



REPORT DATE:
MAY 19, 2022

HORSE:
BLACK WALNUT PRINCE
WILLIAM

OWNER:
~~CASEY MACKENZIE~~

HORSE ID:
050322_015

PACKAGES:
ETALON DNA
MINIPANEL

Genetic profile test results

Horse and owner information

Horse

Black Walnut Prince William

Date of birth

06-09-2004

Breed

Shire

Age

17 y.o.

Color

-

Sex

Stallion

Discipline

-

Height

-

Registry

Reg number

Sire

-

Dam

-

Sire Reg & No.

Dam Reg & No.

Owner

[Redacted]

Address

[Redacted]

Phone

[Redacted]

City, State

[Redacted]

Email

[Redacted]

Postal code

[Redacted]

**HORSE:**BLACK WALNUT PRINCE
WILLIAM**HORSE ID:**

050322_015

Results Summary

Variant summaries:

Color: **a/a, E/E, nd2/nd2**Health: **WNVR/n**Speed: **Endurance Type**Temperament: **Curious/Vigilant**Gait: **Neg for DMRT3**

Performance and Abilities:

Curious & Vigilant

One Curiosity and one Vigilance variant; horse is likely both curious and vigilant (*ongoing study).

Non-"Gaited" DMRT3

No DMRT3 variants; likely non-gaited (*variants for novel "gait" abilities are currently in research).

Endurance

Endurance type myostatin; horse may accel at longer distance travel versus short distance sprint type activity.

Health Variants:

West Nile Virus Risk Symptom Susceptibility (WNVR) - WNVR/n

WNVR/n - One West Nile Virus Symptom Susceptibility Risk (WNVR) variant detected. Horse may have moderate severity of West Nile Virus symptoms if contracted. Horse has a 50% chance of passing on to any offspring. (*NOT a test for the presence of WNV) Read more about WNVR by clicking the name of the variant above.

Coat color:

Black Homozygous (base)

Black (E) is the base coat color for this horse and is a relatively uncommon coat color on its own (usually it is found in combination with other colors or modifiers such as in Bay horses). A visible difference between a true black (Ee or EE), a dark chestnut (ee) or a bay (Aa or AA + E) can sometimes be seen in the fine hairs around the eyes and muzzle. For a horse to be "homozygous black", it must have TWO copies of the Black variant (EE) and horse has 100% chance of passing Black to any offspring.



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Coat color

Base

Agouti (A) - a/a

ASIP



Negative

Gene or region: **ASIP**

a/a - No Dominant Agouti variants detected. Agouti (A) restricts black pigment to the outer regions of the body, the legs, mane & tail, nose, ear tips causing the otherwise black horse to appear Bay. Agouti is invisible on the red based coat.

Black (E) - E/E

MC1R



Black Based

Gene or region: **MC1R**

E/E - Two Black variants detected and no Red.

Modifiers

Grey (G) - n/n

STX17A



Negative

Gene or region: **STX17A**

No Grey (G) variants detected.

Brindle (BR1) - n/n

MBTPS2BR1



Negative

Gene or region: **MBTPS2BR1**

n/n - No Brindle (BR1) variants detected. Horse with Brindle (BR1) may display overall haircoat showing streaks of darker and lighter hair, similar to the brindle coat color in other species.

non-Dun Primitive Markings (nd) - nd2/nd2

TBX3



Negative

Gene or region: **TBX3**

nd2/nd2 - No non-Dun Primitive Markings variants detected. Non-Dun Primitive Markings can appear as a dorsal stripe, leg barring, shadows on the face and shoulders even in the absence of the Dun variant.

Dilutes

Sunshine (SUN) - not tested

SLC45ASUN

Not ordered

Champagne (CH) - n/n

SLC36A1



Negative

Gene or region: **SLC36A1**

No Champagne (CH) variants detected.

Silver (Z) - n/n

PMEL17



Negative

Gene or region: **PMEL17**

No Silver (Z) variants detected. Silver affects only black base (E) coat colors and is invisible on a red-based coat. On black or bay, it has a disproportionate diluting effect on the mane and tail, and is sometimes called, "Chocolate Flaxen".

Cream (CR) - n/n

SLC45A2



Negative

Gene or region: **SLC45A2**

No Cream (CR) variants detected.

Pearl (PRL) - n/n

SLC45A2



Negative

Gene or region: **SLC45A2**

No Pearl (prl) variants detected.

Dun (D) - n/n

TBX3



Negative

Gene or region: **TBX3**

No Dun (D) variants detected. Dun is a modifier that dilutes the base coat color often revealing Primitive Markings such as a dorsal stripe, leg barring, shadows on the face and shoulders.

Whites

Frame/Lethal White Overo (LWO) - n/n

EDNRB



Negative

Gene or region: **EDNRB**

No Frame/Lethal White Overo (LWO) variants detected.

