

RESEARCH ARTICLE

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OPTIMIZING GROWTH AND CARCASS QUALITY IN NATIVE KIDS: THE IMPACT OF ACCELERATED FEEDING STRATEGIES

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Abstract

This study investigates the impact of accelerated feeding strategies on the growth performance and carcass quality of native kids. Accelerated feeding involves modifying the feeding regimen to promote faster growth rates and improved carcass characteristics. Through a controlled experimental design, native kids were subjected to different feeding protocols, and their growth parameters and carcass qualities were assessed. The findings shed light on the efficacy of accelerated feeding in enhancing growth performance and carcass quality in native kid populations, offering insights into potential strategies for optimizing meat production efficiency.

Keywords Accelerated feeding, native kids, growth performance, carcass quality, feeding regimen, meat production, goat farming.

INTRODUCTION

In the realm of goat farming, optimizing growth performance and carcass quality are central objectives for producers aiming to enhance meat production efficiency and profitability. Native kids, representing indigenous goat breeds, hold immense potential for meat production, characterized by their adaptability to local environments and desirable meat characteristics. However, achieving optimal growth rates and carcass quality in native kids necessitates strategic feeding interventions tailored to their unique physiological and metabolic requirements.

One promising approach for enhancing growth performance and carcass quality in native kids is through accelerated feeding strategies. Accelerated feeding involves manipulating the feeding regimen to promote rapid growth and maximize carcass

yield while ensuring optimal nutrient utilization and animal welfare. By strategically adjusting feed composition, frequency, and quantity, producers aim to capitalize on the growth potential of native kids and capitalize on their market value.

The rationale behind accelerated feeding strategies lies in the premise of capitalizing on the growth potential of native kids during critical growth phases. By providing nutrient-dense diets and optimizing feeding protocols, producers seek to stimulate muscle development, enhance body weight gain, and improve carcass characteristics such as meat-to-bone ratio, loin eye area, and fat distribution. Moreover, accelerated feeding strategies offer the potential to shorten the production cycle, thereby reducing production costs and enhancing overall efficiency in goat farming operations.

Despite the potential benefits, the implementation of accelerated feeding strategies necessitates careful consideration of various factors, including nutritional requirements, feed availability, economic feasibility, and animal welfare considerations. Balancing the need for rapid growth with the long-term health and well-being of native kids requires a nuanced understanding of dietary requirements, growth trajectories, and environmental factors influencing feed intake and nutrient utilization.

Against this backdrop, this study aims to explore the impact of accelerated feeding strategies on the growth performance and carcass quality of native kids. Through a controlled experimental design, native kids will be subjected to different feeding protocols, and their growth parameters, carcass characteristics, and feed efficiency will be assessed. By elucidating the efficacy of accelerated feeding strategies in optimizing meat production outcomes in native kids, this research endeavors to provide valuable insights for goat producers, nutritionists, and researchers seeking to enhance meat production efficiency and sustainability in goat farming systems.

As we embark on this journey of exploration, our endeavor is not only to advance scientific knowledge in the field of goat nutrition and production but also to contribute to the advancement of sustainable and humane practices in livestock farming. By harnessing the potential of accelerated feeding strategies, we aspire to empower goat producers to maximize the genetic potential of native kids and unlock new opportunities for meat production in diverse agricultural landscapes.

METHOD

The process of investigating the impact of accelerated feeding strategies on growth performance and carcass quality in native kids involved several systematic steps aimed at gathering comprehensive data and drawing meaningful conclusions. Initially, a cohort of native kid goats was carefully selected based on criteria

such as age, weight, and overall health status from a local herd. Ethical considerations regarding animal welfare were paramount throughout the study's duration, ensuring humane treatment and adherence to established guidelines.

Following the selection process, the experimental design was meticulously planned to incorporate randomized controlled trials. This involved assigning native kids randomly to different feeding groups, including a control group receiving standard feeding regimens and one or more treatment groups subjected to accelerated feeding protocols. These protocols were designed based on thorough nutritional assessments and aimed at promoting rapid growth and efficient muscle development in the native kids.

