Accuracy of genomic selection

- First: what accuracy gives an economic benefit? (e.g. RFI at 0.42 ~ $80 million over 25 years)

- Then: number of phenotyped and genotyped animals (size of reference)
  - Given heritability of trait, effective population size

- Deterministic prediction (xcel)

Accuracy of genomic selection

- Number of phenotyped and genotyped animals (size of reference)

- Heritability of trait
  - Multiple records on the same animal?
  - Progeny test?

Accuracy of genomic selection

- Number of phenotyped and genotyped animals (size of reference)

- Heritability of trait

- Effective population size
  - Stick within one or a few breeds (larger Ne across breeds)
  - Do markers work across breeds?

Accuracy of genomic selection

- Genomics makes sense for traits
  - Cannot be measured on farm
  - Can only be measured later in life, or in one sex
  - If the cost of genotyping << cost of phenotyping

- Genomics does not make sense if
  - Can be measured easily on farm, early in life, on both sexes
  - Cost of genotyping >> cost of phenotyping
Genomic Selection
Numbers / Accuracy Calculator (if required)

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