

RECENT INVESTIGATIONS

Hay Substitutes.

J. B. Lindsey, Massachusetts Experiment Station, discusses the value of hay from vetch and oats, and from peas and oats as substitutes for common hay. The following conclusions are drawn :

"Vetch and oats furnish very nearly as much digestible matter in a ton as an extra quality of hay. The digestible protein in the vetch and oats is fully one per cent. higher than in the hay.

"Vetch and oats have the advantage over peas and oats in that the vetch stands up much better, and can be easily cut with a mowing machine. To secure the best results, the crops should be cut when in early to middle bloom. If cut when in late bloom, the oats will have developed a considerable amount of woody fibre, rendering them less palatable and digestible."

Effect of Time of Cutting Barley on Color of Grain.

The following results were obtained by R. H. Miller and E. H. Brinkley, Maryland Experiment Station :

Three cuttings were made, *i.e.*, with straw nearly ripe and grain nearly all in dough state, with straw ripe and all grain in dough state, and with straw ripe and grain hard. The first cutting had the brightest colored grain, weighting 39.6 lbs. per bushel ; the second cutting the next brightest, weighing 41.1 lbs. ; and the third cutting the darkest, weighing 40.1 lbs.

Potatoes.

G. W. McCluer (Illinois Station Bulletin 40) reports various experiments with potatoes. The following points occur among his conclusions :

(1) Changing seed from one locality to another is of doubtful value.

(2) With 12 out of 15 varieties, seed potatoes from the most productive plots of 1893 yielded, in 1894, more than seed from the less productive duplicate plots.

(3) In two years' experiments the yield was not notably increased by commercial fertilizers.

(4) Good-sized whole potatoes have yielded nearly twice as much as potatoes cut to one eye, and there has been nearly a uniform gradation in the crop as to the size of the seed passed from good-sized whole potatoes through halves, quar-

ters, and three-eye pieces, and the results have fallen still lower when peelings have been planted for comparison.

(5) It makes no difference what part of the potato is used for seed.

(6) There seems no reason to doubt that, with rare exceptions, the earlier the planting is done the better will be the crop.

(7) The results of tests at five stations are regarded as favoring comparatively shallow planting.

(8) Hills have seldom given as good yields as drills.

In connection with the above, it is interesting to note that in field experiments at Ghent, Belgium, in a test of cut potatoes and whole potatoes of different sizes, the largest yield, after deducting the seed potatoes planted, was afforded by large, whole tubers, and the next largest yield by medium-sized whole potatoes.

Bovine Tuberculosis.

Bulletin 29 of the Iowa Station contains results of investigations regarding tuberculosis in Iowa. The results of experiments conducted by the station tend to show that calves from tuberculous mothers are not necessarily tuberculous at birth, but that when allowed to take of the mother's milk they are liable to contract the disease, even when the cow's udder is apparently healthy. This theory may be regarded as fairly well established.

It is stated that the following ground may be said to be practically cleared from doubt :

(1) Tuberculosis of the lower animals is identical with human consumption.

(2) It is an infectious disease.

(3) The disease may be transmitted from man to the lower animals, and from the lower animals to man.

(4) Tuberculosis causes more deaths in the human family than any other disease.

(5) Cows are especially susceptible to the disease, and are extensively affected by it.

(6) Milk from tuberculous cows may convey disease to the consumer.

(7) Milk from tuberculous cows having non-affected udders may convey the disease.

(8) The flesh of tuberculous animals may convey the disease.

(9) A large proportion of the cases cannot be recognized by clinical examination.