□□ White Patterns

Tobiano (TO)

> **Tobiano** is a dominant white pattern gene that creates smooth, rounded white patches that often cross the topline.

Inheritance & Expression

Genotype	Result
TO/TO	25% Expressive Tobiano 75% Medium Tobiano
TO/n	50% Medium Tobiano 50% Minimal Tobiano
n/n	No Tobiano

Characteristics

- Rounded white patches
- White legs
- White crossing over the topline
- Dark head with normal facial markings

Splashed White (SW)

> **Splashed White** is a dominant white pattern that creates crisp, bottom-up white markings, often giving the appearance that the horse walked through white paint. It commonly produces high white legs, wide facial markings, and blue eyes.

Genotype	Result
SW/SW	25% Expressive Splash 75% Medium Splash
SW/n	50% Medium Splash 50% Minimal Splash
n/n	No Splash

Characteristics

- Crisp-edged white markings
- High white legs
- White underside
- Bl[illegible]are common

Sabino (SB)

> **Sabino** is a dominant white pattern that produces irregular white markings with roaned or jagged edges. It commonly causes high white legs, extensive facial markings, belly spots, and scattered white hairs along the body.

Genotype	Result
SB/SB	25% Expressive Sabino 75% Medium Sabino
SB/n	50% Medium Sabino 50% Minimal Sabino
n/n	No Sabino

Characteristics

- Jagged, irregular white markings
- High uneven white legs
- Wide blaze or extensive facial white
- Bl[illegible]s are common

Frame Overo (O)

> **Overo** is a dominant white pattern that creates irregular, horizontally oriented white patches that rarely cross the topline. It typically leaves the legs dark and is often associated with bold facial markings.

Genotype	Result
O/O	Lethal White Syndrome
O/n	50% Medium Overo 25% Minimal Overo 25% Extensive Overo
n/n	No Overo

Characteristics

- Irregular, jagged white patches
- White rarely crosses the topline
- Small leg markings are common
- White is concentrated on the sides and neck

Since O/O is lethal, there is no expressive category for homozygous horses because they won't survive.

Tovero

> **Tovero** is not a separate allele, but rather the result of a horse inheriting both **Tobiano** and **Overo** pattern genes. This combination produces a unique blend of characteristics from both patterns, often including large tobiano patches with overo facial markings, blue eyes, or irregular white markings.

Characteristics

- Combination of tobiano and overo traits
- White crossing the topline
- Irregular body markings
- Blue eyes are common
- White is concentrated on the sides and neck

Leopard Complex (LP)

> **Leopard Complex (LP)** is a dominant pattern gene responsible for Appaloosa characteristics. On its own, LP may produce only minimal characteristics

Inheritance

Genotype	Result
LP/LP	Strong Appaloosa Expression
LP/n	Moderate Appaloosa Expression
n/n	No Appaloosa

PATN Modifiers

> **PATN1** is a dominant pattern modifier that works with the Leopard Complex (LP) gene to increase the amount of white and spotting across the body, producing patterns such as blankets and leopard spotting.

> **PATN2** is a dominant pattern modifier that works with the Leopard Complex (LP) gene to expand Appaloosa white patterning. It typically produces more white expression than PATN1.

Example Outcomes

LP Status	PATN1 Status	Possible Result
LP/n	n/n	Minimal Blanket
LP/n	PATN1/n	Leopard and Semi-Leopard
LP/LP	PATN1/n	Fewspot Appaloosa

LP Status	PATN1 Status	Possible Result
LP/LP	PATN1/PATN1	Leopard or Fewspot

LP Status	PATN2 Status	Outcome
LP/n	n/n	Minimal Blanket
LP/n	PATN2/n	Blanket Appaloosa
LP/LP	PATN2/n	Snowcap Appaloosa
LP/LP	PATN2/PATN2	Leopard or Fewspot

KIT White (W20)

> KIT White, also known as **W20**, is a white-enhancing gene that influences the amount of white a horse displays. In EquestriCraft, W20 works alongside facial markings, leg markings, and white pattern genes to determine overall white expression.

Unlike Tobiano, Sabino, or Splashed White, W20 does not create a specific pattern on its own. Instead, it increases the amount of white that may be expressed throughout the horse.

Inheritance

Genotype	Expression
W20/W20	Extensive White
W20/n	Medium White
n/n	Minimal White

Expression

n/n (Minimal White)

Horses without W20 will typically display only small amounts of white.

Examples:

- Star
- Snip
- Crescent
- Coronet bands
- Pasterns
- None

W20/n (Medium White)

Horses carrying one copy of W20 may display moderate white expression.

Examples:

- Blaze
- Stripe
- Strip
- Socks
- Moderate body white

W20/W20 (Extensive White)

Horses carrying two copies of W20 may display extensive white markings.

Examples:

- Bald face
- Large Blaze
- Stockings
- Large belly spots

Roan (RN)

> Roan is a dominant pattern gene that mixes white hairs evenly throughout the body while typically leaving the head and lower legs darker.

Inheritance

Genotype	Result

RN/RN	Heavy Roan
RN/n	Roan
n/n	

Rabicano (RB)

> **Rabicano** is a dominant white pattern that adds scattered white hairs to the flanks and barrel, often accompanied by white hairs at the base of the tail and a distinctive "skunk tail" appearance.

Inheritance

Genotype	Result
RB/RB	Extensive Rabicano
RB/n	Medium or Minimal Rabicano
n/n	No Rabicano

Texture Layering

Unlike many horse games, EquestriCraft doesn't limit horses to a single coat pattern. Every genetic trait is rendered as its own texture layer, allowing any genetically possible combination of alleles to appear together.

This means horses can display combinations such as:

- Tobiano + Appaloosa
- Rabicano + Roan
- Sabino + Splash White + Overo
- ...and countless more.

Because every base coat, modifier, white pattern, hair color, and eye color is layered independently, the number of possible appearances becomes extraordinarily large.

With the current genetics system, there are approximately:

1,610,343,593,388,568,719,021,488,209,920,000

(≈ 1.61 decillion unique horse appearances)

No two horses are guaranteed to look alike, even if they share the same breed. As new patterns are added over time, this number will continue to grow, making every horse feel truly unique.

> “ if a genetic combination can exist, your horse should be able to wear it. Texture layering allows us to create the incredible variety seen in real horses while ensuring every horse in EquestriCraft has the potential to be one of a kind.

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