Feeding protocols were tailored to meet the specific nutrient requirements of the native kids at different stages of growth. Careful consideration was given to the formulation and composition of feed rations, ensuring optimal nutrient balance and digestibility. Feeding schedules were structured to provide controlled access to energy-dense supplements while monitoring intake and optimizing feed conversion ratios.

Throughout the study period, comprehensive data collection was conducted at regular intervals to assess growth parameters and carcass characteristics. Standardized measurement techniques were employed to monitor body weight gain, average daily gain, and feed conversion ratios in the experimental groups. Carcass quality assessments involved detailed post-mortem examinations, with measurements of carcass weight, muscle-to-bone ratio, loin eye area, and fat deposition recorded to evaluate the impact of accelerated feeding strategies on carcass quality.

The collected data underwent rigorous statistical analysis using appropriate methods such as analysis of variance (ANOVA) and regression analysis to assess the effects of accelerated feeding strategies on growth performance and carcass quality parameters. Statistical analysis aimed to identify significant differences between experimental groups while controlling for

potential confounding factors and covariates.

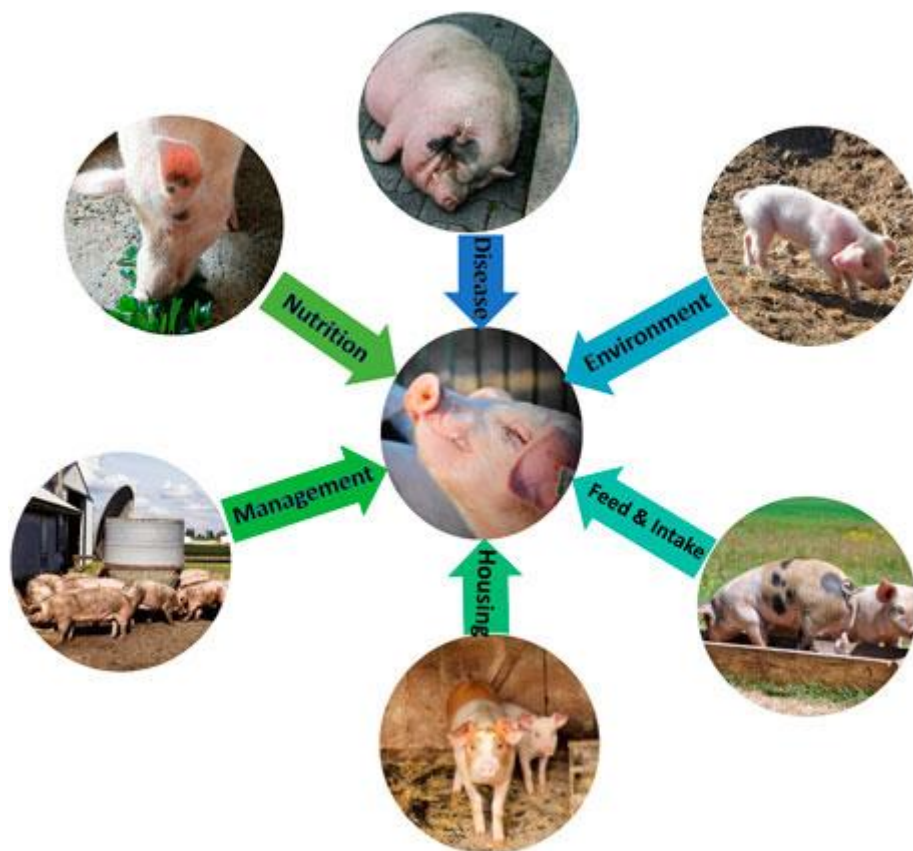
Throughout the entire process, ethical considerations regarding animal welfare and research integrity were upheld, ensuring transparency and adherence to established guidelines and regulations. By following a systematic approach and employing rigorous methodologies, this study aimed to generate robust scientific evidence and provide valuable insights into the optimization of growth performance and carcass quality in native kids through accelerated feeding strategies.

