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Dam Progeny Report, Birth Cohort Health Report
2/15/2024

OVERVIEW: Dam Progeny Report

We will be developing a database and application that will present the user with a progeny report by dam. The user will be able to see the progeny data easily, without needing to look up one particular dam or kid at a time. For each goat, dam or kid, we will provide the following data:

- the EID tag #
- The visual tag #
- DOB
- Dam
- Sire if known
- How many kids did each female animal have (twins, triplets, quads, single)
- Birth weight
- Weaning weight
- Winter weight for each year it is available
- Sale weight

This data will be valuable to the user as it will give them an idea if a Dam is giving birth to healthy children and to view the overall wellbeing of the kids.

GOALS: Dam Progeny Report

For this topic, we wish to accomplish the following goals. First, we would like to determine which dams are producing the healthiest kids. The second goal that we want to accomplish is to be able to use this information to help increase the population of healthy kids. The third goal is to provide a simple and intuitive experience for the rancher. The final goal that we wish to accomplish is to provide a clear picture of health in kids produced by specific dams. Overall, we want to answer the question of whether or not the dams are giving birth to healthy children and be able to communicate that answer clearly to the user so they can use it to increase the population of healthy

children. And with this database it will allow the user to easily view the overall health of each generation and how they compare to one another.

USE CASE: Dam Progeny Report

The end user will be able to use the report to evaluate the progeny of a dam by seeing average statistics for that dam's kids. To do so, the user will simply navigate to our application in their web browser and find the dam they would like to see the report for. They may either search the list on the page or use the search functionality to find a specific dam by their tag (if known). By using the search function, the dam's individual progeny report would be displayed in a new window. If the user prefers to look through the list of dams, they may either expand the row for the specific dam and view the report in place, or they can click on the report icon and have the dam's specific report opened in a new window. They will be able to see each kid's statistics in their individual rows, with the averaged data being displayed in the bottom row of the report.

IMPACT ON SUSTAINABILITY: Dam Progeny Report

We believe that one of the most important aspects of goat farming is the impact it has on sustainability and the environment, from their ability to reduce danger of wildfires to the amount of resources required to produce goat meat in comparison with other meat sources. By finding the dams that produce the most and healthiest goats, the rancher can make informed decisions about breeding to increase both the population and overall health of the herd. These healthier kids will produce more meat, eat more brush, and produce more fertilizer as they grow..

OVERVIEW: Birth Cohort Health Report

We will also be developing a database and application that will generate a health report based on birthing cohorts. We see the average daily weight gain from birth to maturity as the single best measure of health in a goat. We have decided to separate the birthing cohorts by seasons, with the seasonings being defined as follows: Winter: November through January, Spring: February through April, Summer: May through July, Fall: August through October

We will be incorporating the following data into our database and this report:

- Live weights and the dates they are recorded

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- DOB
 - Weight at birth
 - EID tag
 - Live weight at maturity (considered to be 2 years of age) or most recent weight if kid has not reached maturity
 - We will then derive the individual kids average daily weight gain
 - We will use this information to derive the cohort's average daily weight gain.

This data will help us sort the goats into their seasonal cohorts, and to determine their average daily gain, which we can then analyze statistically to see if there is any significant difference in health between the cohorts, and if there is in fact a correlation between the birth season and the health of the goats.

GOALS: Birth Cohort Health Report

For this topic, we wish to accomplish the following goals. The first goal is to use the seasonal birth data to segregate the kids into birthing cohorts. The second goal we wish to accomplish is to use the average daily weight gain of the kids to determine the correlation between birth season and health of the kids. The final goal we wish to accomplish is to provide data to the rancher to help determine breeding strategies for a more sustainable and productive herd.

USE CASE: Dam Progeny Report

The end user will be able to use the report to evaluate the health of the kids by birth cohort. In order to do so, the user would navigate to our application in the web browser. The landing page will show statistics for each seasonal birth cohort immediately. However, if the user wants to see the underlying data, they would simply click on the listing for a specific birth group, and a new window will open with the statistics for each individual kid born in that season. The user would also be able to sort the group by year, so they may intuit other trends based on yearly statistics.

IMPACT ON SUSTAINABILITY: Birth Cohort Health Report

As stated above, our main concern is the sustainability and environmental impact of the herd. We believe a stronger, healthier, and larger herd can have the largest impact on the environment. This is another way that we believe we can help improve the breeding

process in order to help the rancher grow the herd in both health and numbers. We believe that by combining the data in these two reports, the rancher will be well informed and well armed to make breeding decisions that advance the herd and leverage the data to bring about a larger environmental impact.