

# Canterbury Chamber of Commerce

*Agricultural Bulletin*

## THE GRAZING MANAGEMENT OF PASTURE

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BULLETIN

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In Bulletin No. 74 it was shown that relatively short fresh growing grass had a higher feed value than mature and stemmy grass. The present bulletin draws attention to the importance of having an adequate feed supply throughout the year, the methods adopted to achieve this, and the stimulus that rotational grazing has given to the better utilisation of grass.

Until recently grass has not been regarded as a "crop." Some of the more important attributes of a crop are that it is grown with the best cultivation, from the best seed, and harvested without waste. Grass, harvested by the grazing animal, is frequently wasted; it is not always grown from the best seed, and is frequently sown under circumstances that are unsuitable for the production of any crop. It is capable of giving its best returns when treated as a crop and in districts where the climate is a natural stimulus to better treatment of grass, it is most profitable and consequently the most popular crop. The only object of the grass grower is to obtain the best possible returns from grass, and, in general, this is achieved when there is a maximum economic growth and a minimum of waste. These factors are related to each other. With ryegrass, for example, it is possible to produce a maximum growth for a short period which it may be difficult to use effectively. The total return from such a flush growth might be less than that obtained when less feed is spread more evenly throughout the year. A great deal of work has been done in many parts of the world to demonstrate the higher production which can be obtained from better strains of pasture plants, better establishment, top-dressing, and rotational grazing; these, however, sometimes fail to achieve the desired object, i.e., more profitable returns from grass, especially when due attention is not given to the distribution of feed throughout the year. (See Bulletin 74.)

### Distribution of Feed Supply

The usual methods of adjusting the distribution of feed supply or coping with surplus growth may be summarised as follows:—

1. By saving the surplus as hay or ensilage, or as seed crops, or using it as standing reserves.

2. By using the animal's body as a storehouse, to fatten on surplus feed and loose weight in periods of shortage.

3. By using supplementary crops.

4. By top-dressing at suitable times of the year.

5. By using different classes of stock.

6. By buying and selling stock.

7. By replacing mixed pastures, by pastures, dominantly clover, cocksfoot, western woliths, subterranean clover, or perennial rye, etc.

Each of these processes is now exploited to the full on some farms, but the value of putting all the more important of them into operation on any farm is not often fully appreciated. No one knows just what the limitations of any one of them are, but it is impossible to consider the question of pasture management in an understandable way, unless the importance of the factors mentioned is fully appreciated. The last method of adjustment, namely that of replacing general pastures by special ones, has a particular importance under Canterbury conditions, and, when its significance is appreciated, it must be a force in pasture development. At the present time perennial rye and white clover occupy pride of place for maximum production, but it is quite possible that the lesser production of cocksfoot, or subterranean clover that grows out of season may be not disadvantageous, and may be even more profitable under certain conditions. Grasses other than those of maximum production have been condemned in the past because they failed to establish themselves under the management appropriate to the more productive grass. Little is known as to when any particular grass should be spelled, for how long it should be spelled, how bare it can be eaten, when it can be eaten bare, and so on, under varying conditions of climate. In the absence of that information the use of mixed pastures or those that will stand up to a maximum of chance treatment is the safest way of using grass. Patient observation by farmers of the behaviour of grass under different treatment would be productive of very much progress.

### Number of Paddocks

The number of paddocks is important in the utilisation of grass. With big paddocks it is difficult to shut up

one of them. With small paddocks one or more may be shut up for hay or seeds. On the big paddocks there is a tendency to carry few sheep to the acre for many days in a month, whereas on the small paddocks it is possible to arrange for many sheep to the acre for a few days. With "few sheep and many days" grazing the pasture has a minimum resting period, and must get punished; but with "many sheep and few days" a maximum resting period is obtained, and this allows the grass to recover adequately after grazing, and admits of grazing appropriate to the type of grass. Where attempts are made to grow perennial ryegrass and to top-dress on lighter land, suitable subdivision is especially important.

### Controlled Grazing

Just as top-dressing has been the means of producing more grass, so controlled grazing has been the stimulus to the better utilisation of grass. Controlled grazing aims at having such sizes of paddocks and flocks of sheep, that the latter can be shifted frequently, and the former spelled for periods to be determined by types of soil, of pastures grazed, and of weather experienced. It has been put into practice in many places, and where successful hard grazing is not resorted, but grazing is controlled. Stock are always put on to clean pasture, while there may still remain useful grazing on the paddock from which the stock have been removed. This gives an adequate and consistent supply of high quality feed, excellent production is obtained, and pastures are not punished. The regular and frequent shifting of stock automatically assists in providing that constant supply of high quality feed which is essential to maximum thrift, and which is the very essence of rotational grazing.

### The Application of the System to Areas of Low Rainfall

In Canterbury, well grassed and suitably fenced foothill areas and some of the heavy land areas of the plains, may be classed with the wetter districts of the North Island where recovery after grazing is rapid and where conservation or the surplus grass is the most important factor in success. On the light land a variable and uncertain rainfall, together with a drought period at some time

every summer demands a longer recovery period, makes fodder conservation difficult, and brings into prominence the necessity of using other means of distributing the year's feed supply. It is to the medium and lighter lands and to the cropping areas that the following remarks particularly apply.

