# FOOTROT PROJECT VIDEO UPDATE

MAY 2019

## Who are we hearing from?

**Dr. Mark Ferguson** – Footrot project lead, and Managing Director of neXtgen Agri Ltd.
**Prof. Herman Raadsma** – Footrot project research advisor, and Professor and Professorial Research Fellow, at the University of Sydney.

## Key messages

### *The footrot BV is moving from its research phase, to a commercially available breeding value.*

Most of the research required to develop a footrot BV is complete. The physical data (phenotypes) collected at the CPT and from industry flocks has been instrumental to get the research to this point and for us to understand the footrot susceptibility trait.

To maintain the database built by the industry, it will be important for ram breeders to continue to submit good, reliable data in the form of pedigree records, genomics, and physical foot scores. In the interest of continued footrot data collection, NZM committed to fund a further CPT mating in 2019, recognizing that further data capture is important to cement the research done so far and build up the reliability of the BV.

### *There are some changes coming to the way the foot scores are analyzed in the dataset.*

Incorporating physical footrot data (foot scores) into the footrot analysis is complicated, as an animal can have different degrees of footrot infection on each of its four feet. At present, the footrot analysis uses the sheep's average footrot score, over four feet. However, this means that four feet with a score-one are treated the same as one foot with score-four and the rest score-zero.

This winter, the footrot analysis is shifting to a weighted average. Scores zero and one will be grouped and weighted less than scores two, three, four and five. This means an animal with no underrun feet (scores 0 – 2) will always have a phenotype better than an animal with a single underrun foot (score 3+).

The new method will be used in a research environment first and is being validated to ensure no issues arise. It will then become routine analysis, as it is a more correct way to analyze the dataset.

This change has led to some minor re-ranking of sires within the footrot BV analysis, and an increase of the spread of breeding values. The original 'average footrot' method and the new 'weighted average' method are very highly correlated, so breeders will not see major changes.

### *What should the focus be of ram breeders who want to make progress with their footrot BVs over the next 12 months?*

1. Ongoing central progeny testing is useful, as it is important to continue to understand how seasonal variation impacts foot score data and provides important linkage across flocks. Long term, on-farm data recording will become the key driver of ongoing footrot BV estimation, as is already the case with most reported EBVs.
2. Continuing to collect foot score data on young sires, this can be done at home, or off farm.
3. Placing a focus on across flock linkages (by using link sires from other breeders), this allows you to benchmark your flock in different environments, in turn validating the data you collect at home. ASBVs are only available for flock and trait groups which are linked.

### *Understanding the footrot BV – what does a negative footrot BV mean?*

Breeding values put a quantitative value on all the genes that make up an animal and removes the influence of environmental effects. It allows breeders to rank animals for traits in an unbiased way. For the footrot BV, animals are ranked according to their susceptibility to footrot. Sires with lower footrot BV's have fewer progeny affected by footrot, and of the progeny that do get footrot, it will be less severe and affect less feet.

When selecting a ram based on a footrot BV, a ram with lower susceptibility is indicated by a negative BV, and one with greater footrot susceptibility has a positive BV. Zero is the industry's average when the breeding value was first released. As we breed towards less footrot in industry, the industry's average footrot BV will become more negative.

If you have any questions or would like to speak with a member of the footrot project team, please get in touch with Emma Wilding at ***emma.wilding@nzmerino.co.nz*** or on ***027 221 0090***.