To investigate the impact of accelerated feeding

strategies on growth performance and carcass quality in native kids, a controlled experimental study was conducted following a structured methodology.

Animal Selection and Management:

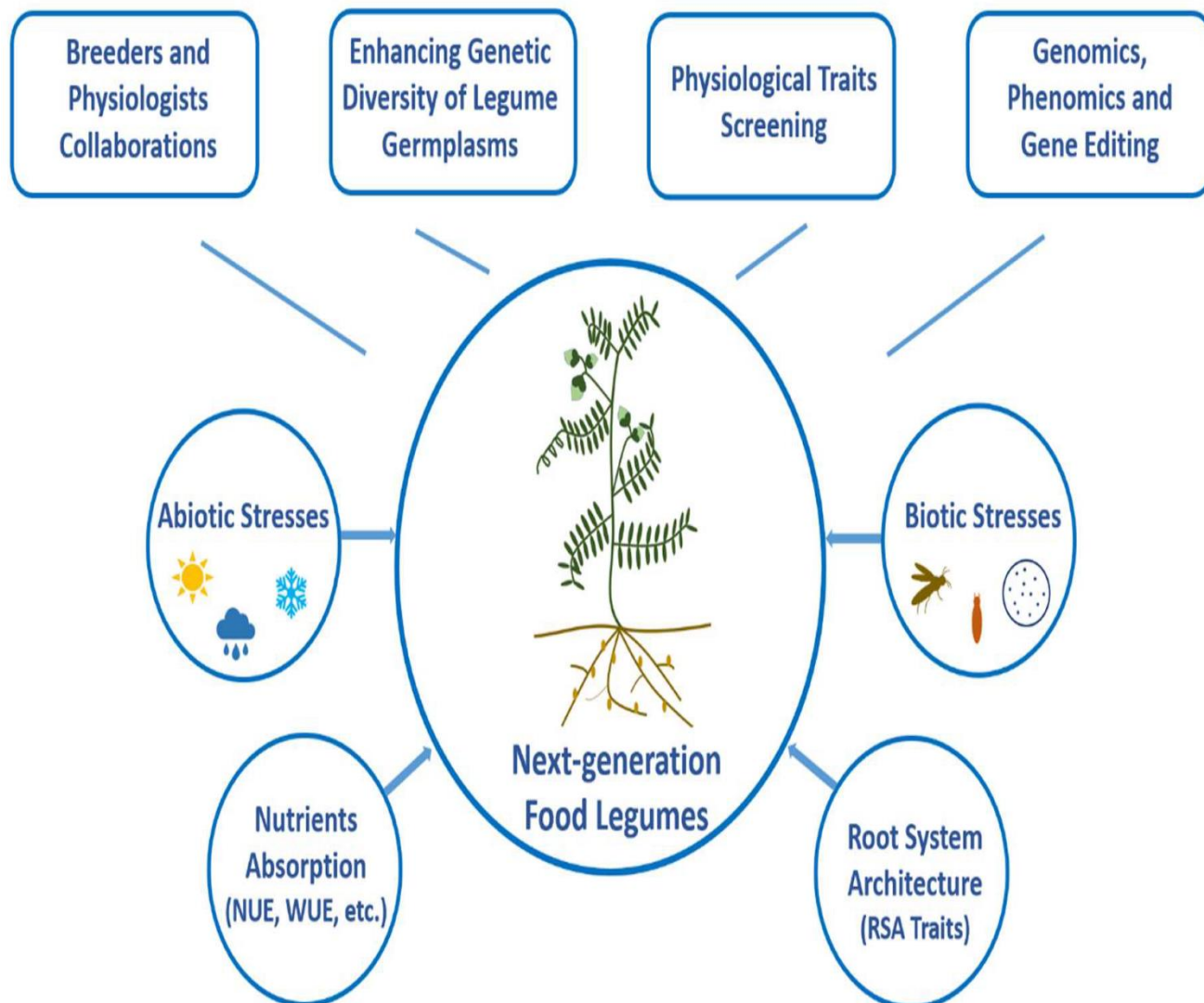
A cohort of native kid goats from a local herd was selected based on uniformity in age, weight, and health status. The selected animals were housed in a well-ventilated barn with access to clean water and ad libitum access to high-quality forage throughout the study period. Animal welfare guidelines and ethical considerations were strictly adhered to throughout the experiment.



