

Use of Two Rations

FIELD OF MILK AS A BASIS FOR FORMULAS FOR FEEDING.

In compounding rations it is necessary to consider first the composition of feeding stuffs, says C. R. Phelps in The Rural New Yorker. All feeds contain four kinds of nutriment or food materials, the fats and oils, the carbohydrates, including starches, sugars and woody fiber, and the ash or mineral matter. These four nutrients are used by animals in various amounts and proportions, according to the kind of animal and the purpose for which the food is to be used, whether for growth, to produce fat, to form milk or for work. The various food nutrients are not adapted to perform exactly the same work in the body. For example, those best suited to the production of heat are not best suited for making



GROWTH HEAD

The protein or nitrogenous portion of the food constitutes the great building material of the body. It builds up muscle, skin, ligaments and cartilages of the body, and is also a part of milk and probably a large part of the fat. It may also be used to build up fat in the body and to produce heat. The fats and carbohydrates are very similar in their action. They cannot be used to form muscle or other nitrogenous parts of the body, but are largely used as a fuel or may be stored up as fat, serving as a reserve force for heat and energy. From this it will be seen that the proportion of the various nutrients, the building material on one hand and fuel and fat producing material on the other, should vary with the purpose for which the animal is kept. A part of the food of every animal is needed to keep up the vital functions of the body or to keep the animal machine in repair. A part is used as fuel, and the remainder should be available to build up products. The food that will serve best for keeping up the vital functions is composed quite largely of the carbohydrates and fat, or the heat producing materials, but as the amount of production increases proportion of protein must increase relatively faster than the carbohydrates and fats.

A cow that is producing a large quantity of milk needs most holding of protein (protein) than one that is nearly dry. Experiments are showing more and more clearly that protein is especially valuable in milk production, and the best practical feeders are rapidly turning toward the same conclusion. It seems logical therefore that rations for milk production should vary in the amount and proportion of protein they contain according to milk flow of the cows to be fed. In the past it has been common to base feeding "standards" on formulas for food which naturally on the live weight of the cow rather than on the food requirements vary mainly with the size of the animal. Late research, however, shows that it is more logical to base rations on the milk flow. Animals that do not vary more than 200 pounds in live weight will not differ greatly in their food requirements as far as the animal machine is concerned, but if these animals differ 10 or 25 pounds per day in milk now their demands for food will be very different. Many feeders in the past have used one grain mixture and have varied the amount fed in accordance with the milk yield. In order to base a feeding formula on the milk flow in such a way as to increase the production of the heavier milk producers it will be necessary to have two grain rations, one to be fed to all animals of the herd and one for the heavier milk producers. The first may be called a basal or foundation ration and the second a supplementary ration, because it is made up of feeds rich in protein or nitrogenous material, such as cottonseed, linseed, gluten and pea meals, and should be fed in addition to the basal. By feeding in this way the heavier milk producers will get a larger ration, but have a larger proportion of the materials that are most useful in milk production. Feeding formulas constructed on the basis of milk production have been proposed by at least one German authority and are being advocated by some American writers. Scientific research is fast showing us the great importance of protein or building material, and it seems very probable that in the future feeding formulas for "standard rations" for dairy cows will be based mainly upon milk production.

Milk in New York City.
Milk sells in New York city all the way from 31 to 15 cents per quart, says The Rural New Yorker. Some restaurants buy large quantities at a low figure and then sell by the glass or bowl at 12 cents or more. Bakers use skimmed milk largely, selling the cream for about as much as they paid for the whole milk. It is fair to say that the milk for which the farmer receives the present low figure sells on the average for a little over 6 cents per quart.

CREAM SEPARATORS.
They Are Supplanting Older Methods on Dairy Farms.
The use of the cream separator on a dairy farm where butter is made, cream is sold or a creamery is patronized is in not a few districts rapidly supplanting the older methods of cream separation by the gravity system and the use of kegs. Says The Farmer's Advocate: Not is the new method receiving undue attention and support when its advantages are fully realized. First and foremost, considerably more cream of a decidedly better quality is secured from the milk; second, it is done when the milk is warm from the cow with very little loss of time; third, the skimmed milk has not to be carried away from the stable, but can be fed warm to calves or pigs in a condition to do them the most good; and, fourth, a tremendous amount of slop liquid is saved by not having to set the milk, skim it, warm calves' milk, etc., which means considerable loss of woman's drudgery on a farm. There are many butter and cream dairymen who are hesitating between getting a separator or adhering to the gravity plan of creaming

How to Feed Calves

IT IS NOT EASY TO GET A SUBSTITUTE FOR WHOLE MILK.

