Fecal Egg Count EBVs

What it Does:

Fecal egg counts or FEC EBVs evaluate the genetic potential for parasite resistance. The weaning or WFEC evaluates lambs in a 60-90 day age range. The post-weaning or PFEC evaluates lambs over 120 days of age. FEC EBVs are important for any operation that raises lambs on pasture, especially in hot and humid geographic locations. The WFEC and PFEC EBV are strongly correlated to each other and have high heritability. Unlike the other EBVs, a negative value is preferred, with the most resistant animals having an FEC EBV in the -100 range. Gastrointestinal nematode (or parasite) infections can cause increased morbidity and mortality, poor weight gain, and can reduce milk production in parasitized ewes. Selecting for improved resistance to parasites reduces the expense and labor associated with frequent deworming and overall health of your flock. Animals with a lower FEC EBV will shed fewer eggs in their manure resulting in less pasture contamination for other animals in the flock.

How to Measure:

Fecal samples are collected on all the lambs in a contemporary group on the same day at 60-90 days of age and again a minimum of four weeks later. More important than age is ensuring the lambs have had adequate exposure to parasites. Lambs should be grazing on pastures during appropriate weather conditions (warm/humid) for four to six weeks before collection. Accuracy increases when the average of the group is high and the range of values is wide (low to high). To ensure a sufficient width of ranges, the group's average FEC should be at least 500 eggs per gram of feces (epg) and over 1000 epg is preferable. It's important not to include animals in the collection who have been dewormed within 30 days of the collection date. FEC analysis is typically performed by a veterinarian or laboratory using the McMaster technique, although some farmers have been trained to do their own analysis. There is a detailed procedure for collecting and processing fecal samples to ensure accuracy and consistency available at https://www.wormx.info**.**

Things to Consider:

Lambs that are older and heavier when first exposed to parasites are typically more resilient than younger, smaller lambs. Thus, lambs born in winter often will not have a sufficient challenge for a weaning FEC and may appear more resistant, while lambs born in early summer may be more challenged and appear less resistant. Although EBVs can be generated with a single FEC, submitting both a weaning and post-weaning FEC improves accuracy. The fecal egg count itself is relative. A count of 650 epg could be very low in a flock with a 5000 epg average, or relatively high in a flock with a 750 epg average. Many NSIP animals have FEC EBVs because of data collected on related animals. These are considered "pedigree" or calculated EBVs and are less reliable. Accuracy is greatly improved when the FEC EBV includes both an animal's own count as a lamb as well as pedigree data.

How It's Applied:

WFEC and PFEC are expressed as a percentage and are an estimate of the reduction in fecal egg counts above or below the average for the breed. The lower or more negative the number, the more parasite resistant the animal is expected to be. Selecting a breeding ram with excellent parasite resistance, identified by a low negative number, can have immediate effects on the lamb crop. For instance, a ram with a PFEC of -80 is predicted to reduce the fecal egg counts of his lambs by 40%, since half a lamb's genetics are provided by the sire.