NEA DAP

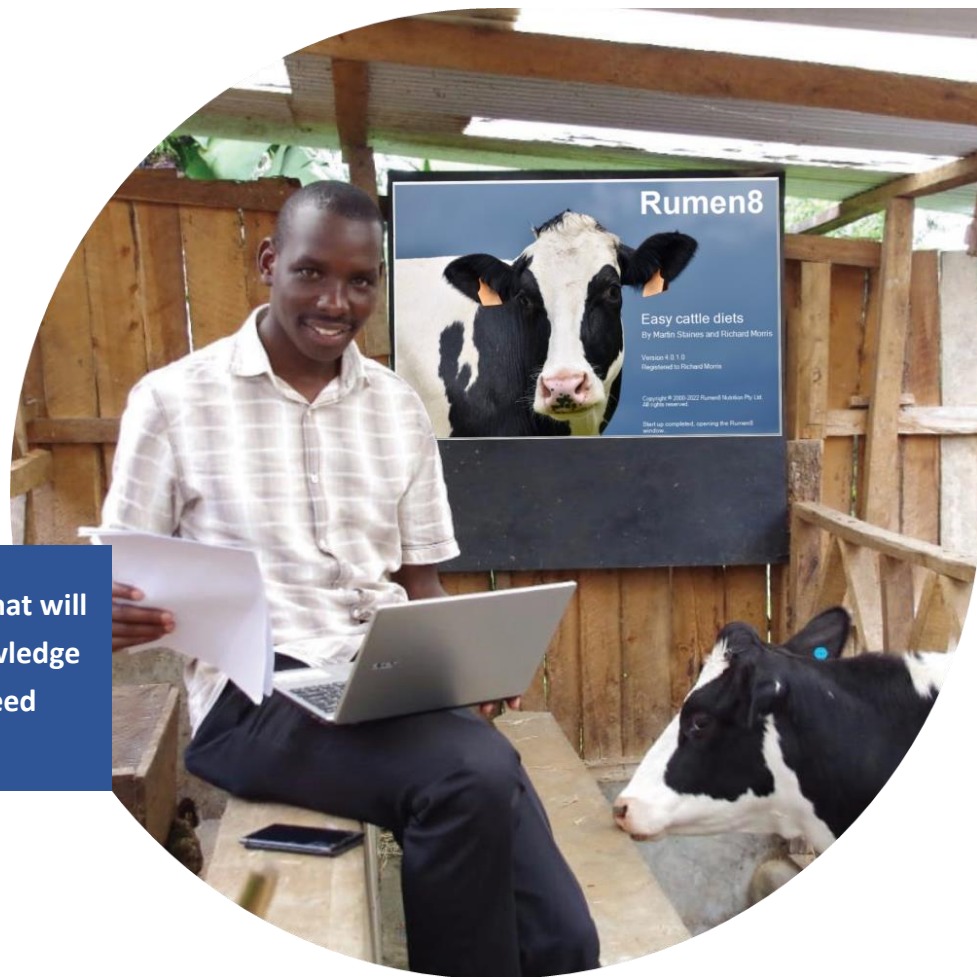**Netherlands East African Dairy Partnership**

Getting to Know Rumen8

"Rumen8 is a computer-based tool that will assist someone with nutritional knowledge to better and more cost effectively feed dairy cows."

