

## Research Problems Identified:

As we embarked on our project, we found ourselves confronted with multiple significant research challenges, each one asking us to dive deeper into the world of goat ranching. Our first task was to create an intricate point ranking system aimed at providing a comprehensive evaluation of the performance exhibited by each doe within the ranch. This endeavor demanded a lot of meticulous examination of various factors, ranging from birth weight and milk production to maternal instincts and overall vigor. Secondly we had to set our sights on understanding the impact of vaccination status and focusing particularly on the chlamydia vaccine. And thirdly we had to think about the leverage of the information gathered to help sustainability in the goat ranching operation, for the owners, herd health and economic sustainability. We hoped to address these questions utilizing our various views created in the schema.

## Approach to addressing Research problems:

To address the research challenges effectively we created a plan focused on establishing a robust data collection method. Our database schema was carefully constructed, featuring dedicated tables for goats, that contained detailed profiles, performance ratings, offspring information and vaccination status records. Crafting the point ranking system involved a thorough examination of various factors, including but not limited to birth weight, milk production, maternal capabilities, vigor score and vaccination status. Through the systematic data gathering and analysis our objective was to dive deeper into the relationship between

vaccination status and a diverse set of performance indicators, allowing us insight to complete our research problem.

#### Questions Explored with the Data:

Our investigation into goat health and vaccination status led us to dive into a series of pivotal questions, each shedding light on different variables. At the center of our inquiry to figure out the impact of vaccination status and its performance indications within the goat population we sought to determine whether the vaccination status of our goats influenced metrics such as milk rating, offspring weight and the overall fertility rate. Additionally we also wanted to evaluate the result of the chlamydia vaccine and whether or not it enhances the goats health. This investigation was not only a quest for us to learn but a deliberate effort to help inform the future decisions of the ranch owners.

#### Benefits of the Completed Project:

The benefits of our project lead to significant results that can enhance the goat ranching operations for the owners. Firstly, the creation of our robust point ranking system gives the owners a valuable tool for evaluating goat performance and identifying superior bloodlines, therefore improving the overall quality of the herd. Additionally, our thorough analysis of vaccination status sheds light on the influence of goats receiving the chlamydia vaccine, goat health and productivity, informing future vaccination strategies and contributing to disease prevention efforts within the ranch. Lastly, our findings contribute to the broader goal of enhancing sustainability for the goat ranching operations because we optimize resources that

ultimately help for more efficient and responsible ranching practices for the long-term viability of this industry.

#### Conclusion:

In conclusion, our project hopes to make strides towards increasing the sustainability and effectiveness of goat ranching endeavors. By weaving together performance metrics and vaccination status in our analysis, we've created insights that can be used to drive positive change within the industry. Our data showed that the average ranking of our vaccinated goats was actually lower (better) than the non-vaccinated goats. Nearly all in the top 50 ranked goats were also vaccinated goats. Through our commitment to looking at the data and thoughtful analysis, we've tried to contribute significantly to the collective effort of nurturing healthier, hardier goat populations. Our focus on illuminating the intricate connection between vaccination status, performance metrics and overall herd well-being lays the groundwork for more informed proactive management approaches that can prioritize the health and longevity of both goats and ranching operations. As we move forward our project serves as a sign of innovation that can hopefully guide the industry towards a future with a lot more sustainability and prosperity.

