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**Growth Dynamics and Morphometric Predictors of Body Weight in Rhode Island Chickens**

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**Abstract:** The study evaluated growth dynamics and the relationship between body weight and morphometric traits in Rhode Island chickens reared in a semi-intensive system. A total of 20 birds were monitored for 32 weeks. Body weight and body measurements were periodically recorded and statistically analyzed. Results showed a continuous increase in body weight, reaching an average of 2460 g at 32 weeks. Significant positive correlations were identified between body weight and chest width, pelvic width, thoracic perimeter, and trunk depth. Regression analysis indicated that thoracic perimeter was the most accurate predictor of body weight. Morphometric traits proved to be reliable indicators of growth and body conformation, useful for management and selection in poultry production



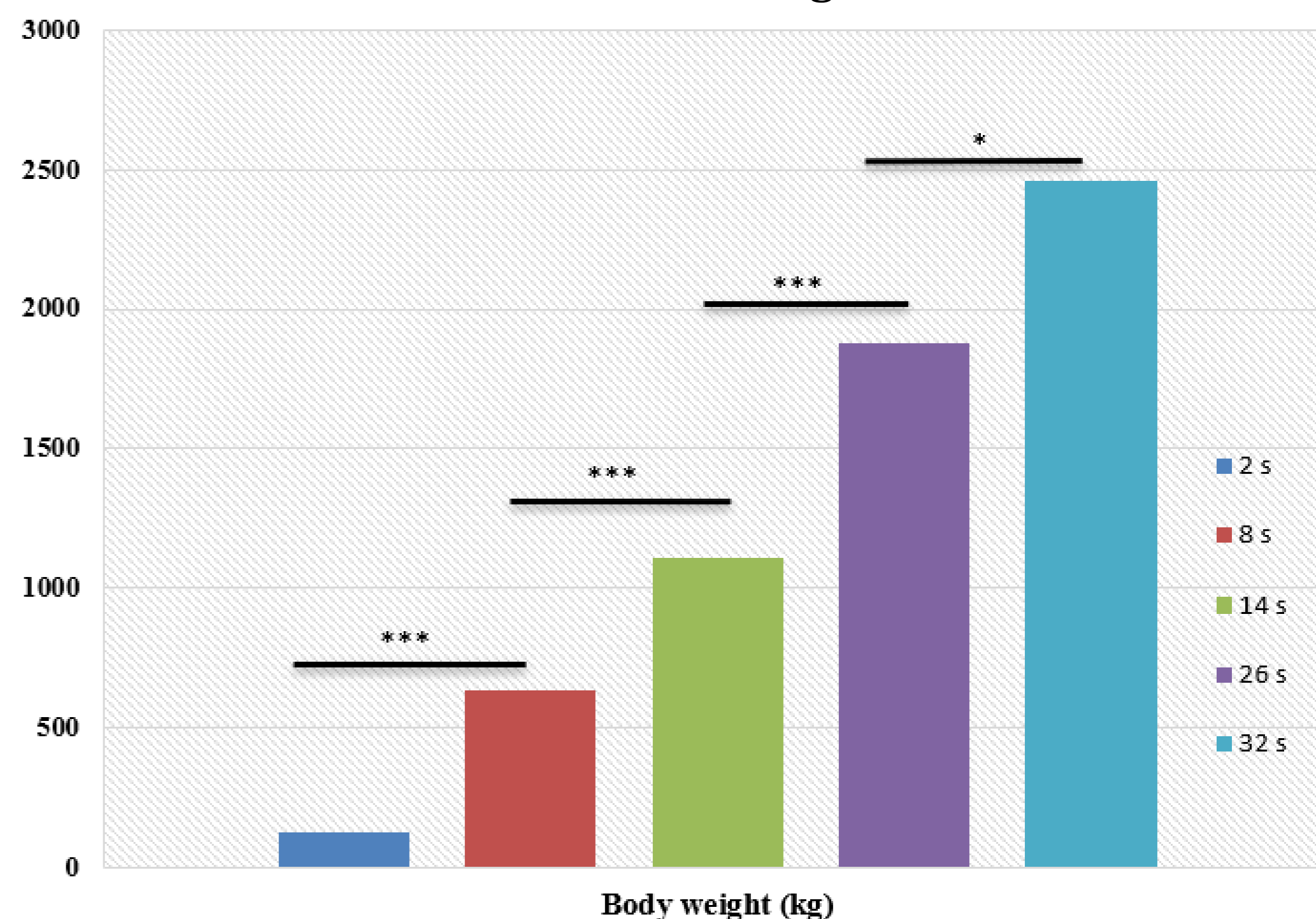
**Introduction**

- Rhode Island chickens are appreciated for their adaptability and productive performance.
- Body development can be evaluated using morphometric measurements.
- Understanding the relationship between body weight and body traits is useful for selection and management.
- Morphometric indicators may provide fast and non-invasive estimation of growth performance.



