American Angus Association®

FAQs: Teat Size (TEAT) and Udder Suspension (UDDR) Research EPDs

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What is a research EPD?

A research expected progeny difference (EPD) is a genetic evaluation for a new trait, that is delivered to the membership in specific scheduled releases and updates. The research EPD enables the membership to provide feedback and submit more records, and it gives the research team the opportunity to further investigate and to fine tune models before the release of the production EPD.

The production EPD refers a trait that is delivered to members on a weekly basis. As more data is submitted, and breeders use EPD in their selection decision, continuous research is done on all traits to ensure accuracy of the weekly genetic evaluations.

What are the teat size and udder suspension research EPD?

The teat size (TEAT) and udder suspension (UDDR) research EPD predict expected differences in teat size and udder suspension scores when comparing progeny of different individuals under similar mating and raised on the same conditions.

Higher EPDs will move the population towards scores of 9 for each trait, smaller teat size and tighter udder suspension. While a higher EPD would lead to smaller teats and tighter udders over generations, caution is needed not to reach undesirable extremes. A negative correlation exists between teat size and weaning weight direct (-0.14), and maternal (-0.17); this relationship is similar between udder suspension and weaning weight direct (-0.11), and maternal (-0.24). Weaning weight maternal is often referred to as the milk EPD and it is expressed as pounds of weaning weight.

Teat Size EPD (TEAT), expressed in units of teat size score with a higher EPD indicating smaller teats. The teat size scores range from 9 (very small) to 1 (very large, balloon shaped). Longer, thicker teats inhibit calf suckling which could decrease the intake of colostrum and increase the risk of preweaning mortality.

Udder Suspension EPD (UDDR), expressed in units of udder suspension score with a higher EPD indicating tighter udder suspension. The udder suspension scores range from 9 (very tight) to 1 (very pendulous). Weak suspension (low scores) indicates lack of support to the ligament that ties the udder to the cow's body allowing the udder to hang low, which subjects the udder to increased injury or other issues.

What is the heritability and correlations of TEAT and UDDR?

Each of these traits are moderately heritable. The heritability estimates for TEAT and UDDR for 0.32 and 0.28, respectfully. The genetic correlation between these two traits is 0.77, which supports modeling them together in a multiple trait model.

How to collect phenotypes?

Teat size and udder suspension scores should be collected within 24 hours of calf birth using the scoring guide from the Association. A dam can be scored at each calving and should be scored the same regardless of age. The scores are submitted alongside calving book data.

The detailed scoring guidelines as well as more data recording instructions can be found on the Angus.org teat and udder research page under the Angus Herd Improvement Records® (AHIR) program or by clicking here.

What data is used?

Phenotypes submitted by American Angus Association® breeders for teat size and udder suspension are included in the analysis alongside pedigrees and genotypes in the single-step model. There are approximately 148,000 scores for each trait, recorded on 87,000 animals.

Will these two research EPDs affect $Maternal Weaned Calf Value ($M)?

As research EPDs, TEAT and UDDR will not be incorporated into the maternal weaned calf value ($M). Current research is ongoing to determine the economic impact of these new EPDs and how they could potentially be incorporated in $M when TEAT and UDDR move to production EPDs in the future.

Which animals have research EPDs?

Herds submitting phenotypes during the research phase receive the research EPDs on females with phenotypes included in the genetic evaluation. In addition, a list of A.I. sires born is available on https://www.angus.org/ahir/research/teat-udder.

Where can I find related information?

For more information related to the TEAT and UDDR research EPD, view:

- Research Report released on August 22, 2024
- Angus Journal September 2024 *Data Dive* Article
- Angus Journal September 2024 *By the Numbers* Article
- Scoring Guide
- HowTo: Scoring Video