RUMEN8
Easy dairy & beef cattle diets

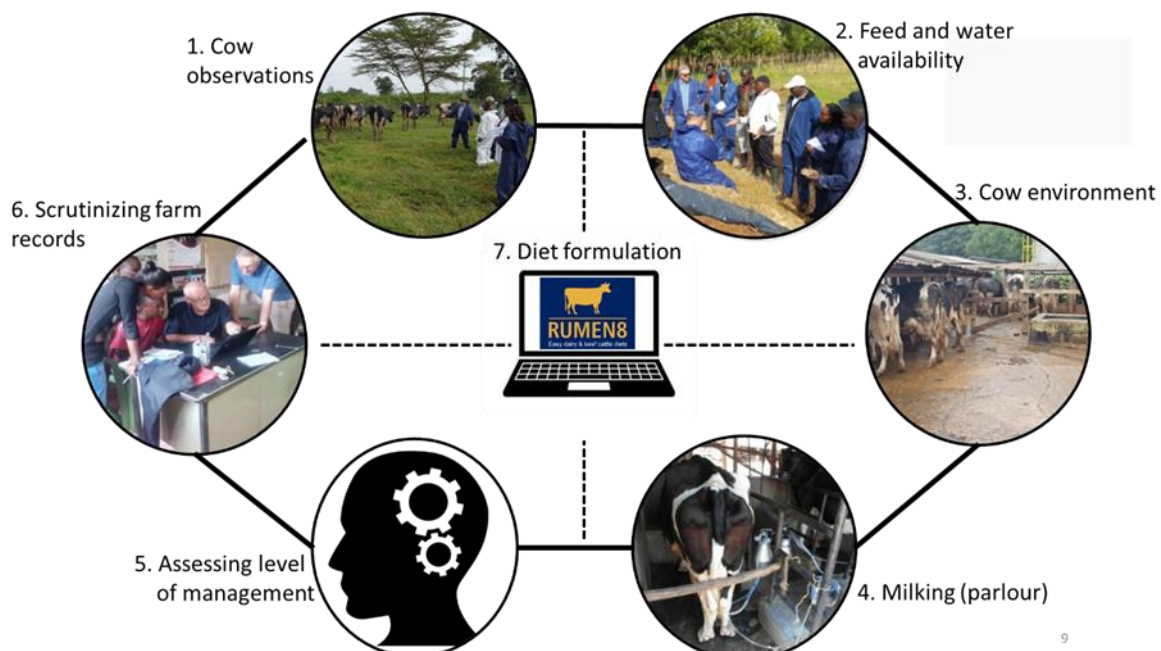## Growing demand for balanced nutrition for dairy cows

Due to rising population and incomes, demand for milk and dairy products in lower income countries is growing rapidly. For economic and environmental reasons, it is desirable to optimize milk yield per cow before increasing the number of animals in the herd. Currently, dairy cows in East Africa often produce well below their genetic potential, especially where exotic dairy breeds or crossbreds have been introduced. Rapid gains in milk yield and in efficiency of conversion of feed into milk can be attained by removing imbalances in the diet.

Why do dairy cows in EA produce below their potential?

Generally, there is limited understanding of the nutrient requirements of dairy cattle, and nutrient composition of feeds. To improve dairy cattle diets, it is important to match the available nutrients in the feed with the requirement of the animal.

Diet formulation

Diet formulation can be a very effective means of identifying and correcting imbalances in supply and demand of nutrients for the cow such as energy, protein, fibre and minerals. In addition, it compels the user to record or calculate the cost of each diet ingredient to tabulate the total feed costs. Software applications take out the tedious work of multiple calculations hence NEADAP is supporting the introduction and roll out of a very user-friendly software application, Rumen8.

1. Cow observations
2. Feed and water availability
3. Cow environment
4. Milking (parlour)
5. Assessing level of management
6. Scrutinizing farm records
7. Diet formulation
RUMEN8

How can Rumen8 help?

- Rumen8 is a diet formulation tool that takes away the tedious work of calculating diets for dairy and beef cows, young stock, and entire herds at different stages of their lactation and lifetime.
- The use of Rumen8 allows nutritionists and farmers to easily manage dairy, dual-purpose and beef diets to optimize production and reduce feed costs.
- Rumen8 requires the user to have practical knowledge of ruminant nutrition because they must ensure the diets are healthy and sound for all classes of cattle.
- Rumen8 is used for ration formulation, to analyse different feeding scenarios, decision making and to predict enteric methane production and intensity. Regardless of which dairy system is used, informed feeding decisions are essential if dairy farms are to be profitable and sustainable.

