

EXPLORING VERMONT DAIRY

HEALTH AND NUTRITION





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Pre activities for Health:

With someone in your family take their pulse.

Where did you find it?

Respiration rate:

Count the number of breaths they take.

Temperature:

If you have a thermometer, take your temperature.

Nutrition:

Samples of grain, corn silage and haylage.

Examine your plate and a cow's TMR.

Combine what you eat in a day in a blender. This would be your TMR.

What does your TMR consist of and calculate the calories consumed?

Who has the more balanced diet?

From your pre-work:

How do you know if your heifer or cow is healthy?

What should their temperature be?

Pulse and respiration rates?



A normal temperature should be between 100° and 103°

The pulse or heart rate is between 40 and 80 beats per minute

Her respiration rate runs about 10 to 30 breaths per minute

HEALTH OF A DAIRY COW

Dairy cattle are monitored by several different factors to maintain their healthy status.

Some diseases that can be vaccinated for are:

BVD - Bovine Viral Diarrhea - Characterized by a high temperature and diarrhea.

IBR - Infectious Bovine Rhinotracheitis - caused by bovine herpes virus. Acutely contagious characterized by high temperature and abortion.

Mastitis - characterized by physical, chemical and microbiological change in the milk. Caused by bacteria, mycoplasma, fungus, dirty milking equipment and environment. You can vaccinate for staphylococcus aureus only.

Rabies - viral disease common in dogs, raccoons, fox, rats and other wildlife. Transmitted when bitten by an animal carrying the disease as it resides in the saliva.

Fresh cows - should be monitored for milk fever, ketosis, retained placenta, displaced abomasum and high temperature. She can be treated for all of these symptoms.

Video - Animal Health



Dairy Cattle Feed



Grain



Corn Silage



Grass silage

A TMR (Total Mixed Ration) is created by following a recipe formulated by a dairy nutritionist that specifies how many pounds of each feedstuff to place into the mixer wagon. The mixer then mixes all the ingredients to form a uniformly mixed feed.

Read the feed tag and food label.

What are the similarities between the two and the differences.

Do both humans and cows need energy? Why?

Why would you need an analysis of feed for cattle?

Questions for the post work:

How much feed does a cow eat during a 24 hour period?

How much water does she drink?

Multiply that by a 125 cow farm for a total of daily consumption.

Food label versus feed tag



SM 18% CALF STARTER DQ

MEDICATED

A COMPLETE GRAIN FEED FOR STARTING CALVES

For prevention of coccidiosis in ruminating and non-ruminating calves, including veal calves, and cattle caused by *Eimeria bovis* and *Eimeria zuernii*

ACTIVE DRUG INGREDIENT

DECOQUINATE.....45.4 G/TON

GUARANTEED ANALYSIS

CRUDE PROTEIN, MIN.....18.0%
 CRUDE FAT, MIN.....2.5%
 CRUDE FIBER, MAX......6%
 ACID DETERGENT FIBER (ADF), MAX.....10%
 CALCIUM (CA), MIN.....0.7%
 CALCIUM (CA), MAX.....1.2%
 SALT, MIN......4%
 SALT, MAX......8%
 PHOSPHORUS (P), MIN.....0.5%
 SELENIUM (SE), MIN.....0.4 ppm
 VITAMIN A, MIN.....12,500 IU/lb

INGREDIENTS

Grain Products, Processed grain by-products, Soybean Meal, Linseed Meal, Cane Molasses Monocalcium Phosphate, Dicalcium Phosphate, Calcium Carbonate, Salt, Vegetable Oil, Vitamin A Acetate, Cholecalciferol (source of Vitamin D3), Vitamin E Supplement, Calcium Iodate, Magnesium Oxide, Manganous Oxide, Ferrous Sulfate, Potassium Chloride, Zinc Oxide, Cobalt Carbonate, Sodium Selenite, Natural and Artificial Flavors, Ethoxyquin and BHT (preservatives).

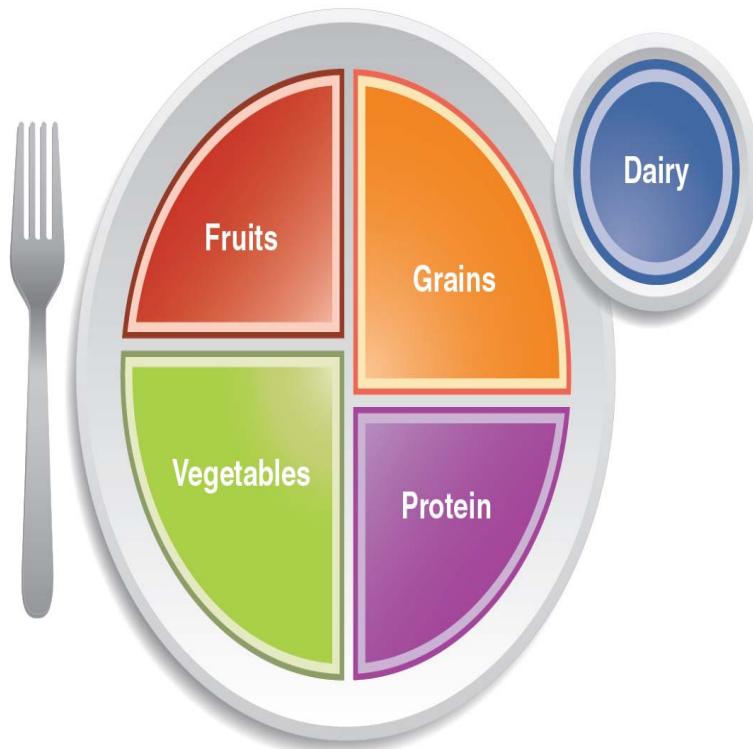
FEEDING DIRECTIONS

Feed 18% Calf Starter at a rate of 2 pounds per 100 pounds of bodyweight. This will provide 22.7 mg of decoquinat per 100 pounds of bodyweight. Feed at least 28 days during periods of coccidiosis exposure or when experience indicates that coccidiosis is likely to be a hazard. Coccidiostats are not indicated for used in adult animals due to continuous previous exposure.