Leopard Spotting Complex (LP) - n/n

TRPM1



Negative

Gene or region: **TRPM1**

No Leopard Complex Spotting (SP) variants detected.

Pattern 1 (PATN1) - n/n

RFWD3



Negative

Gene or region: **RFWD3**

No Pattern (PATN1/n) 1 variants detected.

Sabino1 (SB1) - n/n

KIT



Negative

Gene or region: KIT

No Sabino (SB1) variants detected.

Tobiano (TO) - n/n

ECA3



Negative

Gene or region: ECA3

No Tobiano variants detected.

Splashed White (SW1) - n/n

MITF



Negative

Gene or region: MITF

No Splashed White 1 (SW1) variants detected.

Splashed White (SW2) - n/n

PAX3



Negative

Gene or region: PAX3

No Splashed White 2 (SW2/n) variants detected.

Splashed White (SW3) - n/n

MITF



Negative

Gene or region: MITF

No Splashed White 3 (SW3) variants detected.

Splashed White (SW4) - n/n

PAX3



Negative

Gene or region: PAX3

No Splashed White 4 (SW4) variants detected.

Dominant White (W) - n/n

KIT



Negative

Gene or region: KIT

No Dominant White (1-21) variants detected.

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⊕ Health Variants

👉 Color Related Risk

Lethal White Overo (LWO) - n/n

EDNRB



Negative

Gene or region: **EDNRB**

n/n - No Lethal White Overo (LWO) variants detected. Read more about LWO by clicking the name of the variant above.

Congenital Stationary Night Blindness (CSNB) - n/n

TRPM1



Negative

Gene or region: **TRPM1**

n/n - No Leopard Complex Spotting (LP) variants detected, which is related to the presence of Congenital Stationary Night Blindness (CSNB) if horse is LP/LP. Horses with one copy of the Leopard Complex Spotting (LP) variant are not currently known to suffer any ill effects as a result. Horses with Congenital Stationary Night Blindness (CSNB) which may experience the inability to see in low to no-light conditions. Read more about CSNB by clicking the name of the variant above.

Multiple Congenital Ocular Anomalies (MCOA) - n/n

PMEL17



Negative

Gene or region: **PMEL17**

n/n - No Silver variants detected which is related to the presence of Multiple Congenital Ocular Anomalies (MCOA). Read more about MCOA by clicking the name of the variant above.

⊕ Immune System

Foal Immunodeficiency Syndrome (FIS) - n/n SLC5A3  Negative

Gene or region: SLC5A3

No Foal Immunodeficiency Syndrome (FIS) variants detected. Read more about FIS by clicking the name of the variant above.

Severe Combined Immunodeficiency (SCID) - n/n DNAPK  Negative

Gene or region: DNAPK

No Severe Combined Immunodeficiency (SCID) variants detected. Read more about SCID by clicking the name of the variant above.

West Nile Virus Risk Symptom Susceptibility (WNVR) - WNVR/n OAS1  Possibly Affected

Gene or region: OAS1

WNVR/n - One West Nile Virus Symptom Susceptibility Risk (WNVR) variant detected. Horse may have moderate severity of West Nile Virus symptoms if contracted. Horse has a 50% chance of passing on to any offspring. (*NOT a test for the presence of WNV) Read more about WNVR by clicking the name of the variant above.

Immune-mediated Myositis (IMM) MYH1 Not ordered

Equine Herpes Myeloencephalopathy Risk (EHMR) - after contracting Equine Herpes Virus type 1 (EHV1) TSPAN9 Not ordered



Muscle Disorders

Glycogen Branching Enzyme Deficiency (GBED)
- n/n

GBE1



Negative

Gene or region: **GBE1**

No Glycogen Branching Enzyme Deficiency (GBED) variants detected. Read more about GBED by clicking the name of the variant above.

Hyperkalemic Partial Paralysis (HYPP) - n/n

SCN4A



Negative

Gene or region: **SCN4A**

No Hyperkalemic Partial Paralysis (HYPP) variants detected. Read more about HYPP by clicking the name of the variant above.

Malignant Hyperthermia (MH) - n/n

RYR1



Negative

Gene or region: **RYR1**

No Malignant Hyperthermia (MH) variants detected. Read more about MH by clicking the name of the variant above.

Myotonia (MYT) - n/n

CLCN4



Negative

Gene or region: **CLCN4**

No Myotonia (MYT) variants detected. Read more about MYT by clicking the name of the variant above.

Polysaccharide Storage Myopathy type 1
(PSSM1) - n/n

GYS1



Negative

Gene or region: **GYS1**

No Polysaccharide Storage Myopathy type 1 (PSSM1) variants detected. Read more about PSSM1 by clicking the name of the variant above.

