



USA Hair Index

What It Does:

The USA Hair Index, also referred to as the Katahdin Index, Ewe Productivity Index, or Ewe Productivity Trait, is a combination of growth and maternal traits designed to maximize the pounds of lamb weaned per ewe lambing. Because pounds of lamb weaned is closely correlated with profit in the U.S. Sheep Industry as a whole, selection based on this index is believed to lead to greater profits.

How to Measure:

The USA Hair Index is a calculated value that gives positive emphasis to Number of Lambs Weaned (NLW), milk (MWWT), and Weaning Weight (WWT) EBVs. Ideally, a ewe is able to wean all the lambs she gives birth to, so a small negative emphasis is placed on the Number of Lambs Born (NLB) EBV to help keep the number born in check relative to the number weaned. If too much emphasis is placed on number weaned without consideration of number born, it could lead to weaning larger litters, potentially at the cost of smaller weaning weights and lack of uniformity among siblings. Conversely, too much emphasis on number born, without consideration of NLW, could result in more lambs born than are raised. A ewe that produces twins and weans them both will be favored over a ewe that has triplets but weans only two lambs. However, ewes that routinely wean triplets will always have a higher index than ewes that routinely wean twins. Parasite resistance (FEC), Post-weaning Weight (PWWT) and carcass trait EBVs are not included in this index. The index is calculated as follows:

$$\text{USA Hair Index} = 100 + ((0.246 \times \text{WWT EBV}) + (2.26 \times \text{MWWT EBV}) - (3.5 \times \text{NLB EBV}) + (40.6 \times \text{NLW EBV}))$$

How It Is Applied:

The USA Hair Index is the best “all-around” measure of maternal merit. Most commonly, highly prolific ewes with a high weaning percentage have the highest USA Hair Index. Often, total weight of lambs in the litter is higher, but the weight of individual lambs may be smaller. Alternatively, a moderately prolific ewe with a family history of exceptional weaning percentage coupled with high milk also may lead to a high index. Lambs born to this ewe may nearly equal the total weight of a triplet litter but the individual lambs may be larger and finish easier. Individual producers should determine the degree of selection pressure to be applied to any EBV as well as the USA Hair index.

Things to Consider:

Selection indices simplify the process of selecting for multiple traits simultaneously. It is important to understand that “bigger isn’t always better.” Individual component EBVs need to be balanced with an operation’s management system and marketing goals. Large, extensive grazing systems may struggle to support high indexing ewes that are highly prolific and may prefer a more moderate USA Hair Index that favors ewes producing and raising twins over ewes with larger litters. Whereas, intensive systems with more nutritional inputs may select for animals with a higher USA Hair Index to increase the total pounds of lamb weaned per ewe lambing. It is reasonable to assume that in fall breeding programs, higher indexing ewes should improve out-of-season conception and lambing rates resulting in more lambs to market at a time of year when supply is typically lower and lamb prices are higher.