to provide adequate control of pasture growth throughout the greater part of the year, the natural seasonal production is so ill-balanced during the flush periods as to necessitate the extensive use of the mower. As about two-thirds of the annual growth is normally produced in about one-third of the year, it is evident that a proper balance can be secured only by conserving a generous portion of this surplus for the hungry winter months when growth is at its lowest ebb.

If the winter management of the pastures is to conduce to the build ing up of a high-producing ryegrass type of sward, an adequate reserve of supplementary feed is highly necessary to permit of lenient winter graz-For this reason, every effort should be made to conserve the maximum practicable amount of surplus growth either as hay or silage. Fodder in this form, if properly protected, will keep, and even in the heyday of plenty it must not be forgotten that the weather over a period tends to average out normal, so that a season which is abnormally good is quite liable to be succeeded by one which is just abnormally bad.

The effect of cutting for hay or silage, and the transfer of fertility involved when this is fed out, can have an important bearing on the composition of the sward, and this should be kept in mind when planning the general scheme of farm operations.



Fig. 8.—Continuous hard winter grazing tends to penalise the ryegrass and favour the white clover. This is commonly responsible for very clovery swards in the spring, and the condition is often associated with severe trouble from bloat.

Topping Is Important

As already mentioned, large leaf surface has a bearing on the rate of plant growth. If allowed to grow beyond a certain stage and to produce seed, however, much harm may result. Nature abhors waste, and the ripening process involves the transfer of nutriment from the leaves and stems into the seeds, so that once a pasture has begun to seed the feed quickly becomes tough and fibrous and of lowered nutritive value.

Where paspalum is present in a ryewhite clover pasture, topping is sometimes of particular importance. Apart from the food wastage caused by seeding, rank paspalum is somewhat liable to exert a smothering effect on the clovers, and once the clovers are suppressed the fertility quickly falls below the ryegrass level. Although the paspalum itself can still survive, the lowering of the fertility is quickly reflected in the reduced yield, and the tendency is for the pasture to revert ultimately to an almost pure sward of sod-bound paspalum capable of giving only a rather moderate production through the summer and early autumn, and producing a negligible quantity of feed for the remainder of the year.

Under good management, however, considering its length of season and yield, the rye-white clover-paspalum association approaches the limits of perfection.

It should be noted that topping aims at the prevention of seeding, and that once the seed heads have been allowed to develop, the plant makes little further growth, so that topping then loses much of its value.

Winter Management Can Make or Mar a Sward

Contrary to what one might expect, the treatment which a pasture receives during the dormant winter period has a very important bearing on its productive capacity. Correct management during the winter will work wonders with even a poor sward, and faulty



Fig. 9.—Efficient topdressing and good grazing management have combined to produce a vigorous and well-balanced sward of ryegrass and white clover.