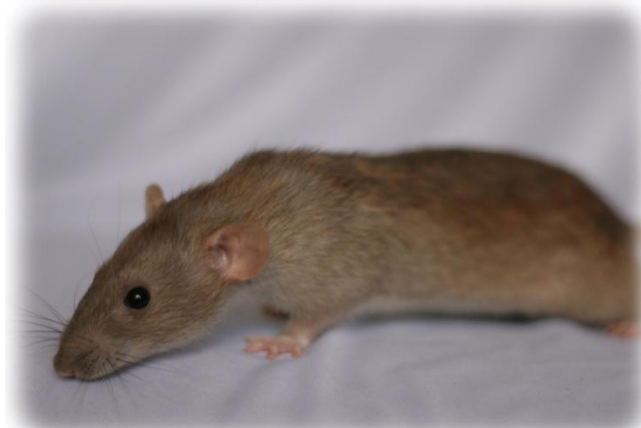
Dumbo pale agouti self buck
($A/-\ B/b$)

References

1. MAYS, N. 1997. The Proper Care of Fancy Rats. T.F.H Publications, United States of America.
2. ROBINSON, R. 1965. Genetics of the Norway rat. Pergamon Press, Oxford.



Chocolate agouti berkshire kitten



Dumbo pale agouti berkshire doe
(A-B/b)



Chocolate variegated berkshire
buck