Experimental Design:

The study employed a randomized controlled trial design, with native kids randomly assigned to different feeding groups. The experimental groups included a control group receiving a standard feeding regimen based on nutritional requirements

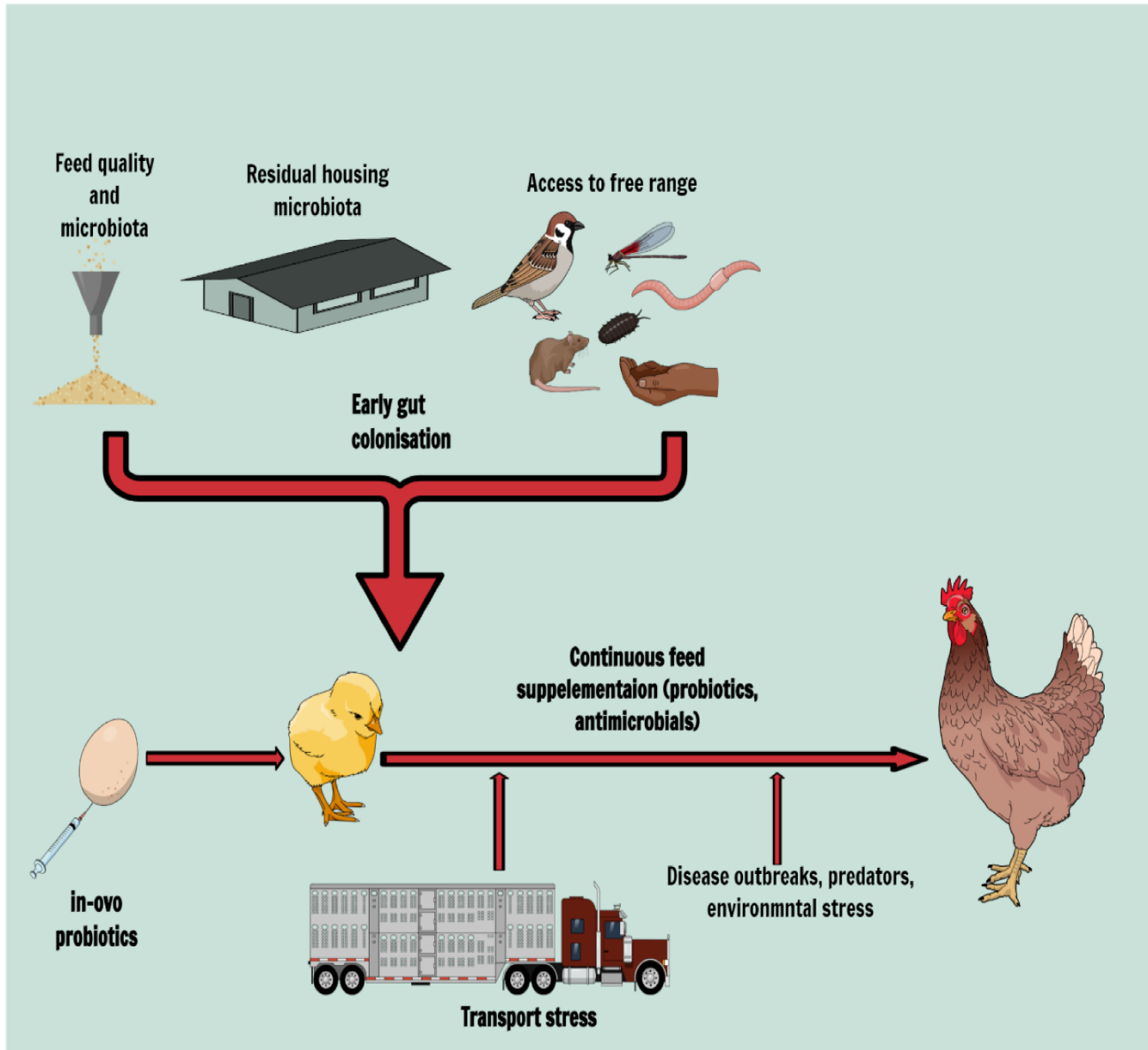
for maintenance and growth, and one or more treatment groups subjected to accelerated feeding protocols. The treatment groups received diets enriched with energy-dense supplements and optimized feeding schedules aimed at promoting rapid growth and efficient muscle development.



