

How to make a Total Mixed Ration

Lets Make a TMR! Grab a calculator.

Below is how much of a dairy cow's diet is based on forages, protein, liquid, energy, and vitamins. Farmers calculate how much of each nutrient animals need, and we will do the same for our TMR.

- 55% - Forage (Pretzel Sticks)
- 20% - Corn (Corn Pops)
- 15% - Protein (Popcorn)
- 5% - Cottonseed (Marshmallows)
- 5% - Sugar Source (M&M's)

We want to make 10 pounds of the TMR to share with friends. To find out how much of each ingredient you need, multiply the percentage of that ingredient by 10 pounds.

Ex: $10\text{lbs} \times .55\%$ pretzels = 5.5lbs pretzel sticks

What is a TMR?

TMR stands for "Total Mixed Ration." To make the TMR farmers weigh each ingredient they give to their animals , then mix it together – kind of like using a recipe! Just like your mom might use a mixing bowl, farmers use a giant machine called a feed mixer. This ensures each bite the cow takes has the nutrients (energy, protein, minerals, and vitamins) needed by the cow.

Just like we need certain nutrients in our diet, so do farm animals. Today we'll use several ingredients to represent important

Mini Pretzel Sticks (Forages) – Forages like corn silage or alfalfa hay have high energy value and provide an excellent source of protein, carotene, and calcium to help the cow with milk production.

Corn Pops (Corn) – Corn is a source of energy for the cow.

Popcorn (Protein) – Just like protein is important in human diets, cows need it too. Farmers can use a number of protein sources, such as soybean meal, canola meal, or dried distillers grains.

Marshmallows (Cottonseed) – Cottonseed is a great source of fiber, protein, fat, and energy for dairy cows.

M&M (Sugar Source / Liquid Feed) – Liquid feed supplements such as molasses provide a cow's rumen (part of the stomach) with carbohydrates, sugars, protein, and additional nutrients. Because it is a liquid, it also helps keep the dry feeds together.



