Canterbury Chamber of Commerce

Agricultural Bulletin

WINTER MANAGEMENT OF BREEDING EWES

Prepared by Canterbury Agricultural College, Lincoln.

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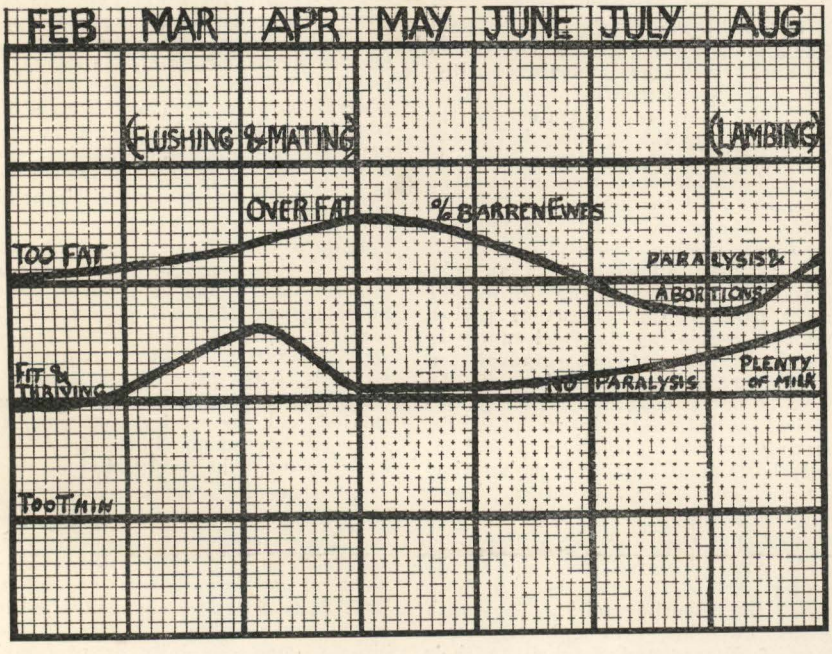
The object of this bulletin is to explain some of the commoner controllable food factors that affect the health of breeding ewes, and consequently the lambing percentage.

Individual Variations in Sheep.

If all sheep were alike in regard to food requirements, productivity and constitution, many of the troubles of winter management would be overcome. Research, however, has clearly shown that a wide range of variation exists among individuals of the same breed, and that such variation becomes more apparent in a flock consisting of different breeds. The possession of certain peculiarities by different individuals and different breeds constitutes individuality, and its widespread occurrence in a flock adds considerably to the problems of flock management. Their elimination from a flock is a practical impossibility; but the culling out near lambing time of all ewes that do not appear to be doing well, and giving them a more adequate or suitable food supply, is a practice worthy of greater consideration in flock management.

Condition of Ewes.

The following graph illustrates the reflection of the food supply on the condition of properly and improperly-managed ewes during the seven months prior to lambing:—



The graph shows that, disregarding the irregularity at flushing time, there is, in the case of healthy ewes, a gradual improvement in condition until lambing is complete. If, however, ewes are over-fat at mating time, the accomplishment of this procedure becomes very difficult when consideration is given to weather conditions and the normally reduced winter food supply. Under natural conditions of flock management the graph line will alter according to the available food, as influenced by weather conditions. Under intensive sheep farming conditions any marked deviation in the graph line can generally be minimised by modifying the food supply and shelter.

Food Requirements of Breeding Ewes.

1. Prior to Mating.—The period between weaning and mating is usually characterised by marked improvement in the condition of ewes, and when mating time is reached many ewes are too fat. That too fat or too thin animals are bad breeders is common knowledge. Fewer ewes return to the ram and a better percentage of lambs is obtained if ewes are fit, thriving, and active at flushing time. In the absence of a special flushing food, the fit, thriving and active ewe will respond better to a change of pasture than the very fat animal, and ewes should therefore not be allowed to get too fat before flushing time.

2. During Flushing and Mating.—The practice of flushing ewes prior to and at mating time principally depends upon the stimulating effects of good food on general body functions. It can be safely said that this steaming-up process is a practical means of getting the maximum number of ewes in lamb, and the maximum number of lambs from each ewe. Flushing, however, signifies not the fattening of ewes, but the stimulation of the development of heat in ewes, and tends to prevent a scattered lambing.

In this connection it is worthy of note that a well-balanced food can only bring out the latent possibilities in an animal, and the beneficial results following the use of additional foods or minerals can only help the body in so far as they will stimulate it to work at its best. A luscious, succulent green food, such as good grass, clover, green oats, etc., gives the best stimulating effect on ewes coming off bare pasture, while ewes on luscious feed may be flushed by changing to dry food.