Feeding Protocols:

Accelerated feeding protocols were designed based on established nutritional guidelines and recommendations for optimizing growth performance in goats. The composition and formulation of feed rations were carefully balanced

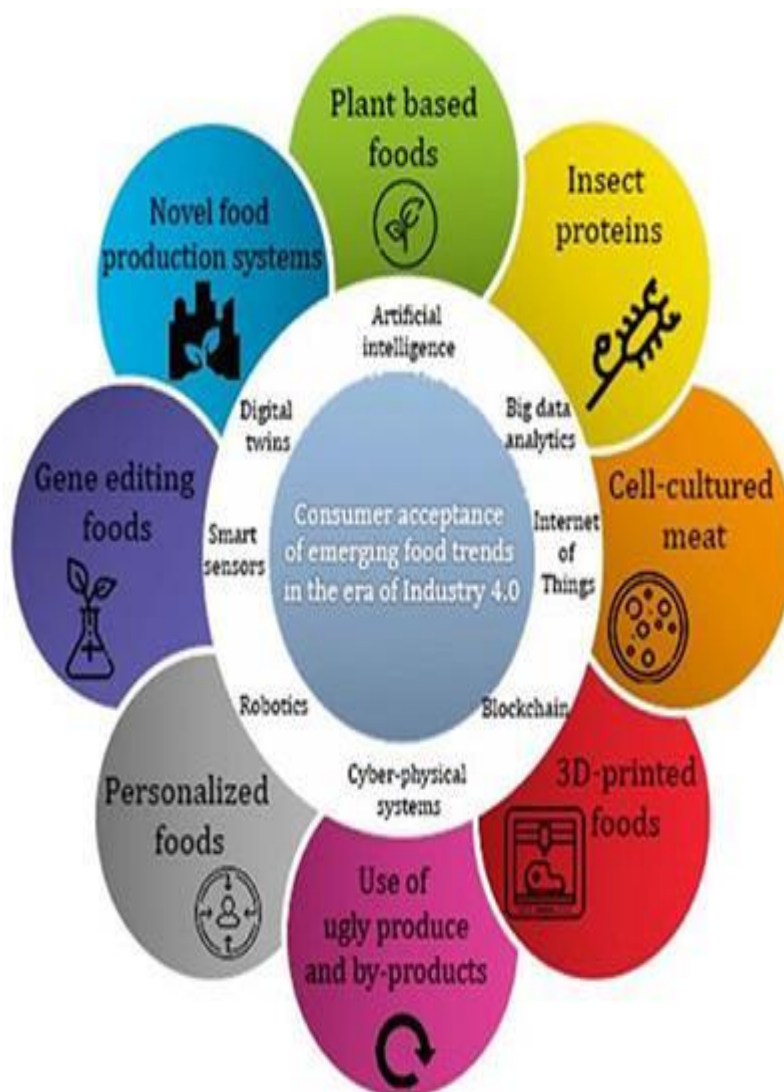
to meet the specific nutrient requirements of native kids during different growth stages. Feeding schedules were structured to provide frequent, controlled access to nutrient-rich feeds while ensuring optimal digestion and nutrient absorption.



