



17. Data Governance How do Organizations Deal with Stewardship of Farmer Data?

Title presentation

An approach to coordinating and encouraging investment in phenotypes

Author(s)

R.G. Banks

Institution for which the first author of this abstract is working

Animal Genetics and Breeding Unit, UNE, Armidale, NSW 2350

Abstract

Performance records have always been the critical “raw material” for genetic improvement. This is even more the case in the genomics era, when genomic relationships enable leveraging of phenotypic data across large numbers of individuals who may not be recorded at all. In extensive industries such as beef cattle and sheep, performance recording has traditionally been conducted by individual seedstock enterprises, with the volume and quality (in terms of trait coverage and identification of fixed effects) of data varying widely within (and between breeds).

Genomics enables leveraging of the recording effort, but if that effort is not rewarded, there is a risk that breeders will withdraw that effort, leading to decline in accuracy of breeding values. Addressing this coordination problem requires a mechanism(s) for cost-sharing, which needs to address diversity in quality of data (which is linked to contribution to accuracy) and cost of recording. In addition, recording effort may be augmented by government or industry contributions, particularly for hard-to-measure or “future” traits.

A simple model is presented that equitably and efficiently shares costs and rewards of recording across multiple players. The model accounts for diversity in recording cost and data quality, and provides a framework for optimizing pooled investment in novel traits, or traits for which market signals are imperfect or absent.