Of more than passing importance in respect of the value of minerals on fecundity (i.e., the number of young produced), is the widespread belief among farmers and others that the addition of iodine to the food beneficially affects the lambing percentage, irrespective of the iodine requirements of the animal body. Research in connection with this matter, at present in progress at the Canterbury Agricultural College, shows that even very small doses of iodine have a harmful effect upon fecundity. The attention of farmers who use iodine for ewes at mating time without having regard to the iodine needs of the animal and the dose, is directed to the following table, which sets out the results of mating iodine-dosed and non-iodine-dosed ewes. The quantity of iodine, administered as potassium iodide solution once a week for approximately four months prior to mating, was equivalent to six-tenths of a grain of potassium iodide per ewe per day. This dose was chosen as being that sometimes used in the feeding of iodine to sheep.

Results of Canterbury Agricultural College Experiment with Iodine.

	Iodine Ewes.	Non-Iodine Ewes.
Ewes put to ram ..	48	44
Lambs produced ..	41	45
Twins	2	5
Dry ewes	9	4
Percentage of lambs produced	85	102

The conclusions to be drawn from the results of the experiment above are:

1. That excess of iodine produces harmful effects, particularly at mating time.

2. That its beneficial effects on fecundity have not yet been demonstrated.

3. That farmers would be well advised to cease using it unless goitre has been diagnosed in their animals.

4. That, if any iodine is necessary for sheep, the proper dose has not yet been determined.

3. After Mating.—The practice of allowing in-lamb ewes all they will eat immediately after the rams are taken out is a wrong one, since the increasing needs of early pregnancy are not great. It is during this period that there are many failures in the regulation of the food supply of in-lamb ewes. It is possible to given consideration to this point without interfering with the growth of wool.

4. Before Lambing.—It is when the ewes are near lambing that losses are most commonly encountered. If, however, improvement in condition is gradually maintained in the flock, the only factor that is likely to be responsible for losses is bad weather. The effects of unfavourable weather can be reduced if shelter is provided and hand feeding resorted to. Emphasis must be laid upon the necessity for hand feeding during bad weather or inaccessibility of food, as veterinary research conducted at Canterbury Agricultural College shows that many of the losses during and following bad weather are associated, in the majority of cases, with varying periods of starvation or shortage of food. In-lamb ewes, particularly those carrying two or more big lambs, are very susceptible to a check in the food supply during the four to six weeks before lambing. During this period the nature and bulkiness of the food, sudden changes of food, and need for exercise require consideration.

Common Diseases of In-Lamb Ewes.

1. Ante-partum paralysis (dopiness).—This is a nutritional disease of heavy in-lamb ewes, characterised by fatty changes affecting the liver, and not infrequently the kidneys, and definitely associated in the majority of cases with ewes going back in condition as lambing time approaches. The affected animal invariably carries two or more big lambs. The common symptoms are those of excitement, dullness, impaired vision, loss of appetite, impaired gait or lameness, weakness, paralysis, and death.

Although the actual cause of this disease remains obscure, veterinary research conducted at this College has evolved a practical method of prevention which can be practised by the majority of intensive sheepfarmers.

Prevention.

(a) Food.—The lower line of the graph illustrates the condition of breeding ewes that remain healthy during the seven months prior to lambing. The fact, as illustrated by the upper line of the graph, that many ewes are in better condition at flushing and mating time than at lambing time, is an all too common a cause of losses. The whole question of preventing ante-partum paralysis depends upon not only allowing ewes an adequate and suitable ration during the latter part of the pregnancy period, but also regulating the food supply in the early part. When gradual improvement in the condition of the flock is being maintained during this critical period, ante-partum paralysis, bearing trouble, premature abortions, and shortage of milk at lambing time are reduced to a minimum and losses are negligible.

The belief that ewes when heavy in-lamb require less food than during the earlier part of the year has not been borne out experimentally. The truth is that ewes heavy in-lamb, to remain free of disease and do well to their progeny, require a less bulky but more nutritious and laxative diet. Excessive quantities of dry, innutritious, indigestible, fibrous material predispose to unthriftiness, constipation, straining, bearing trouble, and shortage of milk. Periodic access to a green, succulent, laxative feed, according to requirements, not only guards against impairment of health, but is a very valuable means of encouraging milk secretion. Green feed, young grass, etc., are extremely valuable in this respect, and access for an hour or so once a day prior to lambing is one of the best practical ways of keeping ewes fit and well. Roots and green grass have a similar effect.