Neurologic Disorders

[Cerebellar Abiotrophy \(CA\) - n/n](#)

MUTYH



Negative

Gene or region: **MUTYH**

No Cerebellar Abiotrophy (CA) variants detected. Read more about CA by clicking the name of the variant above.

[Lavender Foal Syndrome \(LFS\) - n/n](#)

MYO5A



Negative

Gene or region: **MYO5A**

No Lavender Foal Syndrome (LFS) variants detected. Read more about LFS by clicking the name of the variant above.

[Hydrocephalus \(HDC\)](#)

B3GALNT2

Not ordered

[Recurrent Laryngeal Neuropathy \(RLN\)](#)

ECA3

Not ordered

Reproductive Disorders

[Androgen Insensitivity Syndrome \(AIS\) - n/n](#)

AR



Negative

Gene or region: **AR**

No pattern of Androgen Insensitivity Syndrome (AIS) variants detected. Read more about AIS by clicking the name of the variant above.

Impaired Acrosomal Reaction - Subfertility Risk
 (IAR) - [iar/iar,iar/iar](#) FKBP6IAR1...



Possibly
Affected*

Gene or region: FKBP6IAR1, FKBP6IAR2

iar/iar, iar/iar - Four total variants for Impaired Acrosomal Reaction (IAR) - Subfertility Risk variants detected. Possibly Affected. Currently studies only proven in Thoroughbred stallions. Observations have shown that draft breeds and breeds with heavily weighted with draft breeding are not affected. Read more about IAR by clicking the name of the variant above.



Skin, Hoof and Connective Tissue Disorders

Hereditary Equine Regional Dermal Asthenia
 (HERDA) - [n/n](#) PPIB



Negative

Gene or region: PPIB

No Hereditary Equine Regional Dermal Asthenia (HERDA) variants detected. Read more about HERDA by clicking the name of the variant above.

Junctional Epidermolysa Bullosis type 1 (JEB1)
[- n/n](#) LAMC2



Negative

Gene or region: LAMC2

No Junctional Epidermolysa Bullosis type 1 (JEB1) variants detected. Read more about JEB1 by clicking the name of the variant above.

Junctional Epidermolysa Bullosis type 2 (JEB2)
[- n/n](#) LAMA3



Negative

Gene or region: LAMA3

No Junctional Epidermolysa Bullosis type 2 (JEB2) variants detected. Read more about JEB2 by clicking the name of the variant above.

<u>"Warmblood" Fragile Foal Syndrome (FFS)</u>	PLOD1	Not ordered
<u>Hoof Wall Separation Disease (HWSD)</u>	SERPINB11	Not ordered
<u>Naked Foal Syndrome (NFS)</u>	st14nfs	Not ordered
<u>Chronic Idiopathic Anhidrosis Risk (CIAR)</u>	KCNE4	Not ordered



Ocular Disorders

<u>Equine Recurrent Uveitis Susceptibility Risk (ERUR)</u>	BIEC2536712WB	Not ordered
<u>Equine Recurrent Uveitis Symptom Severity (ERUS)</u>	BIEC2421990WB	Not ordered
<u>Squamous Cell Carcinoma Susceptibility Risk (SCC)</u>	DDB2	Not ordered



Skeletal Disorders

<u>Dwarfism (D)</u>	ACAND1...	Not ordered
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Friesian Dwarfism (FD) B4GALT7 Not ordered

Lordosis ECA20...  Not detected

Gene or region: ECA20, ECA20, ECA20, ECA20

Horses with one copy in each of the four Lordosis regions are not currently known to suffer any ill effects as a result. Horses with two copies in each of the four Lordosis regions exhibit signs of swayback. Currently studies are only proven in the N. Am. Saddlebred breed.

 Endocrine Disorders

Equine Metabolic Syndrome Susceptibility Risk (EMS) BIEC2263524EMS Not ordered

Laminitis Susceptibility Risk - Equine Metabolic Syndrome related (LAM) BIEC2263524_LAM Not ordered

 Blood and Vascular Disorders

Glanzmann Thrombasthenia (GT) ITGA2BG... Not ordered

Health

Glanzmann Thrombasthenia (GT) ITGA2BG... Not ordered

 Height

Height (H1)

LCORL

Not ordered

Height (H2)

HMGA2

Not ordered



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Performance and Abilities

Gait Type

Non-"Gaited" DMRT3

DMRT3



Detected

Gene or region: **DMRT3**

No DMRT3 variants; likely non-gaited (*variants for novel "gait" abilities are currently in research).

Performance

Endurance

MSTN



Likely Affected

Gene or region: **MSTN**

Endurance type myostatin; horse may accel at longer distance travel versus short distance sprint type activity.

Temperament

Curious & Vigilant

DRD4



Detected

Gene or region: **DRD4**

One Curiosity and one Vigilance variant; horse is likely both curious and vigilant (*ongoing study).