

## AUTUMN-SOWN PASTURES . . .

supplies of nitrogen which, if it had to be applied as fertiliser, would be extremely costly. A vigorous growth of clover can supply nitrogen equivalent to 1cwt. of sulphate of ammonia an acre a month, as well as providing valuable feed.

Quantities and varieties of fertiliser largely depend on local conditions. When lime is used it is commonly applied about a fortnight before the sowing of the seed and the phosphate is usually applied at 3 to 4cwt. an acre when the seed is sown. Potash is not usually used except on soils in which it is known to be deficient.

### Time of Sowing

The best time for an autumn sowing, assuming that the land is ready, depends to some extent on locality and seasonal conditions. Generally, grass can be sown from the last week in February until April—if conditions seem to be favourable, the earlier the better. If the seed is sown early while the ground is warm and given sufficient moisture, germination and growth are very rapid and the pasture becomes well established before the cold weather. Late sowings are likely to be hazardous, particularly as cold weather has a depressing effect on the establishment of the young clover plants.

Though much depends on the season, even a week's difference in the time of sowing can have a marked effect

## Diagrams of Stacking Baled Hay

In the article "Methods of Stacking Baled Hay" in the December issue of the "Journal of Agriculture" a mistake occurred in the diagrams on page 535 of the layers in building a square stack. Fig. 10, third and sixth layers, is correctly drawn, but through an error in preparing the page the diagram was inserted on its side. If readers who wish to follow the diagrams in stacking replace the diagram as printed in December with that appearing below, a correct sequence in locking the stack will be obtained.

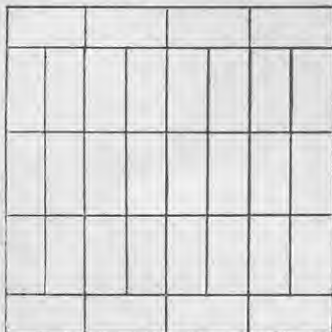


Fig. 10—Third and sixth layers.

on the amount of autumn growth and the ability of the young plants to survive and grow through the winter into the spring.

### Seeds Mixtures

Not very long ago it was a common practice when compounding a seeds mixture to include a little of everything. Now, with a fuller knowledge of the requirements of species and of what constitutes a good pasture, the tendency is to use simpler mixtures and to include only species which experience shows are likely to succeed under the conditions and which are of proved value in a sward. Prescriptions used range from a simple mixture of 20lb. of Italian ryegrass and 5lb. of red clover for a temporary pasture to about 40lb. of mixed seeds an acre for a permanent pasture on cultivated ground. The most important components usually are ryegrass and white clover, but, according to circumstances, paspalum, cocksfoot, timothy, dogstail, red clover, subterranean clover, and *Lotus major* may be included.

The whole of the ryegrass sown may be perennial, or, if importance is attached to some early feed, the ryegrass may include a proportion of Italian or some of the new hybrid known as H1. This is a cross between the true perennial and Italian ryegrass which combines the virtues of both to some extent. It provides more quick feed than the perennial but less than the Italian, and persists, in diminishing quantity, longer than the Italian, lasting 3 to 4 years if conditions are favourable.

Cocksfoot and timothy, though commonly sown, frequently fail to establish or disappear in the first year, and whether they should be included depends largely on soil, climate, and the system of management adopted. Under proper grazing management and suitable conditions paspalum has proved a valuable complement to ryegrass, its drought-resisting property making it particularly valuable in a dry summer.

White clover, because of its high production and permanency, is usually regarded as the most valuable legume in a permanent pasture on good land. Red clover is commonly included, the Montgomery strain sometimes being preferred to the broad red because of its longer life. As red clover is a vigorous grower, care must be taken not to include too much seed lest it smother the permanent white clover. If present in excess, it is also likely to cause trouble with bloating.

On land where white clover is difficult to establish subterranean clover is frequently included in a mixture. This clover will survive with less topdressing than is needed to maintain white clover

and is particularly valuable because of its ability to grow well through the late winter and early spring. It is less valuable than white clover on land where white clover grows well.

*Lotus major* is valuable on moist soils where other clovers do not thrive, and when lavishly topdressed has proved useful in combating weeds such as rushes.

### Surface Sowing

As an alternative to ploughing and resowing a poor pasture, surface sowing of selected grass and clover species has long been common. Without a properly-prepared seed-bed success depends largely on the weather following the sowing, and, because of the risk of too hot weather shrivelling the seedlings as they germinate, such sowings are frequently deferred till late March or April.

The sward should be grazed down before being sown and it is an advantage if it can also be well harrowed to help provide some kind of seed-bed. Even if the percentage of seeds from which plants establish is low, the only cost incurred is for the seed, which is applied with the topdressing. White clover and subterranean clover in particular have been cheaply and successfully established in this manner.

### Mixture Should Suit Conditions

Because of the very wide range of soil and climate, as well as of systems of management, it is desirable that a seeds mixture should be compounded with a full knowledge of the conditions on the farm. Some farmers rely on a prescription recommended by a friend or by a seeds merchant, who may have little knowledge of the circumstances. Within certain limits, factors such as management and fertility rather than the choice of mixture will decide the ultimate composition of the sward, but a badly-designed mixture wastes money and may result in a poor pasture. In view of the high price of seeds and the outlay involved in grassing, it is folly to sow without making certain that the mixture will prove satisfactory. The Department of Agriculture employs specialists for testing seeds, and its fields officers, having a knowledge of local conditions, are in a position to give reliable advice.

**A good seeds mixture, sown on a well-prepared seed-bed at the right time and properly manured, well seldom fail to produce a good pasture even in an adverse season. If good Certified strains of seed are used, the pasture should have a long and highly-productive life and the farmer can be assured that under good management his perennial ryegrass and white clover will hold indefinitely.**