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5 Panel Information as it Pertains to Woroniecki Ranch Quarter Horses

At Woroniecki Ranch Quarter Horses we order a genetic kit through AQHA and the results are sent to VGL laboratory of the School of Veterinary Medicine at the University of California, Davis. VGL is internationally recognized as a pioneer and expert in DNA-based animal testing. The effects of these equine diseases are wide-ranging, from mild and manageable to severe and terminal. We have compiled a short description of each disorder tested. In many instances we only test the necessary specific test based upon the parents test results. If both parents are N/N on all or some diseases then the offspring is also N/N on those diseases by default. Please see ALL PAGES of this document link.

Glycogen Branching Enzyme Deficiency (GBED) doesn't allow a foal to store enough sugar in its cells for energy, function of the brain, heart and skeletal muscles. Most die within couple weeks of age, but none have been known to survive more than 2 months of age. These foals are often still born. GBED is a recessive trait and only horses that inherit both recessive genes from each parent (G/G) will be afflicted. Carriers (N/G) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all and they will be able to perform all performance activities. If deciding to breed a carrier (N/G) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.

Hereditary Equine Regional Dermal Asthenia (HERDA) causes the skin on a horse's back to literally peel away. The skin will slough becoming loose and tented to never return to its original position. HERDA is a recessive trait and only horses that inherit both recessive genes from each parent (HDR/HDR) will be afflicted. Carries (N/HDR) and non-carries (N/N) will have no problems in their lives as they will NOT be afflicted at all and they will be able to perform all performance activities. If deciding to breed a carrier (N/HDR) it is highly advised to not breed to another carrier to avoid producing afflicted offspring

Hyperkalemic Periodic Paralysis (HYPP) is a muscle condition that leads to weak muscles or severe twitching of the muscles. In most cases symptoms include tremors, weakness, cramping, sweating and inability to relax. In severe cases horse can collapse from a heart attack or respiratory failure and die. HYPP is a dominant trait and carriers (N/H) will be afflicted, but can be managed with careful nutritional care. It is highly recommended NOT to breed a carrier.

Malignant Hyperthermia (MH) is a rare but deadly disorder triggered by the use of anesthesia, muscle relaxant succinylcholine and stress. The horse will often experience high heart rate along with rapid breathing and extreme fever. This can also lead to death in some cases. Some horses are also a carrier of PSSM along with MH. MH is a dominant trait and carriers will be afflicted if undergoing surgery or extreme stress. It is highly recommended NOT to breed a carrier.

Polysaccharide Storage Myopathy (PSSM1) is when the muscles store too much glycogen causing muscle stiffness and muscle tying up. Most horses experience pain with strenuous exercise. PSSM1 is a dominant trait but carriers (N/PSSM1) can be managed with proper diet and exercise. It is highly recommended NOT to breed a carrier.

| Paddys Topsail JW | | (AQHA) |
|---------------------|----------|--------|
| 2021 Red Dun 9 | Stallion | |
| GBED Status | N/N | |
| HERDA Status | N/N | |
| HYPP Status | N/N | |
| MH Status | N/N | |
| PSSM1 Status | N/N | |



AQHA GENETIC DISEASE PANEL TEST REPORT

Date Received:

Report ID:

Reissue of:

Report Issue Date:

13-Nov-2020 08-Jul-2021

3415-6491-2604-3059

3802-5362-1982-9153

Client/Owner/Agent Information:

AMERICAN QUARTER HORSE ASSOCIATION

Provided Information:

GOLDUN TOPSAIL Name:

Registration: 5857711

DOB: 05/31/2017 Sex: Stallion Breed: Quarter Horse Alt. ID: 6903098

Dam: WHIZZIN LENA Sire: JAZ POCO GOLDUN BLUE Reg: 3275428 Reg: 3562722 Microchip:

Microchip:

RESULT

INTERPRETATION

| Glycogen Branching Enzyme Deficiency (GBED) | N/N | Normal - Does not possess the disease-causing GBED gene |
|---|-----|---|
| Hereditary Equine Regional Dermal Asthenia (HERDA) | N/N | Normal - horse does not have the HERDA gene |
| Hyperkalemic Periodic Paralysis (HYPP) | N/N | Normal - Does not possess the disease-causing HYPP gene |
| Malignant Hyperthermia (MH) | N/N | Normal - horse does not have the MH gene |
| Polysaccharide Storage Myopathy Type 1 (PSSM1) | N/N | Normal - horse does not have the PSSM1 gene |

Additional Information

If testing for a disease or a disorder was performed and results indicate the animal is affected or at risk, we recommend contacting your veterinarian for further clinical evaluation and for additional information on disease and management.

For more detailed information on Equine Disease Panel test results, please visit our website at: www.vgl.ucdavis.edu/services/horse/qhpanel.php

License Information

GBED testing performed under a license agreement with the University of Minnesota.

PSSM1 testing performed under a license agreement with the American Quarter Horse Association.

Additional Comments

Results are determined using PCR-based methods. The results relate only to the sample tested as identified by the submitter (for example, identity and/or breed).

Report authorized by Dr. Rebecca Bellone, VGL Director

Veterinary Genetics Laboratory · University of California Davis · One Shields Ave · Davis, CA 95616 vgl.ucdavis.edu · (530) 752-2211

Horse DNA Test Results

Animal Genetics, Inc. 3382 Capital Circle NE Tallahassee, FL 32308

Equine Test Results

Name: Sara Chopin Account#: 153700

Business: Diamond Bar CC, Email: diamondbarcc@yahoo.c

LLC LIMIN om

Date 6/22/2020

Horse NameBreedHYPPHerdaGBEDIMMMHPSSM1Padsy ClineQuarter Horsen/nN/HrdN/NN/Nn/nn/n



HEREDITARY EQUINE REGIONAL DERMAL ASTHENIA (HERDA) TEST REPORT

Provided Information: Case: NQ74181

 Name:
 PADDYS TOPSAIL JW
 Date Received:
 15-Sep-2021

 Report Issue Date:
 11-Oct-2021

Registration: Registration Pending Report ID: 8233-7422-7014-3180

Verify report at www.vgl.ucdavis.edu/verify

DOB: 06/19/2021 Sex: Stallion Breed: Quarter Horse

Sire:GOLDUN TOPSAILDam:PADSY CLINEReg:5857711Reg:5908979Microchip:Microchip:

Hereditary Equine Regional Dermal Asthenia (HERDA) Result

N/N

Interpretation

N/N Normal - horse does not have the HERDA gene

N/HRD Carrier - horse carries one copy of the HERDA gene HRD/HRD Affected - horse has two copies of the HERDA gene