Feeding Dairy Cattle

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With the intelligent employment of the breeding principles only meager results will be accomplished unless equally efficient methods of feeding are followed.

In order that the sire may transmit to the fullest degree his own excellencies and those of his ancestors he must be intelligently fed and managed. A rule followed by most successful breeders is that of keeping their sires in good healthful condition but on the lean side at all periods so that when the heaviest breeding season arrives they may, by increasing the feed, encourage the bull to be gradually gaining in weight so that he will be in the very strongest, most healthful condition possible, which materially adds to his power of prepotency.

Bulls emaciated for lack of an abundance of nutritious food or those plethoric because of an over abundance of food and lack of exercise usually beget offspring disappointing to the breeder. Therefore, any system of feeding and management that will provide exercise and keep the sire in reasonable flesh and most excellent health is the advisable plan.

It is equally necessary that the females of the herd be properly nourished, not alone for the stimu-
lation of milk and butter-fat production but also for the upbuilding of their offspring, the nourishment for which can be secured from no other source than from the mother during the entire period of gestation.

It is a well known fact that the foetus makes its largest growth during the last six weeks of gestation. It is also known that the calf at birth is made up almost entirely of protein, mineral matter and water—there being very little, if any, fat in its body. It is also known that the only nutrient in foodstuffs which goes to manufacture cartilage, bone, muscle, blood, hair and hide is protein and mineral matter. Therefore, if the ration provided for the mother is lacking in these essential nutrients or if she is compelled to continue milking up to freshening time, she must draw upon her own body to nourish the calf with a result that the future of calves nourished under such conditions is very largely sacrificed before they are born. It is undoubtedly for this reason that calf scours, cholera, pneumonia and the scores of other diseases which play so much havoc on dairy farms exist. They are occasioned by the fact that so few breeders realize the necessity of beginning to feed the calf properly prior to birth. This is one good reason why the cow should be turned dry six or eight weeks before freshening.

While the cow is dry she should be abundantly and judiciously fed for the following are now necessary of accomplishment: First, the foetus must be developed; second, the cow’s digestive apparatus needs a rest; third, flesh, strength and stamina are to be placed in possession of the cow to enable her to campaign well during the coming period of lactation.

Common sense reasoning in this matter has established a balanced ration, for, in fact, the terms “common sense ration” and “balanced ration” are
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synonymous. The balanced ration is nothing more nor less than a ration that will accomplish a purpose more efficiently and more economically than any other ration and differs as the purpose desired changes. In other words, a ration balanced for a cow at one period is not balanced ration for the same cow at another period.

Successful feeding depends upon the ability of the feeder to determine accurately the purpose to be accomplished and a knowledge of the physical and chemical properties of available foodstuffs that will enable him to so combine them that an efficient, common sense, balanced ration results. Thus it is that by analyzing existing conditions a ration at once suitable to developing an unborn calf and conditioning the cow may be formulated. If it be summer time nothing excels good pasturage or green food as a basic ration, but if in winter, substitutes in the form of corn silage and beet pulp or other succulent food should be used freely in conjunction with some leguminous hay such as clover, alfalfa, sweet clover, cowpea, soy bean or Canada peas and oat hay.

Whether summer or winter conditions exist a concentrated ration properly balanced should be fed. Four or six weeks is not a long time and quick conditioning necessitates a variety of feeds. As a rule a grain ration consisting of two parts ground oats, one part oil meal, one part bran and one part corn meal, will prove efficient. The amount fed daily depends upon the feeding qualities and condition of the cow. As a rule from 6 to 12 or even 16 pounds of the mixture may be fed daily to good advantage. It should be borne in mind that feed given during the resting period is far from wasted. Even though the cow returns nothing directly she is making good use of the food and later will return more profit for feed consumed while she is dry than for that eaten
at any other period.

As freshening time approaches, if the feeding has been judiciously performed, the cow will begin rounding into bloom and developing an udder to the fullness of her capacity. It is true that more careful attention will be necessitated at freshening than though she were permitted to calve in poorer flesh. Careful and skillful management will suffice to bring her through parturition safely and every feeder should consider it a part of his education to know how to manage his cows for securing greatest results.

Three days or so before the cow is to freshen her grain ration should be eliminated and in its stead bran mashes composed of three or four pounds of bran thoroughly moistened and well salted should be given at regular feeding hours in addition to the roughage which, being of a laxative nature, may be continued.

It is never advisable to permit a valuable cow to calve without attendance. If she is a heavy producer under natural conditions, much greater yields may be expected as a result of special fitting. Furthermore, udder troubles and milk fever are more liable to occur. It is quite generally conceded, however, that if feeding operations are such that the cow’s digestive tract is kept in a loose, laxative condition and little if any milk taken from the udder except by the calf for the first 48 hours the danger is reduced to a minimum. The thought of the careful feeder and herdsman, however, is always of the welfare of his charge, so he will watch her closely day and night until the danger of parturient paralysis has passed so that, should the slightest symptoms occur, the air treatment may be put to use and fore-stall sickness before it has advanced far enough to be weakening in its effect. In case of milk fever all feeding must cease until the cow is again on her feet
and quite enough recovered to have regained her appetite.

