The ewes on the area are now early in their sixth year, and although most of them would satisfactorily bear another lamb, the numbers are too small to fully stock the area. Arrangements have been made with the Longburn Freezing Works for the ewes to be killed when required so that the thyroid glands can be collected and weighed.

The results of the four years' work conducted to date may be summarized as follows:—

So far as thrift is concerned, and this term covers a wide field, and so far as rate of growth and quality of fat lamb goes, no significant differences have been observed between the treatments in either of the two main experiments. The data obtained over the four years indicate a high degree of uniformity in management. From the mass of data obtained it will be possible to provide much valuable information on various aspects of growth and reproduction in the Romney ewe and growth and fattening qualities of the Southdown × Romney lamb.

Taking the two major experiments together, it seems clear that the strongest growing and most lush types of rye-grass and white clover, even when consistently manured at a very heavy rate, do not have any deleterious effect on the health and thrift of ewes and fat lambs (presupposing, of course, sound pasture control with cattle). The high HCN content of some of the modern selections of white clover has no apparent ill effect on the health of sheep. The strongest of the selections of rye-grass and white clover under trial proved extremely difficult to control as sheep pastures, when heavily manured with superphosphate. It has also been shown, as stated by Beveridge, that it is possible to clean up a property and keep it free of foot-rot for very considerable periods.

A number of lesser facts obtained from the data will be contained in the full report of the work which is being prepared for publication.

Drainage Research Work

Mr. A. W. Hudson

The 1943 winter and spring from June to October was marked by an extremely wet period. The benefits of drainage on the college sheep-farm were very obvious in reduction of fouling of pastures and markedly increased and earlier growth. From the stock point of view these benefits must be considerable, and a measure of them should be attempted in the future.

Drainage Experiments on College Farm.—No new experiments have been undertaken. The experiments for measurement of outflows are as follows:

(i) Tile experiment to determine effect of type of backfill, including gravel, straw, turf, and clay immediately over tiles, and a mole-tile system in which tiles were pushed into a 6 in. mole drain:
(ii) Spacing of tiles versus close jointing:
(iii) The effect of slow and fast pulling of the mole plough, combined with the effect of pulling to and away from the outlet:
(iv) The effect of depth of mole drains: 16 in., 19 in., and 22 in. depths are being compared:
(v) Thin versus thick blade of mole plough:
(vi) A comparison of the common type of torpedo and plug with new design in which the blade extends behind the plug:
(vii) The observation of the effect of different types of plugs:
(viii) Observation of different types of junctions between moles and tiles.

On account of the lateness of getting meters into the field and subsequent difficulties with them, the season's records are not complete.

Sheep-breeding Methods

Mr. R. Waters

The primary objects of the investigation may be summarized as follows:—

(*a*) To measure, judge, and record sheep characters accurately:
(*b*) To accumulate lifetime records of the measurements, judgments, and performances of each sheep:
(*c*) To enable studmasters to use their records easily and quickly:
(*d*) To estimate the relative values of sires by a comparison of the characters of their progeny.

Obviously the main measurement is that of the performance of each sire as indicated by the characters appearing in his progeny. The certainty, however, with which this complex measurement can be made depends upon the accuracy with which can be evaluated the body and wool characters of the progeny. Even if this were assured, there would still remain the problem of applying all accumulated knowledge to the practice of breeding. Hence any scheme for the application of breeding methods for better mutton and wool production must, to succeed, be accompanied by an efficient recording system—one in which all observations can immediately be turned to useful account, more particularly in that brief space of time when the decision must be made as to how each breeding-ewe can be mated to best advantage.

The recording system, however, does not end with the designing of a card, with the "letter symbol" and "line symbol" devices for all descriptions, and with the "needle sorting" device for quick reference to sheep families, &c. Records have had to be devised for reducing the very considerable error liable to be introduced in calling and recording large numbers of tag numbers for recording the observations and complex operations of the shepherds during the various tupping periods at mating-time, &c. We can report very considerable progress in this field recording. Our miniature card system (1½ in. by 3½ in.), for instance, quickly provides a running tally of the number of ewes as they are being allotted to each sire at mating-time. It acts as a check list of ewe numbers at mating and docking; as a record of mating originally decided upon, and of matings subsequently