Warning: Do not feed to cows producing milk for food.

Manufactured by:
Salamonie Mills, Inc.
 Warren IN, 46792
 NET WT 50 LBS (22.68 kg)








My Food Plate



Choose **MyPlate**.gov



Size up your portions with these visual clues.
As shown, one-half of a baseball is the same size as ½ cup mashed potatoes.

 ½ baseball	=	½ cup of mashed potatoes
 large egg OR golf ball	=	¼ cup of dried cranberries
 pingpong ball	=	2 tablespoons of peanut butter
 check book	=	3 ounces of fish
 card deck	=	3 ounces of meat or poultry
 4 dice	=	1½ ounces of natural cheese (cheddar, Swiss)
 thumb tip	=	1 teaspoon of margarine or butter

What is TMR?

Total Mixed Ration - this is a balanced meal specifically for that particular farm. It is based on feed samples taken at the farm and tested for the nutrients within it. It is also based on the farms production, pounds of milk per day, at that time. With this information an animal nutritionist prepared a properly balanced feed program for the cattle on that farm. The feed program is a recipe for how much of each ingredient is included in the TMR.

What do they test for, how often and what is the cost?

Protein and starch levels, micronutrients are among some of the things they are looking for.

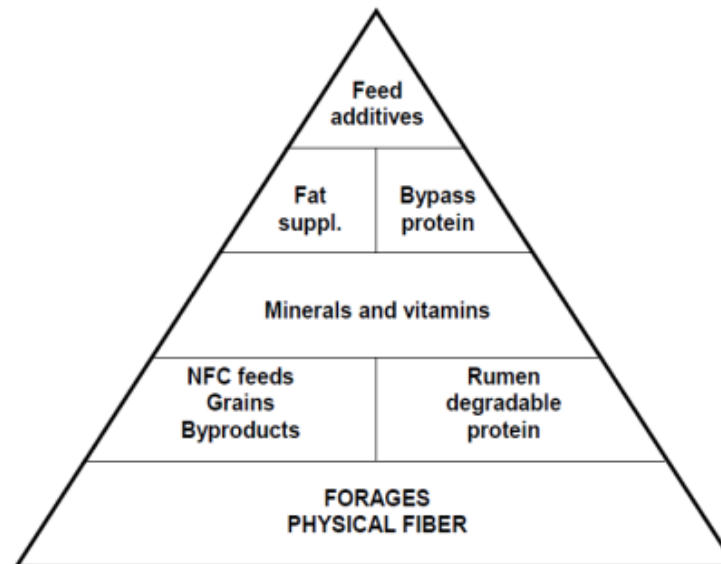
With this information they can create how many pounds of each ingredient are needed in the TMR. Also what vitamins and minerals need to be added.

What are the crops that are tested - corn silage, haylage, baglage, dry hay.

Grains and commodities that are delivered to the farm are a certain percentage protein and then mixed in with the silage ingredients.

Quick facts for a TMR

- Formulating rations provides cows with the nutrients they need to stay healthy and optimize production.
- The basis of a cow's diet should be high-quality forage.
- Acid neutral detergent fiber should be at least 18 percent and neutral detergent fiber at least 28 percent of ration dry matter.
- Balance rations to meet the nutrient requirements for each stage of lactation.
- Added fat shouldn't go above 7 percent of ration dry matter.
- Include vitamins and minerals to meet the cow's needs.



Did you know that some by-products from human consumption is used in cattle feed?

Some examples of human by-products used for animal food include:

- Wheat middling's - generated while processing wheat for flour.
- Grain products (hulls, bran, germ, gluten meal, grits and meals) - from other grain processing operations.
- Peels, rinds, pomace, pulp, culls, or other similar material generated from processing fruits or vegetables for human consumption.
- Human food such as potato chips, cookies, bread, pastry products, candy and pasta that is not adulterated and is safe for use as animal food, but is not acceptable as human food for quality reasons such as the wrong size, shape, color, or texture.
- Brewers grain is the leftover product from making beer.
- Distillers grain leftover from making hard liquor products.
- Cotton Seed hulls is left over from making cotton for clothing and other materials.

Mixing of a TMR



Career paths in Nutrition and Animal Health

Veterinarian

Vet assistant

Herd manager

Herd health manager

Animal health representative

Calf manager

Dairy nutritionist

Dairy feed sales rep

Feed lab analysis

Farm feeder tech- TRM or other

Feed mill operator/worker

Feed truck driver/mechanic

Commodities supplier

Data analyst



Resources:

<https://nationaldairyfarm.com/dairy-farm-standards/animal-care/>

<https://www.myplate.gov/>

<https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>

<https://www.dairyherd.com/article/know-calves-vital-signs>

https://www.aafco.org/Portals/0/SiteContent/Publications/Feed_Labeling_Guide_web_complete.pdf

[Target Heart Rates Chart | American Heart Association](#)