The main plants growing on these pastures are Italian and perennial ryegrass, cocksfoot, red clover, and white clover. Trefoil, hairgrass, various twitches and other grasses are sometimes associated with the higher producing and more desirable pasture plants mentioned. In November and December, ryegrass shoots to seed, and little growth from the base of the plant takes place. With the onset of dry weather, white clover also ceases to grow. Cocksfoot and red clover continue to grow for a further period and usually give some fresh growth throughout the average summer. The majority of the improved pastures are dominantly ryegrass, and the cessation of natural growth on such pastures makes it necessary to provide a feed supply during December and January, in order to keep lambs thriving until rape or other fattening feed is ready to use after weaning. To provide for this period the ideal would be several dominantly cocksfoot clover, and dominantly red clover paddocks, grazed lightly in the early spring, and allowed to grow to the partially rough state by early December. Such pastures though in a relatively long and partially-wilted state, may be fed with advantage to ewes and lambs and with no disadvantage to the pasture. Damage to the pasture, because of an opening up of the sward, will occur, however, if the growth becomes too long and over-lain, thus rotting and smothering the plants underneath. Even on the dominant ryegrass paddocks of such a farm, it is desirable to have a cover of useful feed, especially as the dry season approaches. In order to do this ryegrass has to be allowed to go to seed, but this is not disadvantageous on this class of country, where an attempt is being made to get fat lambs. In the past, efforts have been made to prevent the growth of these stalks by a wrong application of controlled grazing methods with ewes and lambs. Such grazing on the lighter land nearly always results in disappointment, and condemnation of the principles of controlled grazing. There are many farms on which neither dominant cocksfoot, nor dominant red clover

swards are to be found. On these farms swards of dominant ryegrass, with some clover, must be used for the summer grazing. Those pastures of the highest clover content should be allowed to grow to the partial rough state for November or December, and early January grazing, even though ryegrass in the sward produces seed stalks by this method. Where red clover is the standby it should not be grazed until late in the spring.

The controlled grazing method on this class of land means under rather than overstocking of the young pasture, if fat lambs are to be produced on the mothers. In favourable seasons it allows hay and ensilage production on the better and medium lands. This is a very necessary part of any controlled grazing system, especially where adequate feed supplies are not available in other forms, such as turnips, green feed, etc. Where turnips, chaff, etc., form the bulk of the feed in off seasons, grass and clover seeds can often be saved from those paddocks closed for summer roughage, should this not be required in a favourable season.

In wet areas and on heavy land the stock may be shifted daily. On the medium and lighter lands daily shifting is equally desirable, but the frequency of shifting will be determined largely by the size of the paddocks and the size of the flock. Shifting, however, should be carried out at such a period that the stock are never short of feed and that they go on to feed as much like that which they leave as possible, compatible with the grazing management outlined, in order to provide feed in December and early January. In the autumn, winter and spring the general system may be applied to all pastures, but with very light grazing of those expected to provide the bulk of the "finishing off" feed or fattening pasture in December and early January.

Special attention has been drawn to the management of grass in spring and late summer because it is during that time that the bulk of the year's income is received from sheep, that grass grows most abundantly, and that the harmful effects of abusing grass are most obvious. The successful use of the year's feed supply, nevertheless, may, in some cases, depend more upon the cheap provision of reserve feeds either as supplementary roots, standing grass reserves, hay, etc., at times when grass is not growing than it does on control of grass in spring. A number of examples of successful rotational grazing under dry conditions

are on record, but a survey of these does not make it possible to give advice about rotational grazing that will apply to all conditions. On any farm the appropriate distribution of the year's feed supply has been achieved by making use of one or many of the devices outlined earlier. Farm circumstances decide which devices are most appropriate.

#### Causes of Failure of Rotational Grazing

Rotational grazing has been tried in many places, but has failed for one or other of the following reasons:—

- (1) The necessity of organising a feed supply, when grass is not plentiful, was not recognised;
- (2) rotational grazing was too much trouble;
- (3) grass was injured by being grazed too bare, and stock unthrifty through being changed from paddocks that had good feed to others with poor feed on them;
- (4) paddocks were of uneven areas;
- (5) some paddocks had good new grass and some old and poor grass, and sheep were changed from these indiscriminately;
- (6) the quality of the grass was uniformly poor, brown top, etc. These difficulties will always be present on some farms and while they exist they will prevent the full development of rotational grazing.

#### Conclusion

Attention has been directed to some of the methods that are adopted to secure a better distribution of the year's feed supply. This distribution is the chief problem of grass utilisation. Controlled grazing has been the most important stimulus to better grass utilisation. It means relatively high stocking for short periods so that the grass is never eaten really bare, and sufficient long spelling to enable the grass to grow again and become relatively cleaner. Feed reserves of some kind are necessary. These may be provided as supplementary feeds, standing grass, hay, or ensilage according to the rainfall. This system is most easily applied on heavy land with a high rainfall. It has been successful under drier conditions where the importance of adjusting the year's feed supply has been fully appreciated and where the adjustment has been skilfully carried out.

Copies of this bulletin may be obtained from the secretary, Canterbury Chamber of Commerce, P.O. box 187, Christchurch.