



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: May 2018 Unit N°: Galen Rd – P1, P2 & P3 Examination date: Quarter 2, 2018

Species: Porcine Strain: Göttingen Minipig Populated†: P1 August 2003, P3 October 2016

| | CUMULATIVE RESULTS | | | CURRENT TEST RESULTS | | | LABORATORY | METHOD |
|---|--------------------|-------|-------|----------------------|-----|-----|------------|-------------------------------|
| | P1 | P2 | P3 | P1 | P2 | P3 | | |
| VIRAL INFECTIONS | | | | | | | | |
| Aujeszky's Disease (Pseudorabies) | 0/260 | 0/60 | 0/30 | NE | NE | NE | PU | ELISA (Blood) |
| Classical Swine Fever (hog cholera) | NA | NA | NA | NE | NE | NE | NA | NA (U.S. free of Hog Cholera) |
| Porcine Epidemic Diarrhea**** | 0/70 | 0/50 | 0/20 | NE | NE | NE | Iowa | PCR (Fecal) |
| PEDV/PDCoV | 0/14 | 0/18 | 0/14 | 0/2 | 0/4 | 0/2 | Iowa | Multiplex PCR (Fecal) |
| Encephalomyocarditis Virus | 0/270 | 0/60 | 0/30 | NE | NE | NE | UM | SN (Blood) |
| Haemagglutinating Encephalomyelitis | 0/270 | 0/60 | 0/30 | NE | NE | NE | UM | HI (Blood) |
| Porcine Circovirus II | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | IFA (Blood) |
| Porcine Influenza | | | | | | | | |
| A **** | 0/60 | 0/60 | 0/30 | NE | NE | NE | PU | ELISA (Blood) |
| H1N1 | 0/220 | NE | NE | NE | NE | NE | PU | ELISA (Blood) |
| H3N2 | 0/220 | NE | NE | NE | NE | NE | PU | ELISA (Blood) |
| Porcine Parvovirus | 0/270 | 0/60 | 0/30 | NE | NE | NE | UM | HI (Blood) |
| Porcine Reproduct. & Resp. Syndrome | 0/274 | 0/68 | 0/34 | 0/2 | 0/4 | 0/2 | Iowa | ELISA (Blood) |
| Porcine Respiratory Coronavirus | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | ELISA (Blood) |
| Porcine Rotavirus | 147/270 | 39/60 | 11/30 | NE | NE | NE | PU | IFF (Blood) |
| Transmissible Gastroenteritis | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | ELISA (Blood) |
| BACTERIAL INFECTIONS | | | | | | | | |
| Actinobacillus pleuropneumoniae | | | | | | | | |
| Serotypes 1, 5, 7 | 0/270 | 0/60 | 0/30 | NE | NE | NE | UM | ELISA (Blood) |
| Bordetella bronchiseptica | 1/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Brachyspira (Serpulina) hyodysenteriae | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | PCR (Fecal) |
| Brucella abortus | 0/260 | 0/60 | 0/30 | NE | NE | NE | PU | Agglutination (Blood) |
| Campylobacter spp. | 3/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| Clostridium perfringens Type C*** | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| Erysipelothrix rhusiopathiae | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Skin Swab) |
| Eubacterium suis | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Urine) |
| Haemophilus parasuis | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Lawsonia intracellularis | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | PCR (Fecal) |
| Leptospira spp. | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | MA (Blood) |
| (pomona, grippityphosa, hardjo, canicola, icterohemorrhagiae, bratislava) | | | | | | | | |
| Mycoplasma hyopneumoniae | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | ELISA (Blood) |
| P. multocida (toxin producing) | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| P. haemolytica | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| P. pneumotropica | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| other pasteurellae | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Salmonella spp. | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| Staphylococcus hyicus** | 43/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Skin Swab) |
| β-haemolytic Streptococci | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Streptococcus suis-type 2 | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Streptococcus suis-other | 3/270 | 1/60 | 2/30 | NE | NE | NE | PU | Culture (Nasal Swab) |
| Yersinia enterocolitica | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| FUNGAL INFECTIONS | | | | | | | | |
| Candida albicans | 5/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Skin Swab) |
| Microsporium spp. | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| Trichophyton spp. | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | Culture (Fecal) |
| PARASITOLOGICAL INFECTIONS | | | | | | | | |
| Arthropods | 0/270 | 0/60 | 0/30 | NE | NE | NE | In-house | Micr. Insp. (Skin Swab) |
| Helminths | 0/270 | 0/60 | 0/30 | NE | NE | NE | In-house | Flotation* (Fecal) |
| Coccidia (Eimeria, Isospora) | 0/270 | 0/60 | 0/30 | NE | NE | NE | In-house | Flotation* (Fecal) |
| Giardia | 0/270 | 0/60 | 0/30 | NE | NE | NE | In-house | Flotation* (Fecal) |
| Toxoplasma gondii | 0/270 | 0/60 | 0/30 | NE | NE | NE | PU | IFA (Blood) |

NA=not applicable
NE=not examined

†Continuous flow of animals in one direction from P1 into P2. First migration of animals into P2 occurred in November 2014. P3 was populated with animals from P1 in October of 2016. Animals can also flow in one direction from P3 to P2.

Abbreviations for laboratories:

PU Purdue University Animal Disease Diagnostic Laboratory
IDEXX Production Animal Services, Idexx Laboratories
UM University of Minnesota, Minnesota Veterinary Diagnostic Laboratory
Iowa State University of Iowa, Veterinary Diagnostic Laboratory

Abbreviations for methods:

ELISA: Enzyme Linked Immuno-Sorbent Assay; IFA: Immuno Fluorescence Assay; VN: Virus Neutralization; MA: Microagglutination; SN: Serum Neutralization;
HI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

* Sodium Nitrate

** Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.

*** In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.

**** The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.

***** As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

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May 24, 2018
Date