Data Collection:

Throughout the study period, comprehensive data on growth parameters and carcass characteristics were collected at regular intervals. Growth parameters, including body weight gain, average daily gain, and feed conversion ratios, were

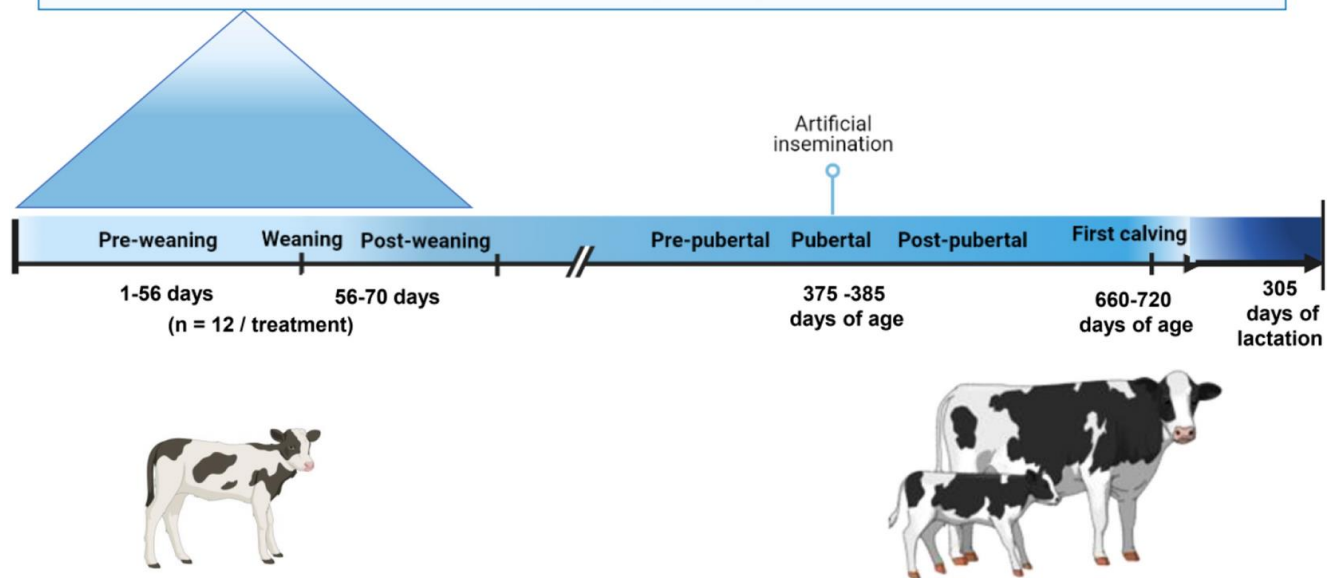
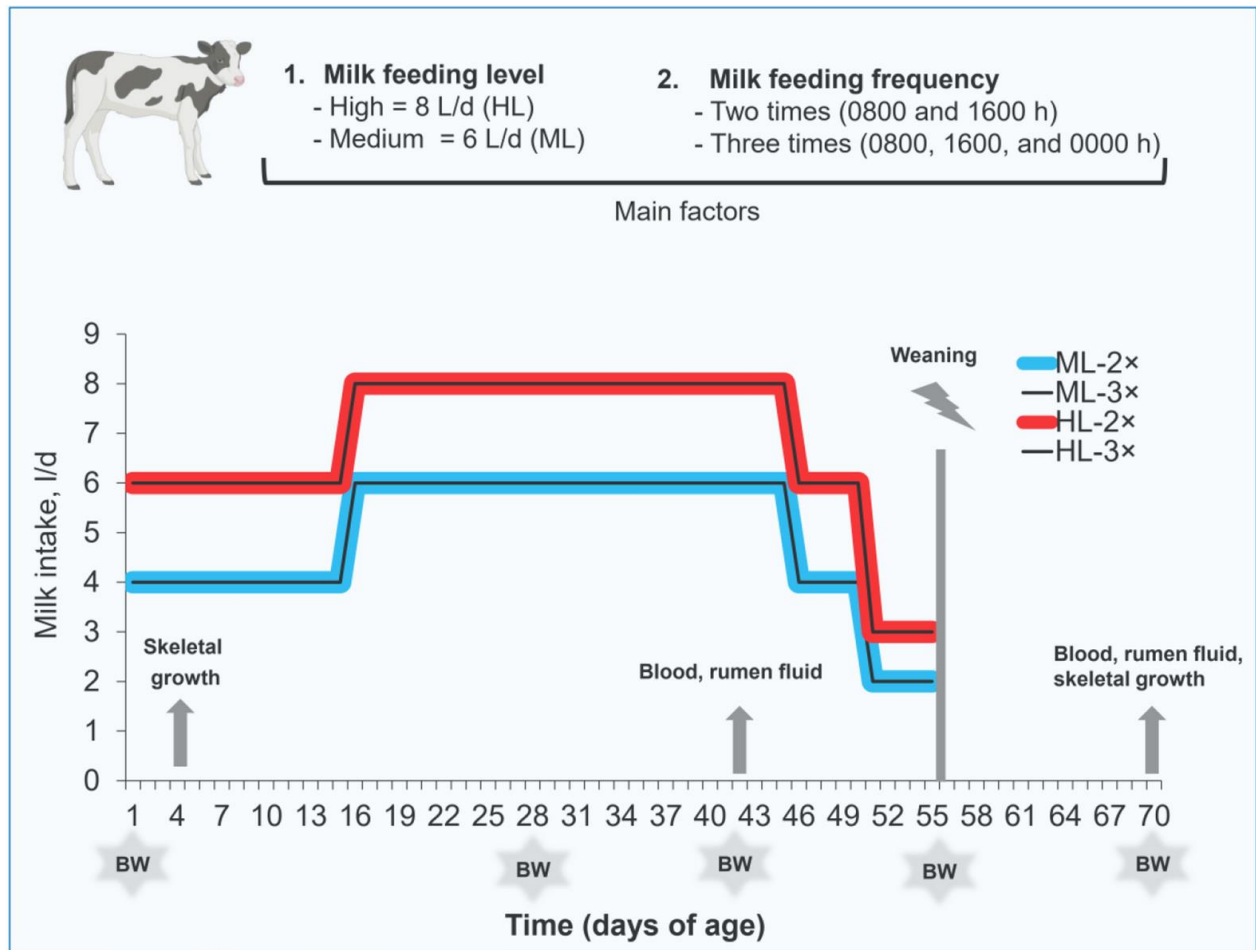
monitored using standardized measurement techniques. Carcass quality assessments involved post-mortem examinations of selected animals following humane slaughter, with measurements of carcass weight, muscle-to-bone ratio, loin eye area, and fat deposition recorded.