Feed library for East Africa

Many East African feed ingredients, especially roughages, have low nutritive values, with high levels of fibre and low levels of metabolisable energy and crude protein. Therefore, users must either analyze their feeds, which is preferred, or look up relevant tropical feed data in publicly accessible feeding tables and scientific publications. In the absence of feed analysis and reliable local feed testing laboratories, it is advisable to consult several databases and use mean values.

SNV Kenya has developed a Tropical Feed library for East African users of Rumen8. This feed library has over 230 fodders and feeds with average nutritive values that were derived from ten published sources for tropical feeds. Based on hands-on assessment of the feeds on farm, the nutritionist uses the feed library as a guide and adjusts the values up and down as required to match animal performance.

Why use Rumen8?

Rumen8 has a long track-record starting in 1996 and is constantly being improved and updated. It is a practical tool to manage dairy, dual-purpose and beef cattle diets on a regular basis. When Rumen8 is used regularly, it can lead to:

- **Improved nutrition** - balanced diets for increased production.
- **Improved profitability** – higher margin above feed costs.
- **Reduced losses** – N, P, CH_4 (methane, a potent greenhouse gas).

Rumen8 can be downloaded and used for free on Windows computers. An internet connection is only needed periodically to check for updates.

Who are Rumen8 users?
Rumen8 includes a strong educational element to increase the skills and understanding of its users.

1. Farm coaches, extension staff, and livestock consultants can use the tool to check and improve dairy and beef diets for cattle during farm visits.
2. University lecturers and students can use Rumen8 and the accompanying comprehensive training course during their studies or integrate it into the curriculum.
3. Feed millers can use the tool to make feed and mineral mixes that compliment forages fed by farmers.
4. Dairy processors and dairy cooperatives can use Rumen8 to train their extension staff on feeding practices used by member farmers.
5. It is a useful way for researchers to evaluate research proposals and predictions of project outcomes.
6. NGOs and government agencies can use the tool to develop feeding and forage production strategies.
7. Farmers can regularly adjust cattle diets in response to changes in quality or quantity of feeds such as pasture, hays, silages and fodder crops, as well as supplement availability and cost.

How to get started

Step 1.
To download Rumen8, go to the website at this address https://www.rumen8.com.au on your computer. Click 'Download' in the top menu, scroll down and download the latest version of Rumen8 4.

Step 2.
To get full use of Rumen8 you must register, which is free. Click 'Register' from the top menu on the website and follow the instructions. After submitting your name and e-mail address expect a response from the Rumen8 team providing your registration code.

Step 3.
For East African users, download the latest version of 'SNV Tropical Feed Library' from this link https://cowsoko.com/rumen8 (or use https://www.rumen8.com.au/snv). Follow the instructions on the site to import the feed library into Rumen8.

Step 4.

To get you started quickly, download the 'Concise Rumen8 Topical User Guide' from this link https://cowsoko.com/rumen8. (or use https://www.rumen8.com.au/snv). Scroll down until you see the third yellow line click on the line to start the download process.

What is needed to make a diet?
1. Cow details: Breed, cow type (lactating, dry or heifer), live weight, live weight change or body condition score, days in milk, days pregnant, milk yield, fat & protein, activity and farm terrain.
2. Feed details: List of available ingredients, quality, quantity, and cost/price per kilogram/ton of all ingredients.
3. Milk details: Price per litre/kilogram, bonus price for fat and/or protein.
4. Edit your settings in the Preference section: Currency and target nutritional levels. To get you started quickly an example of these settings are provided in the Rumen8 Concise User Guide.

Do you still have questions?
For further support visit our FAQ page on the Rumen8 website https://rumen8.com.au/faq and for questions specific to East Africa you can e-mail rumen8eastafrica@gmail.com.