L'Option

GenOvis

FALL 2016

SUMMARY:

- New genetic program will arrive soon!

Which new EPDs will be included in the updated genetic indexes?

What are the new genetic indexes?

IN THIS EDITION:

New GenOvis Program—Online Soon!

The new genetic program will be added online on November 4, 2016. The GenOvis web application will remain basically the same. Only EPDs and new index values will change on reports. The main index changes were done within the genetic module calculation. Reports will look the same, but will include the new EPDs and genetic indexes.

November 4, 2016

Meet the New EPDs in an Improved Genetic Evaluation Program!

The new GenOvis program will use three new EPDs to replace three existing EPDs. The new EPDs are included in the improved genetic indexes and will help to identify the most profitable animals.

EPD Gain 50-100d

In the old program, EPD 100d weight direct was shown on reports and used in all selection indexes. It was meant to reflect lamb growth to market. In fact, this EPD was the combination of EPD 50d weight direct and EPD Gain 50-100d direct. EPD Gain 50-100d direct will replace EPD 100d weight direct in the improved GenOvis program. This will allow covering two different growth stages using two different EPDs. The two periods are birth to weaning (EPD 50d weight direct) and weaning to 100d (EPD Gain 50-100d direct).

The old EPD 100d weight direct was greatly influenced by EPD 50d weight direct as it was used in EPD 100d weight calculation. Therefore, it was difficult to make a distinction between the growth 0-50d and 50-100d. Since the new EPD Gain 50-100d is less related to EPD 50d weight, breeders will now obtain more information on the genetic potential of their flock.

EPD Total weight weaned

(EPD Total weight weaned 1st lambing (TWW 1st) and EPD Total weight weaned later lambings (TWW later)

The EPD Weaned of the old program considered only the number of lambs weaned by the ewe. In the new, improved program, EPD Total weight weaned will consider both the number of lambs weaned by a ewe and the lambs' weights. The total weight of lambs weaned by a ewe is now considered in this EPD calculation. The improvement is particularly relevant as several breeds seem to have already reached the optimal number of lambs weaned. The genetic progress for those breeds will now focus on weaning heavier lambs, or having heavier total litter weights, at weaning.

By considering the weaning weights of lambs, the dam's contribution to the lambs weaning weights will be included in the reproduction model through the EPD 50d weight maternal and the EPDs total weight weaned 1st and later lambings.

EPD Total weight weaned 1st lambing will replace EPD Weaned 1st lambing and EPD Total weight weaned later lambing will replace EPD Weaned later lambings.

What's Up With The Selection Indexes?

Any genetic program must revise its selection indexes to insure the selection is based on market needs, which are constantly evolving. Selection objectives change over time and genetic progress within certain breeds creates new selection needs. For these reasons, genetic indexes were revised to offer users new selection tools that will better meet today's sheep industry needs.

From Growth index (Gx) to Gain index (GAIN)

The **GAIN index (GAIN)** is very similar to the Growth index, but it also includes the lamb survival direct trait.

From Terminal index (Tx) to Carcass index (CARC)

CARCASS index (CARC) places more emphasis than the Terminal index on carcass quality traits. The Carcass index will quickly increase loin eye depth while limiting fat cover as much as possible.

Within the Carcass index composition, a weighting of 17.5% is given to loin eye depth compared to 12% in the Terminal index. In regards to fat cover, the weighting was raised from 9% in Terminal index to 17.5% in the Carcass index.

Finally, the lamb survival trait was also added to this index.

GAIN :

- lamb survival dir was added

CARC:

- close to twice the emphasis on loin eye depth and fat cover
- lamb survival dir was added

From Growth Maternal index (GxM) to Maternal index (MAT) and Maternal Higher Prolificacy index (MAT-HP).

For the maternal index, opposing needs were expressed by two categories of maternal breeders. Non-prolific maternal breeds already have animals that perform well in growth and milk production, but would like to increase prolificacy. On the other hand, prolific maternal breeds do not want to increase prolificacy, but would like to increase weaning weights and milk production.

To meet both needs, two maternal selection indexes were created to replace the Growth maternal index.

The **MATERNAL index (MAT)** was designed for prolific maternal breeds. This index puts most emphasis on 50d weight mat, birth weight mat and lamb survival mat. Consequently, there is less emphasis on number born and number weaned later (replaced by TWW later). The new maternal index will improve reproductive traits by putting low emphasis on number born.

The **MATERNAL HIGHER PROLIFICACY index (MAT-HP)** was designed for non-prolific maternal breeds. This index puts more emphasis on number born than the Growth Maternal index. The Maternal Higher Prolificacy index is similar to the Growth Maternal index, but also includes the following traits: lamb survival maternal and direct, number born 1st lambing, total weights weaned 1st lambing and later lambings (these ones replace number weaned 1st lambing and later lambings) and lambing interval. These new traits are also included in the Maternal index (MAT).

MAT:

- more emphasis on:
  - 50 mat
  - Birth weight mat
  - Lamb survival mat
- less emphasis on:
  - Number born
  - Number weaned (now TWW later)
- add :
  - Lamb survival mat and dir
  - Number born 1st lambing
  - Total weights weaned 1st and later lambings
  - Lambing interval

MAT-HP:

- more emphasis on number born than MAT
- add :
  - Lamb survival mat and dir
  - Number born 1st lambing
  - Total weights weaned 1st and later lambings
  - Lambing interval

From Terminal Maternal index (TxM) to Maternal Ultrasound index (MAT-U) and Maternal Ultrasound Higher Prolificacy index (MAT-UHP)

Similar to the Growth Maternal index, two new maternal indexes will replace the Terminal Maternal index. Prolific maternal breeders who want to increase reproduction and carcass traits, while reducing emphasis on prolificacy, will use the **MATERNAL ULTRASOUND index (MAT-U)**. Others breeders that prefer to increase their ewes' prolificacy, while selecting for better carcass traits, will use the **MATERNAL ULTRASOUND HIGHER PROLIFICACY index (MAT-UHP).**

MAT-U:

MAT + ultrasound data

MAT-UHP:

MAT-HP + ultrasound data

As you can see, new selection indexes are a logical evolution of current selection indexes and now include additional traits. Index needs change over time depending on market needs and the genetic progress within different breeds. New indexes utilize current knowledge in genetic evaluation to allow precise selection of animals for a specific purpose. The new indexes were designed to optimize selection benefits according to the needs expressed by breeders, commercial producers and the lamb market.

Discover our video clips on different topics related to sheep on our websites www.cepoq.com www.genovis.ca

Various videos will help you using the online program.

GenOvis Webinar

Do not forget to register for our webinar on the updated GenOvis program, which will be presented on **November 10, 1:30pm Eastern Time**.

If you are interested in the webinar, but are unable to attend, please contact us for the possibility of alternate dates.

EPD and Index Calculations on November 4

The new EPD and index calculations require more time for completion. As of November 4, EPD and index calculations will begin at 10pm ET on Friday and the new genetic evaluations will be available at **7am ET on Sunday**.

Visit the special section on our website to stay aware of new GenOvis program news. Click on the following link to access:

Improved GenOvis: News

Contact us :

✉ CEPOQ, 1642, rue de la Ferme
Ste-Anne-de-la-Pocatière (Qc) G0R 1Z0
☎ 418 856-1200, extension 221
@ : genovis@cepoq.com
💻: www.genovis.ca
🖱 : http://quartet.aps.uoguelph.ca/csges/

Editors:

Amélie St-Pierre, tsa
GenOvis Data Entry Service
Frédéric Fortin, M. Sc.
CEPOQ Geneticist