**The Effect of Protein-Rich Feed Versus Napier Grass on Growth Performance in Young Goats Over 45 Days**

**Abstract**

Protein is a critical nutrient for growth and development in young ruminants. This study aimed to evaluate the effect of a protein-rich commercial feed compared to Napier grass on weight gain in young goats. Sixty goats (average initial weight 12 kg) were divided into two groups of 30. Group A received a high-protein feed, while Group B was fed only Napier grass, with water provided ad libitum. The trial lasted 45 days, and body weights were recorded weekly. Results showed that goats in Group A achieved an average weight gain of 11.2 kg, while goats in Group B gained 6.9 kg. Additionally, Group A displayed improved coat condition and more consistent feeding behavior. The study concludes that protein-rich diets significantly enhance growth in young goats and can improve overall animal health and productivity.]

**Introduction**

Young goats require balanced nutrition, particularly protein, to achieve optimal growth and development. Protein deficiency in the early life stages can lead to poor weight gain, delayed maturity, and higher susceptibility to disease. Smallholder farmers in Kenya commonly rely on Napier grass as a primary feed source, which is often low in protein content. This study aimed to evaluate the impact of feeding a protein-rich commercial diet versus Napier grass on weight gain and general health in young goats.

**Materials and Methods**

A total of 60 healthy young goats with an average initial weight of 12 kg were selected for this 45-day case study. The goats were randomly divided into two groups of 30 each:

- **Group A (Protein-Rich Feed):** Fed a commercial high-protein concentrate twice daily
- **Group B (Napier Grass):** Fed freshly chopped Napier grass twice daily

All goats had continuous access to clean water. Weight measurements were taken weekly, and general health observations, including coat quality and feeding behavior, were recorded.

**Results**

Goats in **Group A** (protein-rich feed) gained an average of **11.2 kg** over 45 days, while **Group B** (Napier grass) gained **6.9 kg**. This represents approximately a **62% higher weight gain** for goats fed protein-rich feed. Group A also showed better coat condition and more active feeding behavior. No mortalities were recorded in either group during the trial.

## Discussion

The results indicate that protein-rich feed significantly improves weight gain in young goats compared to Napier grass alone. The higher protein content likely enhanced muscle growth and overall metabolism, consistent with previous studies **(Nassiye et al,2023)** on small ruminant nutrition. Improved coat condition and feeding activity in Group A also suggest better overall health status. For smallholder farmers, incorporating protein-rich feed, even in partial rations, can lead to faster growth and potentially higher market value of goats. Future studies could focus on cost-benefit analysis to evaluate the economic viability of adopting protein-rich feeds in rural farms.

## Conclusion

Feeding young goats with protein-rich commercial feed results in higher weight gain and improved overall health compared to feeding solely on Napier grass. Farmers seeking to enhance goat productivity should consider integrating high-protein feeds into their feeding programs.

## References

Nassiye, G & Bruno, P (2023). Effects of protein on young goat weight gain.

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