

seventeen months old. For the details of the results of the composition of Alfalfa roots from which these figures have been quoted, the reader is referred to pages 20 and 21 of the Annual Report of our College for 1908.

ALFALFA GROWN IN COMBINATION WITH GRASSES AND CLOVERS.

Five distinct tests have been made at the College in comparing twenty-one different mixtures of grasses and clovers for hay production. One test was started in 1897, one in 1898, two in 1900, and one in 1906. Each of these tests have been completed with the exception of the last one mentioned, which will be finished in 1908. Crops of green fodder and of hay were obtained from the four tests in each of two years. Alfalfa was included in seven of the mixtures. Of the twenty-one different combinations the six highest yielders of hay contained Alfalfa—the greatest yield being produced by the mixture of Alfalfa and tall oat grass. The details of the entire experiment will not be presented until after the results of 1908 have been secured. The following table, however, gives the average annual yield in tons of green fodder and of hay per acre of four of the mixtures in the four tests already completed:—

Mixtures.	Green Fodder.	Hay.
Alfalfa and Tall Oat Grass.....	15.17	4.41
Alfalfa and Timothy.....	13.80	4.00
Common Red Clover and Tall Oat Grass.....	10.71	3.39
Common Red Clover and Timothy.....	10.99	3.20

Although Alfalfa and tall oat grass gave an average annual yield of 1.2 tons of hay per acre more than common red clover and timothy, it is doubtful if even this mixture will equal Alfalfa alone for hay production.

Permanent pastures have never occupied as prominent a place in the agriculture of Ontario as they have in the agriculture of Great Britain. The scarcity of labor and the great development of our live stock industry are factors which are causing some of our most thoughtful farmers to consider the advisability of securing a first-class permanent pasture instead of relying so much on timothy for pasture purposes. Fields which are located long distances from the farm buildings or which are difficult to work on account of the presence of steep hill-sides, crooked rivulets, low spots, etc., might be converted into permanent pastures and thus prove of great economic value. This arrangement would not interfere materially with the regular crop rotation of the farm. From more than twenty years' work in testing different varieties of grasses and clovers, both singly and in combination, I would suggest the following mixture for permanent pasture on an average soil in Ontario: Alfalfa, 5 lbs.;