Influence of Inbreeding On Genetic Variance

2019-11-01

Contents

1 Purpose 1

1.1 Goal 1

1.2 Material 1

2 Summary 1

2.1 Chpt 3 Small Populations: 2

References 2

1 Purpose

Diagnoal elements ($(A)_{ii}$) of the numerator relation ship matrix A are computed as

$$(A)_{ii} = 1 + F_i$$

where F_i corresponds to the inbreeding coefficient of animal i. The source of this relationship is that the variance ($var(u_i)$) of breeding value u_i is computed as

$$var(u_i) = (1 + F_i) * \sigma_u^2 \tag{1}$$

1.1 Goal

The topic of this notebook is to find a genetic explanation for the relation given in (1).

1.2 Material

The focus will be on the material presented in (Falconer and Mackay 1996).

2 Summary

This chapter summarises a few important points about inbreeding.

2.1 Chpt 3 Small Populations:

References

Falconer, D. S., and Trudy F. C. Mackay. 1996. *Introduction to Quantitative Genetics*. 4th ed. Essex: Addison Wesley Longman Limited.