

CANTERBURY CHAMBER OF COMMERCE
AGRICULTURAL BULLETIN

WINTER FEEDING OF BREEDING EWES

Prepared by the Canterbury Agricultural College, Lincoln

Bulletin

CHRISTCHURCH, MAY, 1940.

No. 130.

Much has already been written on this subject, but the large number of enquiries received, coupled with the very evident lack of winter feed for the ewe flock this season, has made it seem wise to publish a further bulletin.

It is intended to discuss the winter plane of nutrition taking first the ideal to be aimed at, and second, the methods most suitable for attaining this ideal.

Condition of Ewes: In the autumn all breeding ewes should, if possible, be brought to medium fatness. For this end they should be divided into two or three mobs according to their condition. The ewes in poor condition should get the best of feed, while any of last season's fat dry ewes if intended for breeding, should be thinned down by holding on a series of bare paddocks.

Two or three weeks before the rams go out all breeding ewes should be flushed on specially saved feed. Before the end of April on most Canterbury farms, the majority of ewes should be in lamb and in medium or reasonable condition.

Adequate Provision along these lines ensures—

- (1) Healthy ewes—Low death rates.
- (2) High lambing percentages
- (3) Large lambs at birth
- (4) Small percentage of lambing time deaths
- (5) Fast growing lambs
- (6) High percentage of fats off mothers

Winter Plane of Nutrition: From this time on breeding ewes should be maintained in a gradually improving nutritional plane until lambing time. This involves the provision of sufficient supplementary feed, which should be adequate not only in quantity but also in quality. The feed should be sufficient in energy; wheat straw for instance provides very little energy and is practically valueless as mainstay winter fodder. Feeds must also contain sufficient protein. Protein is the material used in building lean meat. The young growing lamb contains a large amount of this material. The most rapid growth of the lamb before birth occurs in the last six weeks of pregnancy. The feed at this period must therefore contain sufficient protein. Green feed, saved grass or meatmeal should be provided.

After Lambing: Ewes are required to produce large amounts of milk and to do this the ewes, especially early lambing ewes, need good quality grass, green feed or supplements.

The general results of adequate and inadequate feed provision are set out in table form.

Inadequate provision would definitely appear to increase the incidence of—

- (1) Unhealthy, poor conditioned ewes—High death rates
- (2) Pregnancy toxæmia (Twin lamb disease)
- (3) Hypocalcaemia (Milk fever)
- (4) Pregnancy Paralysis
- (5) Small lambs at birth — Low lambing percentages
- (6) Ewes drying off and weaning lambs at early age
- (7) Ewes wasting away and dying after lambing
- (8) Low percentage of fats off mothers.

What is adequate provision? This will be dealt with in four sections.

- The pasture position
- The supplementary feed position
- The economics of feeding
- Suitable mixtures

PASTURE

The main food supply is grass.

If the grass growth corresponded to the requirements of the sheep no supplementary feeding would be required and the winter position would be a happy one for both stock and owner. Something approaching this state of affairs occurs in parts of the North Island but in the South Island the position is as shown in Table I.

TABLE I.

Month	Average percentage Grass Growth by months	Monthly Feed Consumption calculated on the basis that the lamb is sold fat by Jan. 7.	Approx. percentage surplus or deficiency when slightly understocked.
Aug.	2	6.8	-67
Sept.	6	9.5	-29
Oct.	15	12.0	+39
Nov.	25	13.4	+108
Dec.	20	15.1	+48
Jan.	7	6.0	+29.5
Feb.	5	6.0	-8
Mar.	8	6.2	+45
April	5	6.2	-11
May	3	6.2	-46
June	2	6.2	-64
July	2	6.4	-65

The table indicates a most unbalanced state between food supply from grass and ewe flock requirements. The winter shortage in May, June, July and August may be provided for by—

- A. Devoting land to special winter feed.
- B. Shutting up portion of the grass during the period of surplus, October, November, December and January and making hay or silage.
- C. Top-dressing existing pastures to stimulate them into production during periods of normal shortage.

SUPPLEMENTARY FEED POSITION

A. Special Crops:

Turnips—This was the main winter feed in the early days. At present owing to insect attack turnips can no longer be relied on for certain as a winter feed. When fed alone they do not constitute a balanced feed supply.

Mangels—These are quite a good feed if left to mature for about 5 weeks after pulling and not fed to excess. Mangels provide a crop where yield is well assured on large land, but they require a heavy amount of labour.

Swedes—This is the best root from the animal's point of view. In dry districts the yield is un-

certain owing to insect attack. It is an excellent root for the moister districts.

Kale—This crop produces quite a large bulk of good fodder, especially when sown with Italian ryegrass but it is liable to be badly affected by diamond backed moth and white butterfly.

Chou Moellier—This is a crop increasing in importance. It recovers well after diamond backed moth and white butterfly attack and produces heavy yields of good fodder.

Blue Lupins—This is a crop not readily eaten by the flock until accustomed to them; as far as is known it is not particularly high in feeding value but is certain in yield and a soil improver.

Italian Ryegrass—Provides a very high quality feed high in the valuable protein necessary for in-lamb and heavy milking ewes. It grows well in its first winter and seems a logical choice to replace the turnip crop.