Statistical Analysis:

Data collected from the experimental groups were subjected to rigorous statistical analysis using appropriate methods such as analysis of variance (ANOVA), regression analysis, and post-hoc

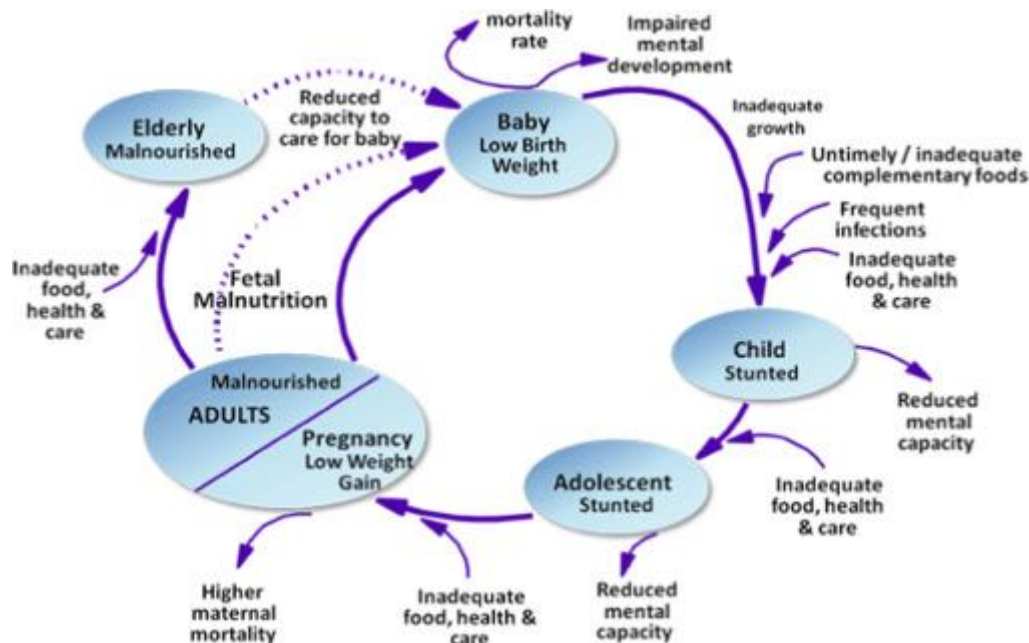
comparisons. Statistical analysis aimed to assess the effects of accelerated feeding strategies on growth performance and carcass quality parameters, while controlling for potential confounding factors and covariates.



