

NSIP Concept #3:

Contemporary Groups



Overview

A contemporary group is a group of animals about the same age that are managed together under the same conditions during the time when their performance is recorded. Differences in forage or feed, exposure to parasites and pathogens, access to shelter, and even stocking rates can affect an animal's performance. Animals maintained under unique conditions should be considered a distinct contemporary group, and most producers have more than one contemporary group. When contemporary groups are carefully assigned, the influence of outside effects (i.e., other than genetics) on performance of lambs is better controlled, allowing for more effective comparisons.

In Practice

When entering data into Pedigree Master for each performance interval, breeders must assign all animals a group. Coding those that are managed differently to separate groups helps differentiate the effects of genetics from environment. Contemporary group assignments change between performance intervals (e.g., birth to 60 days, 60 to 120 days, etc.) whenever a portion of a contemporary group is subdivided by sex or differences in feed, housing or pasture. Even animals remaining together should be reassigned to a separate contemporary group if differences in management affect their performance (e.g., treatments that are given to some but not all animals such as deworming individual lambs). Contemporary groups can consist of differing numbers of lambs, but accuracy is improved when groups consist of 10 or more lambs per sire, with progeny of two or more sires per group. Larger contemporary groups provide more accuracy, but grouping all lambs born into a single contemporary group and ignoring environmental and management differences will create inaccuracies. Splitting groups into smaller and smaller numbers of lambs will weaken the statistical power to detect genetic differences in performance. Producers should thoughtfully make contemporary group assignments and strike a balance between management needs and ideal contemporary group structure. Some examples for creating contemporary groups include:

- Record all lambs born within a 35-day period and raised together with their dams until weaning as a distinct contemporary group.
- If a portion of the lambs are raised with their dams but separate from another group of lambs (e.g., singles vs. triplets), record as a distinct contemporary group.
- Record orphan lambs raised on milk replacer as a distinct contemporary group.
- After weaning, if a portion of the lambs from the original contemporary group are separated and raised on a different pasture, even if the forage is similar, record thereafter as a distinct contemporary group.

- If late-born lambs are dropped outside the 35-day period, even though they are raised together with earlier born lambs, record as a distinct contemporary group.

It is important to note that a single contemporary group of lambs may be subdivided over the course of a few months spanning multiple performance intervals. But, every time a contemporary group is split, it weakens slightly the potential comparisons of performance within the group and across groups. Also, once a group has been split (i.e., coded in Pedigree Master as a separate contemporary group), they can never be recoded as part of the original group, even if all lambs are merged and managed identically later on.

Importance

Genetics and environment influence an animal's performance, and for all traits, environment plays a larger role. To determine an animal's genetic merit for a particular trait, like growth or parasite resistance, EBVs must be able to separate non-genetic effects such as age, sex, feed, location, exposure to pathogens, etc. When entering data such as the lamb's weaning weight or weaning fecal egg count, assigning the correct contemporary group allows LAMBPLAN to distinguish between genetic and non-genetic effects in the data allowing EBVs to more accurately reflect just the genetic differences in lamb performance.