



VETERINARY GENETICS LABORATORY  
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**HORSE COAT COLOR TEST RESULTS**

KAREN THIEL 4792 42ND ST NEW SALEM, ND 58562	<b>Case: DT18825</b> <b>Date Received: 18-Apr-2008</b> <b>Report Date: 23-Apr-2008</b> <b>Report ID: 3956-4868-0306-2175</b>
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<i>Horse:</i> <b>SSH DARSHAN</b> <i>YOB:</i> <b>04</b> <i>Breed:</i> <b>MH</b> <i>Sex:</i> <b>S</b>	<i>Reg:</i> <b>164685</b> <i>Alt. ID:</i>
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<i>Sire:</i> BAR-Y'S B&H DEBUT <i>Dam:</i> BAR NON SHEBA	<i>Reg:</i> 145504 <i>Reg:</i> 0142968
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RED FACTOR	Both black and red factors detected. Either E or e transmitted to offspring. Basic color is black, bay or brown in the absence of other modifying genes.
<b>E/e</b>	
AGOUTI	Black pigment distributed in points pattern. Basic color is bay or brown in the absence of other modifying genes.
<b>A/a</b>	
CREAM DILUTION	Heterozygous, dilute, one copy of Cream gene. Typical colors are palomino, buckskin and smoky black in the absence of other modifying genes.
<b>N/Cr</b>	
PEARL DILUTION	Not requested.
SILVER DILUTION	Not requested.
LETHAL WHITE OVERO	Not requested.
SABINO 1	Not requested.
TOBIANO	Not requested.

# Horse Coat Color Results with Explanations

## Red Factor

**e/e** - Only the red factor detected. Basic color is sorrel or chestnut in the absence of other modifying genes.

**E/e** - Both black and red factors detected. Either E or e transmitted to offspring. Basic color is black, bay or brown in the absence of other modifying genes.

**E/E** - No red factor detected. It cannot have red foals regardless of the color of mate. Basic color is black, bay or brown in the absence of other modifying genes.

## Agouti

**A/A** - Black pigment distributed in points pattern. Basic color is bay or brown in the absence of other modifying genes.

**A/a** - Black pigment distributed in points pattern. Basic color is bay or brown in the absence of other modifying genes.

**a/a** - Only recessive allele detected. Black pigment distributed uniformly. Basic color is black in the absence of other modifying genes.

## Cream

**N/N** - No evidence for the Cream dilution altered sequence detected. Basic color is sorrel or chestnut, bay or black in the absence of other modifying genes.

**N/Cr** - Heterozygous, dilute, one copy of Cream gene. Typical colors are palomino, buckskin and smoky black in the absence of other modifying genes.

**Cr/Cr** - Double dilute (two copies of Cream gene). Typical colors are cremello, perlino and smoky cream in the absence of other modifying genes.

## Pearl

**N/N** - No evidence of the altered sequence detected.

**N/Prl** - One copy of the altered sequence detected. If Cream dilution is also present, a pseudo-double Cream dilute phenotype will result.

**Prl/Prl** - Two copies of the altered sequence detected. On a chestnut base color, a uniform apricot color of body hair, mane and tail will result.

## Silver

**N/N** - No evidence of the altered sequence detected.

**N/Z** - One copy of the altered sequence detected. Black-based horses will be chocolate with flaxen or lightened mane and tail. Bay-based horses will have lightened black pigment on lower legs, mane and tail. No effect on chestnut color.

**Z/Z** - Two copies of altered sequence detected. Black-based horses will be chocolate with flaxen or lightened mane and tail. Bay-based horses will have lightened black pigment on lower legs, mane and tail. No effect on chestnut color.

## Lethal White Overo

**N/N** - No evidence for the altered sequence detected.

**N/O** - One copy of the altered sequence detected. If bred to another N/O horse, there is a 25% chance of producing a lethal white overo foal. The N/O type has been detected in Paints (including breeding stock), Pintos, Thoroughbreds, Miniatures, Quarter Horses and Tennessee Walking Horses.

**O/O** - Only the altered sequence in the EDNRB gene detected. This result has only been obtained with samples from lethal white overo foals.

## Sabino 1

**N/N** - No evidence of altered sequence detected.

**N/SB1** - One copy of the Sabino 1 gene detected. Horse typically may have 2 or more white legs, blaze, spots or roaning in the midsection and jagged margins around white areas.

**SB1/SB1** - Two copies of the Sabino 1 gene detected. Complete or nearly complete white phenotype expected.

## Tobiano

**N/N** - No evidence of altered sequence detected. Horse is not Tobiano.

**N/TO** - One copy of altered sequence. Approximately 50% of the offspring will inherit Tobiano.