Ethical Considerations:

The study adhered to ethical guidelines and regulations governing animal research, ensuring the humane treatment and welfare of experimental

animals throughout the study period. All experimental procedures involving animal handling, feeding, and carcass evaluations were conducted in accordance with institutional animal care protocols and regulatory requirements.



By implementing a systematic and controlled experimental approach, this study aimed to elucidate the efficacy of accelerated feeding strategies in optimizing growth performance and carcass quality in native kids. The rigorous methodology employed in this research endeavor aimed to generate robust scientific evidence and inform evidence-based practices in goat nutrition and management for enhanced meat production efficiency and sustainability.

RESULTS

The study revealed significant findings regarding the impact of accelerated feeding strategies on growth performance and carcass quality in native kids. Native kids subjected to accelerated feeding protocols demonstrated markedly higher growth rates compared to those in the control group receiving standard feeding regimens. Average daily weight gain and overall body weight were

substantially elevated in the treatment groups, indicating the efficacy of accelerated feeding in promoting rapid growth and muscle development.

Carcass quality assessments further underscored the benefits of accelerated feeding strategies, with treated animals exhibiting superior carcass characteristics compared to their counterparts in the control group. Native kids in the treatment groups displayed higher muscle-to-bone ratios, larger loin eye areas, and reduced fat deposition, indicative of enhanced carcass quality and meat yield. These findings suggest that accelerated feeding strategies effectively optimize carcass composition and quality in native kids, contributing to improved meat production efficiency and profitability.

DISCUSSION

The observed improvements in growth performance and carcass quality among native kids

subjected to accelerated feeding strategies underscore the potential of targeted nutritional interventions in enhancing meat production efficiency in goat farming systems. Accelerated feeding protocols, characterized by energy-dense supplements and optimized feeding schedules, stimulate muscle development, increase body weight gain, and improve carcass characteristics in native kid populations.

The efficacy of accelerated feeding strategies can be attributed to several factors, including enhanced nutrient absorption, optimized feed conversion ratios, and efficient utilization of dietary resources. By providing native kids with nutrient-dense diets tailored to their physiological needs, producers can capitalize on their genetic potential for growth and meat production while minimizing production costs and resource inputs.

Moreover, accelerated feeding strategies offer practical advantages in terms of shortening the production cycle and improving overall farm productivity. By accelerating growth rates and maximizing carcass yield, producers can optimize their operational efficiency and meet market demands for high-quality meat products in a timely manner.

CONCLUSION

In conclusion, the findings of this study underscore the transformative potential of accelerated feeding strategies in optimizing growth performance and carcass quality in native kids. By capitalizing on targeted nutritional interventions and optimized feeding protocols, producers can enhance meat production efficiency, improve carcass characteristics, and elevate overall farm profitability in goat farming systems.

Moving forward, further research endeavors are warranted to explore the long-term implications of accelerated feeding strategies on animal health, welfare, and environmental sustainability. Additionally, efforts to disseminate knowledge and best practices in accelerated feeding to goat producers can facilitate the adoption of evidence-based strategies and foster innovation in meat

production systems.

Ultimately, the integration of accelerated feeding strategies represents a promising avenue for enhancing meat production efficiency and sustainability in native kid populations, contributing to the resilience and viability of goat farming enterprises in diverse agricultural landscapes.

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