

FARM AND DAIRY



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& RURAL HOME

The Recognized Exponent of Dairying in Canada

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

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The Feed Unit System of Figuring Cow Profits

An Explanation of the Simple Method Followed by Danish Farmers in Keeping Account with their Cows. The Merits of the System Enumerated. Should we Adopt it in this Country?

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taken from Circular No. 37 of the Wisconsin Experiment Station. These units have been obtained largely as the result of Danish cow feeding experiments supplemented by results of American trials and feeding experience, and are worthy of the most careful attention of the reader.

THE Feed Unit System furnishes a convenient and practical method of comparing the feed consumption of different farm animals and of determining the relative economy of their production. The quantities of different feeding stuffs used for the nutrition of farm animals are reduced to a certain standard, the so-called feed unit, and a definite numerical expression is thus obtained for the total amount of feed eaten during a given period. By comparing the production of the cows and the feed required for this production, the farmer may therefore determine by this system which of his cows are economical producers and which are not.

The feed unit system originated in Denmark, and is now generally used in European cow-testing associations for ascertaining the relation between the production of different cows or herds, and the feed consumed. The system was originally elaborated for dairy cows, but it has also been adapted to other classes of farm animals, especially calves, swine and horses.

By the feed unit system a simple definite figure for total feed eaten by farm animals is obtained, including that eaten on pasture. Another advantage of the system is that it is independent of market values of feeds, the relative value (units) for the different feeds being small and easily applied figures that do not vary from year to year. The feed unit adopted in different countries differs somewhat, but in most cases a pound of mixed grain (or of corn, barley, wheat or rye) is taken as a unit and other feeds are given values relative to this standard, based primarily on the results obtained in the extensive feeding experiments with cows or swine that have been in progress in Denmark during the last 30 years under the direction of the Copenhagen Station. A simple example will readily illustrate the application of the system.

For instance, it has been found that 1.1 pounds of wheat bran or 2.5 pounds of hay of average quality, can be substituted to a limited extent for a pound of grain in ordinary rations, without changing appreciably the yield or the composition of the milk produced by the cows, or influencing their live weight or general condition. These quantities of the different feeds are, therefore, considered of similar value and equivalent to one feed unit. If a cow during a certain month ate 750 pounds of hay, 150 pounds of corn, and 90 pounds of ground corn, she received 750 divided by 2.5, or 300 feed units in the hay eaten, 150 divided by 1.1 or 136 in the bran and 90 in the ground corn, making a total of 526 feed units eaten.

If she yielded 1.0 pounds of butter fat a day in her milk on this feed, or 30 pounds for the month, she produced 30 divided by 5.26 or 5.70 pounds of butter fat per 100 feed units consumed in her feed. There are, as you all know, great differences among cows in the returns made per unit of feed, and data obtained in this way show in a striking manner whether a cow is an economical producer or whether it required an excessive amount of feed to make her production.

In the same way at the end of the year the production of the different cows in the herd and the amount of feed eaten by each, expressed in

AMOUNTS OF DIFFERENT FEEDS REQUIRED TO EQUAL ONE FEED UNIT

Feed	Aver. amt. lbs.	Range, lbs.
Concentrations		
Corn, wheat, rye, barley, hominy feed		
dried brewers' grains, wheat, mid- bleed pump		
Cotton seed meal	1.0	
Oil meal, Alax Flakes (dried distillers' grains), gluten feed, soy beans	0.8	
Wheat, bran, oats, dried beet pulp, barley feed, malt, sprouts, Internat- ional Sugar Feed, Quaker or Sugar- corn Molasses or Dairy Feed Succinea Schnapper Stock Feed, molasses grains	0.9	
Alfalfa meal, Victor feed, Luno Past- ure, alfalfa molasses feeds	1.1	
Hay and straw		
Alfalfa hay, clover hay	1.2	
Mixed hay, oat hay, oat and pea hay, red top hay	2.0	1.5-3.0
Timothy hay, prairie hay, sorghum hay	2.5	2.0-3.0
Corn stover, alfalfa or fodder, marsh hay, cut straw	3.0	2.5-3.5
4.0	3.5-6.0	
Softing crops, silage and other suc- culent feeds		
Green alfalfa	7.0	6.0-8.0
Green corn, sorghum, clover, peas and oats, canney refuse	9.0	7.0-10.0
Alfalfa silage	5.0	
Corn silage, pea vime silage	6.0	5.0-7.0
Wet brewers' grains	4.0	
Butterfat, skim milk, butter milk	4.0	
Sugar beets	2.0	
Carrots	7.0	
Rutabagas	8.0	
Field beets, green tops	9.0	8.0-10.0
Sugar beet leaves and tops, whey	10.0	
Turkey manure, fresh beet pulp	12.5	10.0-15.0

The value of pasture is generally placed at \$ to 10 units a day, on the average, varying with kind and condition.



The Rising Tide

Farmers, men who work for wages and men on salary find the high cost of living a problem that ever becomes more pressing. The holder of city lands is being greater rents than ever before. May there not be a vital relationship between the two conditions—High Cost of Living and Land Monopoly?

feed units, may be compared and the production per feed unit for each one thus obtained. Cows with a large and economical production so far as feed production is concerned, are the kind of animals to retain in the herd. By breeding these to the best pure bred bull that the farmer can afford, of the breed that he has adopted, he will lay the right foundation for building up the production of his dairy and getting good returns on his investment in animals and equipment.

UNIT VALUE OF DIFFERENT FEEDS

The list of feed units given herewith has been

I shall not take the trouble to justify here the figures given for the different classes or kinds of feeds, or to discuss the relative merits of the feed unit system and other methods of arriving at the same goal, like chemical composition, digestible components, starch values or energy values, all of which fall back on the customary methods of chemical analysis and digestion experiments. To any one who has been in the habit of looking at the results obtained by these methods as "the whole truth and nothing but the truth," the feed unit system may seem unscientific and too flexible but the flexibility of the system is really one of its advantages, for it enables the man on the