It is well to leave the calf with its mother the first two or three days for it assists greatly in relieving the inflammation of the udder and keeping the cow quiet. As a rule, when 48 hours have passed, if all has gone well the calf should be taken away for the mother is ready to begin work in earnest. This is in case the udder has reached normal conditions. Otherwise, the feeding of soft foods such as bran mashes should continue and in addition to frequent application of heat the udder should be milked out thoroughly many times day and night. This represents much labor but success in any business is attained only by persistent, intelligent effort and close attention to details and it is he who is most willing and industrious who succeeds and leads others to wonder what secrets he practices.

When the cow's condition warrants that she be placed on solid food haste must be made slowly for within 30 days she should be on full feed and giving her daily maximum milk yield. Furthermore, she should not be brought to full feed and milk sooner, for at best she is in a weakened condition following parturition.

It is now that the feeder will begin to appreciate the value of the careful and liberal feeding given before freshening for in all likelihood he has been rewarded with a strong, vigorous calf not predisposed to all the ills that affect calves less fortunately born and he finds the mother strong, fleshy and ready to work. She has much extra fat stored up in her body and this is well, for unable to utilize large amounts of food, she at once begins drawing upon the reserve nutrients that are stored and converts them into milk and butter-fat. The purpose of the feeder has changed and it is now to encourage by feed and care
the transferring of the fat from the body to the pail. Succulent foods and those rich in protein stimulate milk secretion at the expense of body fat. Therefore it is well to continue the use of green foods, roots, silage, beet pulp, leguminous hays and in addition a light feed of such protein feeds as bran, oil meal, ground oats and gluten feed. In the beginning the daily ration should not exceed four or five pounds and this should be increased slowly and on alternating days. All concentrated feed given and all milk yielded should be weighed. No feeder, no matter how experienced, can get the best out of a cow unless by the use of the scales he knows every day the results he has attained that he may use the knowledge on the morrow. Realizing this to be a fact, many most successful record makers now provide for each cow on test a box large enough to hold a day’s ration and at a convenient time each day her feed for the next 24 hours is weighed and placed therein. A little extra work, but results will pay well for it. Developing cows is a business and any business that is worth while is worth doing in an expert manner. By using boxes in this manner the 24 hour ration can be divided as best suits the demands of the cow. Some cows eat better in the morning, some at noon and some at night. Often it is found best to give a cow one-half of her entire day’s ration at night, leaving the other half to be divided between the next two or three feeds and this can easily be done where the full ration is available.

After the first days ration has been given results begin. On the following day the scales will tell the amount of milk stimulated thereby. On the second day the ration should be increased one-half or three-quarters of a pound and as a result the following day the scales should indicate an increase in milk flow, in which case a like increase should be made
the following day. If the scales do not show an increase in the milk something is wrong. Perhaps the ration is not suited to the particular cow and a change should be made. Thus the ration should be increased by small amounts each alternate day, the scales showing the way on the intervening day. Invariably during the first 30 days a narrow ration—one composed largely of ground oats, oil meal, bran, gluten feed, cottonseed meal, dried distillers' grains, with a very small amount of cornmeal in addition to the roughage—should be used because these are all rich in protein and stimulating to milk secretion.

Greatest results are attained from the feeding that is practiced the four weeks preceding and the four weeks following freshening. If all has gone well the cow has almost reached the limit of her feeding capacity and the limit of her milk producing ability at the end of 30 days. A perceptible change has been made in her appearance, much of the beefy conformation has disappeared and she has taken on a decided dairy form. The surplus fat has been transferred from the body to the pail.

The problem is now to hold the milk flow and the most ideal working form. Recognizing that some foods tend to create energy and fatten the animal when fed heavily enough and others furnish milk-making nutrients, and that the cow whatever else she may be is a machine kept on the farm to convert these feeds into milk and butter-fat, the feeder with the scales and a variety of feeds can so combine and feed them in such amounts as to accomplish any reasonable purpose he may choose if the machine is efficient. From day to day and from week to week the ration should be varied gradually, adding to or taking from the ration foods of one character, then another; catering always not only to the demand but also to the likes and dislikes of the individual in
charge. Great records are never secured by the dozen but always by studying and catering to the individual cow.

Anxiety for great records should never tempt overfeeding, though it often does and many cows are ruined and scores of records made smaller because of too much feed. There is always more danger of overfeeding than underfeeding, but this danger is greatly lessened where the scales are employed. Many facts pertaining to feeding come from experience and though well known to the feeder are difficult to express clearly in words, but suffice to say that in addition to all knowledge known to the art the herdsman must always, with the interest in results, at least keep in mind the condition of the animal and be prepared to decrease the ration at the first indication of the animal going "off feed." At best cows working hard for long periods tire of their feed and weaken under continued pressure. It is well occasionally to substitute for one feed a bran mash to rest and cool, so to speak, the digestive tract. Any indication of digestive troubles should receive prompt attention and a corrective in the form of raw linseed oil, salts or other laxative given.

The feeder who knows at all times the condition of the animal, the real purpose for which he is feeding and the amount and character of food best suited to accomplish the purpose can drive safely the machine to the limit of its feeding capacity and milking ability.