

Recent Katahdin Breed Genetic Activities

James Morgan

Recent Research Publications

- **Factors affecting fecal egg counts in periparturient Katahdin ewes and their lambs. 2017.** DR Notter, JM Burke, JE Miller, and JLM Morgan. J Anim Sci 2017. 95:103–112
- **Association between FAMACHA scores and fecal egg counts in Katahdin lambs. 2017.** DR Notter, JM Burke, JE Miller, and JLM Morgan. J Anim Sci 2017. 95:1118–1123
- **Variance components for direct and maternal effects on body weights of Katahdin lambs 2017.** L Ngere, JM Burke, DR Notter & JLM Morgan. J Anim Sci 2017. 95:3396–3405
- **Genetic parameters for ewe reproductive performance and periparturient fecal egg counts and their genetic relationships with lamb body weights and fecal egg counts in Katahdin sheep 2018.** DR Notter, L Ngere, JM Burke, JE Miller, JL Morgan. J Anim Sci 96(5):1579-1589
- **Genetic parameters for fecal egg counts and their relationship with body weights in Katahdin lambs. 2018.** L Ngere, JM Burke, JL Morgan, JE Miller, DR Notter, 2018 J Anim Sci. 96(5):1590-1599

Recent Research Publications

- **Genetics –**
 - **Parasite Resistance, Growth, Maternal**
 - **Lambs and Peri-Parturient Resistance**
 - **NSIP – EBVs (estimated breeding values)**
- **Participation of 24 flocks with USDA – Booneville ARS**

Recent Research Publications

GENOMICS

- **Genome-wide association study to identify genetic loci associated with gastrointestinal nematode resistance in Katahdin sheep. 2020.** GM. Becker, KM. Davenport, JM Burke, RM Lewis, JE Miller, JLM Morgan, DR Notter, BM Murdoch. *Animal Genetics*. Jan 3. doi: 10.1111/age.12895.
- **Association analysis of SNP effects on lamb fecal egg count EBV in progeny-tested Katahdin sires.** In Preparation. DR Notter, M Heidaritabar, JM Burke, et al.

Recent Research Publications

PUBS IN PREPARATION

- **Genetic diversity and population structure in the Katahdin sheep.** In preparation. WZ Gebremariam, JM Burke, JL Morgan, DR Notter RM. Lewis

ABSTRACTS:

- **The effect of sire FEC EBV on antibody production of grazing Katahdin lambs. 2020.** KL Bentley, AR Weaver, JM Burke, J Morgan, DL Wright, SP Greiner, SA Bowdrige Southern Sec Soc for Anim Sci
- **The effect of sire FEC EBV on parasitism and survivability in grazing Katahdin lambs 2020** AR Weaver, JM Burke, J Morgan, DL Wright, S P Greiner, SA Bowdrige. Southern Sec Soc for Anim Sci

Preliminary Work suggests that selection for parasite resistance increases lamb survival for several breeds and improved immune system

Current Research

GENOMIC PROJECT

- Led by Dr. Joan Burke USDA Booneville. Collaborating researchers include Drs Ron Lewis, Brenda Murdoch, Scott Bowdridge, Anne Zajac, Jim Miller, Jim Morgan
- 24 Collaborating Flocks collecting sire, dam, # born , # raised, FAMACHA & FEC & wt at 90 & 120 days, blood tubes & cards. Submitting FEC, WT & Maternal data to NSIP. Must manage for lambs to be parasitized with at least 500 epg average per lamb
- 2017 – 1100+ lambs with all the data submitted for 50K Ovine SNP
- 2018 & 2019 another 2500-3500 lambs for SNP
- 100 to 200 Progeny Tested Sires for HD 700K SNP

Current Research

GENOMIC PROJECT continued

- **Genomically Enhanced EBVs available by 2021 or 2022**
- **The current grant funds will be used to develop the expertise for the NSIP Technical Committee to provided Genomically Enhanced EBVs for other breeds as SNP data sets are developed**

