

and fine grasses then come away rapidly and a good aftermath is produced. Where special crops, like oats and tares or oats and peas, have been grown for hay or ensilage care should also be taken to see that they are cut at the proper time. For hay the oats should be cut in the milky stage, and for ensilage in the dough state.

The making of ensilage is steadily coming into favour either for autumn or winter feeding, for both of which purposes it is very valuable. Apart from the good fodder saved, the cleaning-up of pastures at this time of the year helps greatly towards a succulent autumn growth. On most farms there is now a great deal of rank grass which is not palatable to stock. If this is removed before it gets too dry it makes quite good ensilage.

Until the erection of silos is more general farmers will have to rely on the pit or stack methods of ensilage. The stack has the great advantage that it can be made in the field where the material is grown; its greatest disadvantage is the labour involved, but if this is set against the labour and worry of making hay in a wet season the ensilage probably has the best of it, and the fodder saved is better.

Making Stack Ensilage.

About 40 tons is the minimum quantity of green material that it is profitable to make into stack ensilage. If the quantity is less the farmer should try a small pit. With a small quantity of material the loss around the sides in a stack is considerable, whereas if it is put into a pit it can be covered right up, and the loss reduced to a minimum. A fair average crop of grass will produce from 6 to 8 tons per acre of green material, and special crops like oats and tares 8 to 10 tons; heavy crops will give an extra 2 or 3 tons. A stack to contain 30 to 40 tons should be approximately 14 ft. by 14 ft.; 50 to 70 tons, 16 ft. by 18 ft.; 100 tons, 20 ft. by 24 ft.; and so on.

Having selected the site, the stack should be built up from 6 ft. to 8 ft. high the first day, and then allowed to stand for a day or two to allow the heat to generate up to about 130° F. After this a few feet may be added each day for two or three days, when the stack should be again spelled for a day or two. The builder is guided by the stack: if it is settling rapidly building should be continued every day, but if the settling is slight the stack should be rested until this is satisfactory. While the stack is being built great care should be taken to see that the sides are kept, if anything, a little firmer than the centre, and the top of the stack should always be kept as nearly level as possible. Further, if there is a continuous wind from one direction there will be a danger of the heat being driven to the lee side and of the stack settling unevenly. To prevent this, hang a tarpaulin or some bags on the windy side. It is also an advantage to add from 3 lb. to 6 lb. of salt per ton of green material when building; the poorer the material, the more salt required. Salt improves the quality of the ensilage, and it is a convenient way of feeding it to the stock.

When finished, the stack should be covered with from 9 in. to 12 in. of soil, so as to exclude the air; about 9 in. at the sides, running to 15 in. at the centre, gives a good finish. If the stack is very hot and settling rapidly the soil should be put on the day following the last material. If, on the other hand, the temperature is low and settling is slow the covering is best deferred for a few days.

The best ensilage is made at a temperature between 120° and 140°. If the stack gets too hot during the process of building add more material; on the other hand, if it is not hot enough spell for a time as already recommended. Experienced persons generally discard the thermometer, but it is a very useful guide for a beginner. At the end of each day's work drive a 4 ft. length of 1 in. or larger piping down the centre of the stack; then place an ordinary milk thermometer attached to a string down this pipe. In the morning the temperature is read, and, if satisfactory, the pipe is removed and stacking proceeded with, the pipe being again placed in position at the end of the day's work.

Lucerne Hay.

Lucerne is probably the most difficult plant to convert into first-class hay. The preservation of the leaf and a certain amount of moisture is essential if the green colour is to be retained. Too much moisture, however, is sure to result in heating, and a fusty hay. If weather permits, and the crop is not too heavy, the whole operation may be completed in three or four days. In the event of a heavy