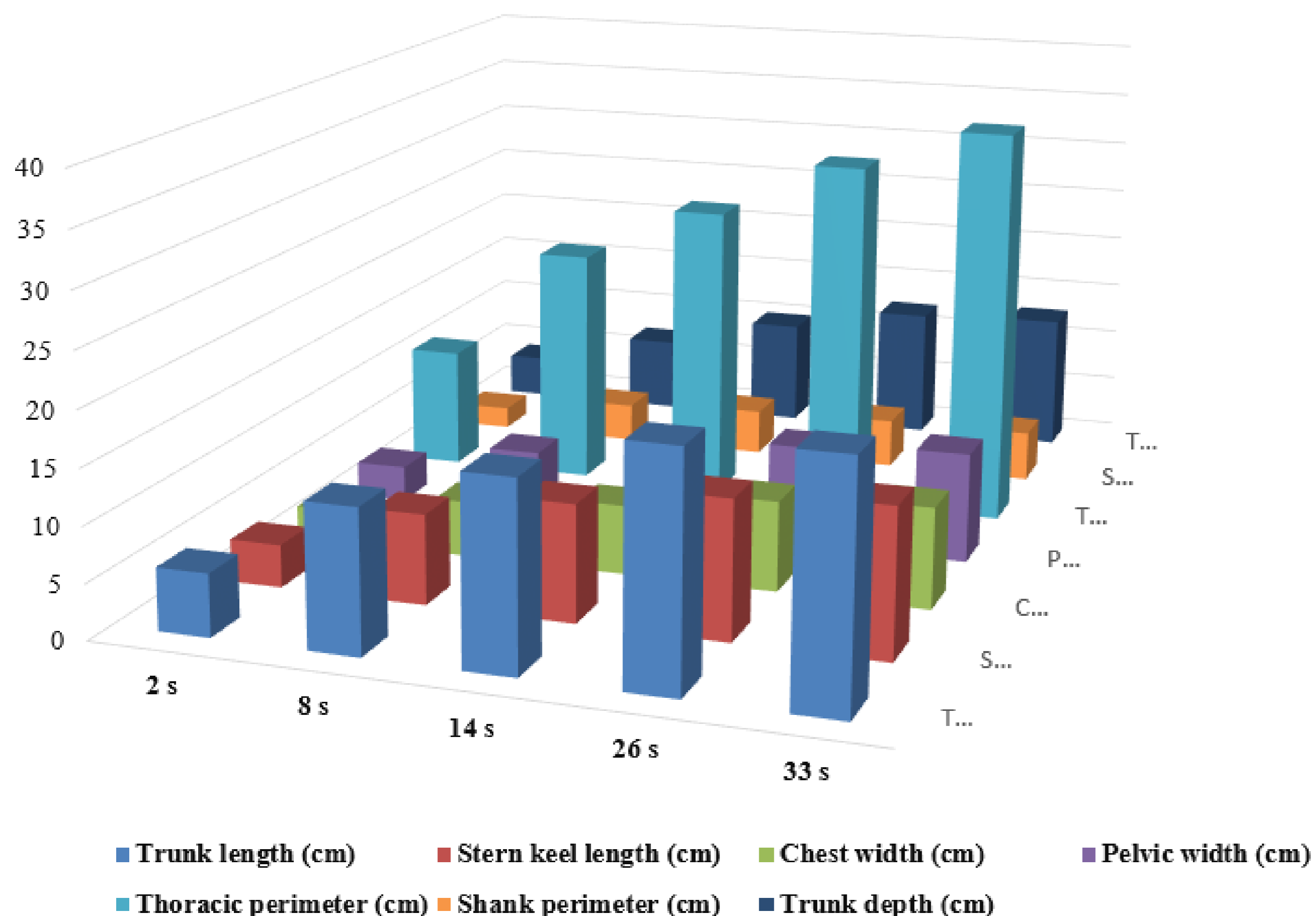
**Results and discussions**

- Continuous increase in body weight during the experiment
- Average final body weight: 2460 g
- Strong positive correlations between body weight and morphometric traits
- Thoracic perimeter showed the highest predictive accuracy
- High coefficients of determination in regression models



**Material and method**

- ✓ 20 Rhode Island chickens
- ✓ Semi-intensive rearing system
- ✓ Experimental period: 32 weeks
- ✓ Periodic recording of: body weight, chest width, pelvic width, thoracic perimeter, trunk depth.
- ✓ Statistical analysis: correlations and regression models



**Conclusions**

- ✓ Morphometric traits are reliable indicators of growth and body conformation
- ✓ Thoracic perimeter can accurately estimate body weight
- ✓ Predictive models may improve poultry management, selection, and economic efficiency