Greenfeed Oats—This crop is not as good as Italian in any sense. It is an easily grown crop, however, which grows better than Italian Ryegrass on light land and can provide valuable feed at critical times of the year, such as August and September.

Greenfeed Black and Cape Barley—These crops provide the fastest growing green feeds of all. They

will be ready for feeding five weeks after sowing and will provide good autumn and winter feed. In late winter and early spring, however, they become hard and stemmy and unsuitable as feed.

B. Saving Surplus Grass:

Dry Feeds:

Pasture Hay: This is a feed the quality of which varies with the types of grasses in the pasture and on the methods used in making. When well made from good species it is an excellent feed.

Lucerne Hay: When well made this is the best feed of all. Owing to the thin leaves and thick stems,

however, lucerne hay is easily spoilt in the making. Lucerne is one of the heaviest yielding hay crops per acre as from 3 to 5 cuts must be harvested in one season.

Red Clover Hay — This provides excellent hay when well made. Heavy crops can be cut from second year stands of Italian Ryegrass and red clover.

C. Top-Dressing:

Out of season grass can be produced by autumn top-dressing with superphosphate preferably as early as February in the South Island. Pastures closed in March provide a good bulk of growth for winter feeding.

ECONOMICS OF FEEDING

This is an important aspect of winter feeding and information as summarised in the following table should prove helpful.

NOTE:—It is not intended to give the impression that these single feeds are suitable for wintering breeding ewes; although some good lucerne hay or red clover hay will winter ewes excellently, the majority must be combined with other feeds to provide a satisfactory winter ration.

CANTERBURY FIGURES — AVERAGE ESTIMATES ONLY

Crop	Av. Yld. p.a.	Food Units p.a.	Est. Cost of Growing, p.a.	Approx. Cost per 100lbs. Food Units.	Est. cost of wintering av. ewe on a single feed.	Remarks
Turnips	10 tons	986	£2/10/-	5/-	3/9	Unreliable as to yield.
Mangels	50 tons	7280	£30 fed out to stock.	8/4	6/3	Certain in yield.
Swedes	20 tons	4032	£5 fed on the paddock	2/9	2/-	Unreliable in the drier districts
Chou Moellier	25 tons (Green Fodder)	5040	£5 plus 6s a ton fed out	4/6	3/4½	
Lucerne Hay	5 tons (Hay)	3920	£8 plus 6s a ton for feeding out	5/6	4/1½	Excellent feed when well made.
Red Clover Hay	2 tons (Hay)	1568	£3/4/6 (6s. a ton).	5/5	4/1	
Pasture Hay	2 tons	1568	£2/0/6	3/6	2/7½	
O.S. Chaff	2 tons	1792	£6	7/-	5/3	
Oats	40 bus.	960	£6	18/-	13/6	
Barley	40 bus.	1440	£7	10/-	7/6	
Wheat	35 bus.	1492	£8	10/8	8/-	
Italian Rye (Green Grass)	4 tons	986	£2/10/- light land.	5/2	3/10½	
Gn. Feed Oats	3 tons (Green material)	740	£3 light land.	6/8	5/-	Not as good a feed as Italian.
Gn. Feed Barley (Black)	3 tons					

SUITABLE FEED COMBINATIONS

Supplementary feeding is required in some districts as early as May and in all districts for June, July, August and part of September. A balanced feed supply must contain energy to combat winter cold and protein building material. The protein material is required to build the lamb during the last eight weeks of pregnancy and to produce milk in the period before grass growth really commences.

A rate of feeding which has been found adequate for average Canterbury flocks and sufficient for 100 ewes is—

4 tons of dry feed (Hay or Chaff)

40 tons of roots or Chou Moellier

and 4 acres of green feed or top-dressed and closed pasture. (More than 4 acres would be required on very light land).

Feeding at this rate will cost approx. 5/6 per ewe. The above amounts of feed can be satisfactorily provided in many ways, the most suitable depending on the class of country, e.g.

On the Lightest Land: O.S. Chaff, turnips and blue lupins and green feed oats.

On Light Land: O.S. Chaff, turnips and blue lupins and Italian Rye.

On Medium Land: Red Clover Hay and Lucerne Hay, Chou Moellier and Swedes if the climate is not too dry, or turnips; Italian Rye.

On Heavy Land: Lucerne Hay, Pasture Hay, Red Clover Hay; Mangels, Swedes, Chou Moellier; Italian Rye and Top-dressed pasture.

The above rations allow for 1lb. of dry feed per ewe during 100 days of the coldest weather—usually June, July and August. Ample roots are also available for 100 days feeding and greenfeed is fed at the rate of 1 hour a day during the last 8 weeks before lambing. After lambing, ewes and lambs go onto the green feed. If the grass is soft it is advisable at this stage to feed in addition a little dry feed to prevent scouring.

Conclusion: The recommendations given in the bulletin can be at most estimations which in the main are correct. Such factors as understocking, overstocking, grass grub and severe winter conditions will upset the best laid plans. To allow for this it is an excellent plan to have a reserve of hay or ensilage or both which can be carried from year to year and is always available for the unforeseen shortage.

Finally no amount of text book advice can replace care and attention. Remember the old English saying, "The eye of the master fattens his cattle."

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