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The relationship between backtest and agonistic behaviour in pigs

Aim

- Individual differences in backtest behaviour
- Relationship and agreements between backtest parameters
- Testing of systematic effects and estimation of heritabilities

Backtest

- 1,380 pure- and crossbred piglets from 139 litters
- Repeated testing at 12th and 19th day of lactation
- Recorded traits
  - Number of escape attempts (**NEA**)
  - Duration of escape attempts (**DEA**)
  - Latency to first escape attempt (LEA)

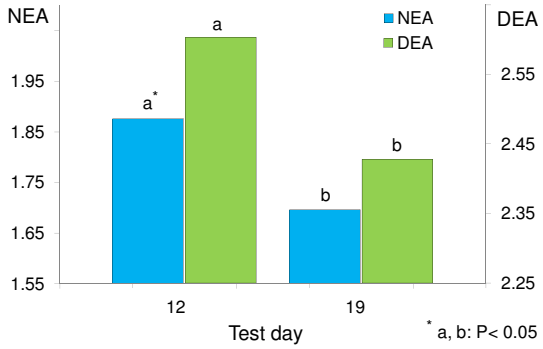
Relationship
- Spearman rank correlation coefficients

Agreement
- Kappa coefficients
  - Classification in coping styles
    - Low reactive (LR)
    - Doubtful (D)
    - High Reactive (HR)

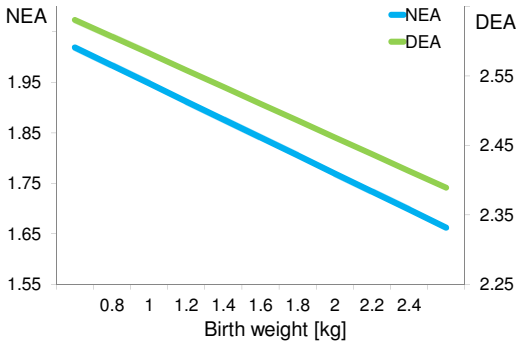
Results

- **Significant effects:** Batch effect, test day, birth weight

LSMeans of number and duration of escape attempts for 1st and 2nd test day



Relation between number and duration of escape attempts and birth weight



Spearman rank correlation and kappa coefficients between 1st and 2nd backtest

	Correlation r	Kappa κ
NEA 1 - NEA 2	0.31	0.17
DEA 1 - DEA 2	0.33	0.21
LEA 1 - LEA 2	0.43	0.14

Spearman rank correlation and kappa coefficients (HR, LR, D) between parameters

	Correlation r	Kappa κ 1st backtest	Kappa κ 2nd backtest
NEA - DEA	0.71	0.49	0.53
NEA - LEA	-0.47	0.38	0.43
DEA - LEA	-0.47	0.49	0.45

Heritabilities by sire-model

	Heritability
NEA	0.17
DEA	0.17
LEA	0.14

Conclusion

- Assessments of coping strategies of pigs need more than one backtest
- Recording only NEA is acceptable → High correlation coefficients and time saving aspects
- Breeding on backtest results is possible → Estimated heritabilities

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