

(c) That in Saskatchewan the land to be summer-fallowed should be disked or shallow ploughed the previous fall.

(d) That the summer-fallow should be ploughed the required depth, depending upon certain soil types and conditions, before June 20.

(e) That the ploughed land should be surface tilled with suitable implements—preferably the drag harrow—sufficient to keep down weed growth and maintain a soil mulch to conserve moisture by preventing evaporation.

For second crop after good breaking or summer-fallow, where the land is free from creeping rooted grasses, rose bushes, etc., the most economic method at first is (a) if the stubble is long, to burn the stubble, disk and sow; (b) if the stubble is short to sow without burning or disking.

It is not a safe practice in the great plains country south of the Saskatchewan river to risk taking a third crop off the land without having it carefully summer-fallowed, as outlined above. West of the Soo line and south of the Canadian Pacific main line, owing to the presence of hot, drying winds, it would be safer if half the land were annually summer-fallowed. Another important line of work is the improvement of various crops by selection and breeding. The experiments in progress will enable the College to furnish a continuous supply of good seed: wheat, oats, barley, flax, potatoes, alfalfa, sweet clover, etc. Much attention has been given to the growth of forage crops. A number of alfalfa selections from Grimms give promise of being hardy and suitable for prairie conditions. Sweet clover would appear to be a useful plant to work into a suitable rotation. It is hardy, a heavy producer of forage, and as a biennial would work into a short rotation; it has an extensive root system. Such a plant is needed not only for forage but also to restore nitrogen and root fibre to the older cultivated districts where the top soil has become depleted of both. A sweet clover introduced from Siberia gives promise of filling the requirements. It has however yet to be demonstrated that it can be sown with wheat and survive the vicissitudes of the following winter. Tests with fertilizers of various kinds, barnyard, artificial and combinations of these, have shown that their application increases the yield slightly but not sufficiently to compensate for cost, labour, etc. The addition of farmyard manure maintains the supply of fibre, and so will prevent drifting in after years.

*Animal Husbandry.*—Large numbers of the leading breeds of live stock are maintained for teaching and investigation work, the numbers comprising about 400 sheep, 200 hogs, 100 cattle, 25 horses and 1,000 poultry. Improvement of the dairy herd is being effected through the use of good sires, feeding, testing and weighing milk, selection and elimination. Experiments are also being conducted with pigs. The self-feeder is being used with green pasture crops, rape, winter and spring rye, oats and barley, alfalfa, sweet clover and field peas. Work is being done with sheep to compare the value of different Down rams on range ewes in the production of mutton and wool. A new poultry building with incubator and brooder accommodation is being erected. An experiment has been tried in 1918 with sunflowers for silage purposes.

*Other Departments.*—The practical departments co-operate with the pure science departments of Chemistry, Physics and Biology.