The fact that old ewes are the commonest subjects of this complaint is not surprising when an examination is made of their teeth. Excessive root feeding is a starvation diet for old, toothless ewes if the roots are offered intact. Heavy root feeding to any type of breeding ewe is always attended with risks.

Although the practice of sowing green feed and its utilisation off and on before and after lambing has much to commend it, yet profitable lambings can be assured by using other foods of a less forcing nature. The use of concentrates such as oat sheaf chaff, peas, linseed, wheat, crushed oats, etc., are specially indicated for periods of bad weather when access to other foods is impossible, and the use of cereal straw, hay, lucerne, silage, etc., apart from their feeding value, gives the necessary amount of bulk in the stomachs of the animal.

Having regard to the mineral requirements of rapidly growing lambs in the womb of the mother, and the fact that the mineral content of herbages reaches its lowest ebb in the winter, care should be taken to supplement the ration of the ewe with the necessary bone-forming minerals, if mineral deficient foods are used. For general purposes free access to a lick containing finely-pulverised bone flour or bone dust and salt should be permitted. All sheep do not require salt licks containing many different ingredients.

Bulletin No. 6 gives in tabulated form the percentage of the various mineral ingredients in different foods, and a perusal of it will give a good indication as to whether or not mineral supplementation or the addition of minerals to the ration is necessary. In many areas where top-dressing is not carried out, or is impracticable, the value of bone flour in the food or as a lick cannot be over-estimated.

(b) Exercise.—The beneficial effects of sufficient exercise for breeding ewes has been recognised from time immemorial, and in areas where food is plentiful and ewes become too fat and lazy, daily exercise constitutes a successful combative measure against disease. One mile daily, or, preferably, half a mile twice a day, should be sufficient. The value of exercise, however, as the sole preventive for this disease cannot be accepted in the light of recent College research, and more harm is done by giving excess of

exercise to low-conditioned ewes than is generally believed. Daily forced exercise is the best method of detecting early cases of this disease.

2. Bearing Trouble (prolapse of the vagina).—This consists in the protrusion, or pushing backwards, of the vagina by the womb and its contents, and is most noticeable when the animal is lying down. Animals of a lazy temperament, those possessing a roomy, wide pelvis, and those receiving an abundance of bulky, innutritious food, are the most susceptible subjects. Excessive distension of the first stomach or rumen of heavy in-lamb ewes with large quantities of bulky food causes pressure upon an equally distended womb, and thus the condition develops. Constipation, a not infrequent complication of pregnancy, and dry feed consumption, is also a common cause. Irritant substances, such as turpentine in salt licks, cause bearing trouble through irritation and straining.

In determining the bulkiness of the food and preventive measures for this disease, it should be remembered that the optimum total bulk per sheep per day depends largely upon the rate of passage of the food through the animal. The value of succulent feeds, or the addition of treacle or molasses to the concentrates, or the administration of a laxative medicine, therefore becomes apparent.

3. Premature Birth of Lambs.—Miscarriages among ewes are most common towards the latter part of the gestation period. Apart from mechanical injuries and fright, common causes of this complaint are improper food, sudden change of food, mineral deficiency, and periods of starvation and underfeeding. Death of the lamb or lambs in the womb of the mother is not unusual, and it is noteworthy that slipping of dead lambs and ante-partum paralysis are frequently met with in the same flock. Under-feeding during the pregnancy period is regarded as an important factor in causing abortions, dead lambs in the womb, and weak or dead lambs at birth. Access to roots without sufficient straw, hay or lucerne is not infrequently associated with ewes slipping lambs or giving birth to weak, delicate lambs. In areas where abortions are common, free access to bone flour should be permitted during the whole of the gestation period, as research has shown that pregnant animals may not show obvious signs of mineral deficiency themselves; but lack of the mineral ingredients affects not only the nutrition and life of the lamb in the womb, but also its vitality and constitution after birth.

4. Shortage of Milk at Lambing.—The advisability and practicability of steaming up ewes at lambing time as a means of preventing losses and stimulating milk production is, for many reasons, a problem for the individual farmer. If, however, results following the adoption of this practice among dairy cows are applicable to sheep, and there is no reason to believe they are not, it is sufficient to say that the feeding of extra succulent or other foods prior to and at lambing time will result in:

(1) An increased milk yield;
(2) Milk richer in fat;
(3) A steadying of the lactation curve.

Copies of this Bulletin may be obtained from the Secretary, Canterbury Chamber of Commerce, P.O. Box 187, Christchurch.

CANTERBURY AGRICULTURAL COLLEGE

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