There are many important points involved in the rearing of dairy calves, and most important of all is that they be born right, says a correspondent of The Prairie Farmer. Then they must have a good place to live in. It must be warm and dry and be well ventilated. They must have food at the right time, in the right quantity, in the right condition and of the right composition. The first milk of the cow if colostrum is just the food adapted to the stomach of a young calf. The mother's milk as she gives it should be given until the calf is 9 days old. The average cow's milk contains from 12 to 14 per cent solid matter, about one-third of which is butter fat now worth nearly 25 cents a pound and is too rich to constitute a part of the average calf's ration. The problem then is, how to best feed calves upon food, the basis of which is separated or skimmed milk, with all or nearly all of the fat taken out. It is not easy to get a substitute that will exactly take the place of whole milk. Whatever the substitute it must be easily digested. In liquid form for a few weeks it must be clean and of warm not less than three times a day. A trial was conducted at the Iowa experiment station as to the value of some of the different grains to mix with separator milk to feed calves. Twelve hundred pounds of skimmed milk and 108 pounds of oatmeal produced a gain of 111½

Selling Milk in Paris.
The visitor from America who gets a meal at a Paris restaurant may drink milk with impunity, as it is sold in bottles on which are stamped the names of the most official dairies and of warm not less than three times a day. A trial was conducted at the Iowa experiment station as to the value of some of the different grains to mix with separator milk to feed calves. Twelve hundred pounds of skimmed milk and 108 pounds of oatmeal produced a gain of 111½

Feeding Calves.
Another writer says that the calf should be taken from the cow the first day after her birth and placed in a warm, well lighted stall or pen. Then comes the most difficult part of calf raising—namely, teaching the calf to drink from the pail. At the end of 12 hours after the calf has been taken from the cow milk should be offered it. The feeder should dip his fingers in the milk and let the calf suck it, gradually lowering the hand until the calf's nose reaches the milk, then slowly withdraw the finger. Generally the calf will drink the second or third trial, but if very stubborn leave it another 10 or 12 hours and try it again. We have never failed to teach the calf to drink after it has been 24 hours without feed. For the first two weeks the calf should have milk from its dam. The second week separator milk may be mixed with the new milk until at the end of the first month you have it on a full skimmed ration. Perhaps the best substitute for the cream which has been removed from the milk is seven parts cornmeal and one part oatmeal mixed in the milk to be fed to the calves. The oatmeal should be dissolved in warm water from six to eight hours before feeding and should be fed about a teaspoonful to a calf. Great care should be taken to feed regularly or two, as there is great danger of loss from scours. If the calf should have the scours, the feed should be reduced at once, and one-half of a rennet tablet, such as is used in cheese making, should be dissolved in water and mixed with the milk and fed until the calf recovers. We have had better success with this remedy than any other we have ever tried. Good clover hay should be kept where the calf can reach it at all times, and at the age of a month it should be fed shelled corn and oats mixed about equal parts of each. It does not need to be ground, as a calf masticates and digests whole grain better than older animals. We have had better success in the summer, to keep the calves in the barn during winter, feeding them grain and hay and turning them out in the yard at night, than to turn them out to grass in the daytime. The reason for this is that during the summer months they are bothered by the flies and will huddle together in a bunch and do not graze.

Poisonous Butter Color.
Arsenical butter color must go, says The Dairy World. It is time some of the food departments of every pure food state, or many of them will be resting under the suspicion that undue inducements have been brought to bear to prevent hostile action. There is no longer any doubt about the highly poisonous character of the deadly drug now scattering death throughout the country. Not a week passes that either well authenticated cases or cases of very suspicious character do not crop up here and there, and there can be no excuse for state officials in states where these fatalities abound to neglect their sworn duties.

Early Breaking.
The Argus are strong advocates of early breaking. The Emir Abd el Kadir says that during his long career, in his tribes, his friends, or among his followers, he has seen upward of 10,000 colts reared, and he affirms that all those whose education was not begun at a very early age never turned out other than stubborn, troublesome horses, unfit for war. He adds that when he had made long, rapid marches his horses, however lean, if early broken in to fatigue, never fell out of the ranks to the rear. His conclusion that early breaking and conditioning were essential was based on such long experience that he refused point blank when buying a number of horses, to take any that had been broken at a comparatively advanced age. Arab colts are taken in hand when about 18 or 20 months old and ridden at first only by children, whereby "the child grows up a horseman and the colt acquires the habit of carrying a weight."

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What puzzled me at the beginning was that I kept losing flesh without any cause for it that I could see. I had a little trouble with my stomach, too, and after a while began to grow weaker and to cough. The cough, I thought, would soon go away and cure itself, but it didn't. It grew worse, and then I began to spit up a peculiar looking substance. I never thought of consumption, but one day I had a severe cough, and when I was frightened in earnest and did just what you would do, I rushed to the doctor. He was either too busy, or something else, for he didn't do me any good. I kept going on down hill, and the outlook was bad. Things took a different turn, however, when I heard of **Acker's English Remedy for Consumption**, for I took it, and it not only cured my coughing and spitting, but also built up my whole system. I took one permanent dose, and today am just as healthy a man as you can find in a week's travel. You may be sure I always keep **Acker's English Remedy** in the house, and it is a good thing I do so, for one night my youngest child was seized with croup. The hoarse, wheezy cough was the first signal, and I lost no time in giving the poor little sufferer proper doses of this grand medicine. In almost no time the disease was under control, and my child was saved. I advise every parent to have a bottle handy all the time. It serves the same purpose in keeping croup out of the house that a good lock and key serve to keep burglars out. It is both an expectorant and a tonic. It cured me of consumption and my child of croup, and I know what I am talking about. (Signed) Hon. M. HOGAN, picture frame manufacturer, 242 Center Street, New York.

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