AARHUS UNIVERSITY

CENTER FOR QUANTITATIVE GENETICS AND GENOMICS QGG

Bayesian estimation of direct & correlated response to genetic selection on linear or ratio expressions of feed efficiency in pigs

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The Pig Breeding Company Hermitage Genetics

Feed conversion ratio (FCR)

$$\frac{\text{ADFI}}{\text{ADG}}$$

Feed intake (ADFI)

BW gain (ADG)

Lean meat (LMP)

Residual feed intake (RFI)

RFI = ADFI - b_1 ADG – b_2 LMP

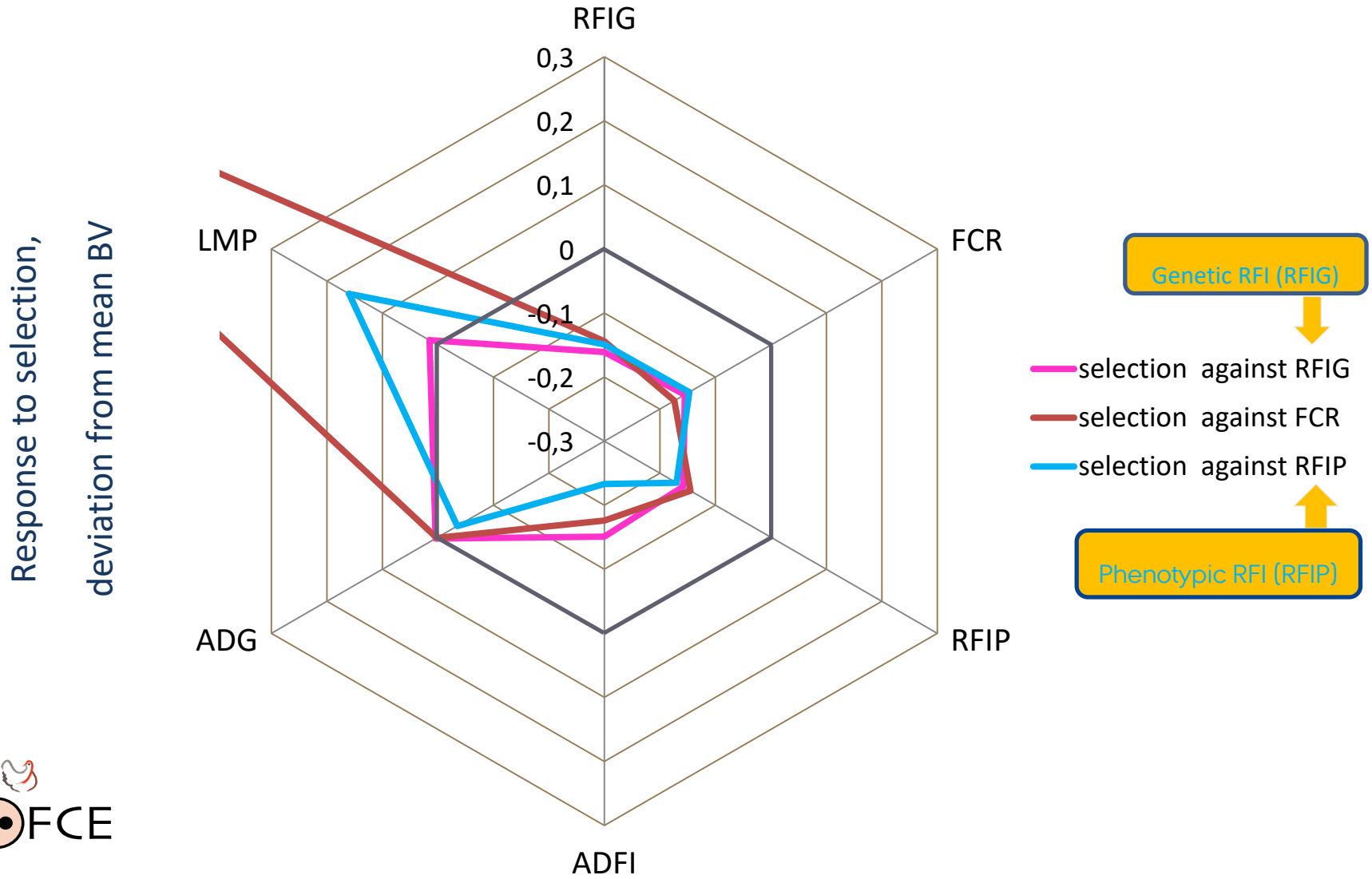
- ***Difficult to predict the response of genetic selection on FCR***

Idea: Propose a Bayesian procedure to estimate response to selection on RFI vs. FCR

- ***Define RFI & FCR directly in the model***
- ***Integrates over unknown population parameters & "fixed" environmental effects***
- ***Handles properly ratio traits***

RFI_G allows selection on the proportion of feed intake that is independent of production

Selection against FCR results in disproportional selection pressure on its component traits (feed intake and body growth) & lean meat percentage



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