The most approved mixtures which are used through the country may be briefly touched upon. Where many horses are kept a few pounds of flax seed sown with the oats are a splendid addition. For swine the mixing of goose wheat with the oats works well, but where the Danberry oats and Mandichuri barley can conveniently be obtained they give excellent yields. Two-rowed or Duckbill barley can be sown with most oats and they ripen near enough together to be a successful combination. The reason for combining grains is to increase the yield per acre; it's a good practice and works out well. Of course it is only done where the grain is to be used for chop.

HAY CROPS.

In handling the hay crop the general use of hay-tedders, side delivery rakes and hay loaders has greatly reduced the labor but it tends to make us grow too much timothy, because that can more easily be handled by up-to-date machinery. Clover is the best crop though, and the gains cattle make on roots and clover hay are remarkable. Of course the balancing of a ration must produce good gains but it's in the sowing we prepare for the balanced ration. We should endeavor to put up clover hay exclusively for our cattle and for our horses weil mixed clover and timothy. Alfalfa will in a few years have taken the place of timothy for horses for home use almost exclusively. The results are so evident where it is used that its fame will soon spread

In planning ahead we can do much to facilitate times of rush and with careful forethought the results should be gratifying. With active Farmers' Institutes and the careful reading of timely topics in THE FARMING WORLD and acting thereon, success is assured. Who would change places with the city magnate this time of year when the days are long and the birds are coming back to us and the smell of good mother earth and opening buds is in the air?

R. E. GUNN.

Legume Culture

The Department of Bacteriology of the O.A.C., Guelph, are preparing a bulletin giving the results for 1906 of co-operative experiments with cultures of the legume bacteria. These bacteria in the soil penetrate the roots of seedlings of the Legumes, and in association with the plant, extract nitrogen from the air and store it up in the plant. By applying the bacteria to the seed, their presence in the soil is assured, and as soon as germination of the seed occurs, the bacteria penetrate the roots and early nitrogen assimilation begins. Of the number of experimenters who submitted a report of the results, 68, or 58.6 per cent., reported a benefit to the crop from the use of the culture. Cultures for inoculating seed will again, upon application, be sent out from the College during the coming spring. Last season a large percentage of recipients of cultures, through carelessness or indifference, failed to send a report of their experiment. Believing that farmers sufficiently interested to conduct an experiment carefully will be willing to pay the cost of the culture a price of twenty-five cents for each bottle of culture, an amount barely sufficient to cover the cost of materials and postage, has been affixed.

When Inoculation is of Benefit.—When a leguminous crop is thriving, it indicates either that the soil is plentifully inoculated with the bacteria necessary to produce nodules on that particular species, or else that the soil already contains an abundant supply of nitrogen to support plant growth. In either case, the use of artificial cultures would be of little benefit. Failure to thrive may be due to other causes than lack of nitrogen. The soil may lack available potash, phosphoric acid, or lime. Inoculation does not and cannot remedy this. When it is intended to sow seed of a legume which has never been grown upon the soil, inoculation of the seed should prove beneficial. This is true even if other legumes have been grown upon the soil, as the bacteria forming root nodules on one species do not necessarily form nodules on the roots of other species. If soil once becomes thoroughly inoculated as indicated by a successful leguminous crop, and the presence of numerous nodules, the use of artificial inoculation with later seedings is considered unnecessary if a three year or five year rotation is followed. The use of cultures will in no way compensate for carelessness in selection of seed, preparation of the soil or subsequent care of the crop.

In order that cultures may be prepared and sent promptly at the time they are desired for use, it is important that applications should be sent in as early as possible to the Bacteriological Department, O.A.C., Guelph.

"Government Standard Seeds"

Editor THE FARMING WORLD.

Purchasers of red clover, alsike and timothy seeds who want a good clean article should see to it that the seeds they buy are clearly represented by a reliable person or firm to be of first quality, by being marked "No. 1," "Prime," "Fancy," "XXX," or such other designation for which a special standard of purity is fixed in Section 4 of the Seed Control Act.

"Government Standard" is a term coined by seed vendors and may be misleading unless clearly understood. Section 4 of the Act fixes a standard of quality in respect to weed seeds, below which timothy, alsike and red clover seeds are not allowed to be sold for seeding, either by farmers or seed merchants. This standard allows of the weed seeds named in the Act about 90 in one ounce of red clover, 200 in one ounce of alsike, or 400 in one ounce of timothy seed. It is to seeds that will pass this lower standard, but are not sufficiently clean to grade "No. 1," that the term "Government Standard" was attached last season.

Some seed vendors have advertised seeds under "Government Seal." No Government seal is used on any seeds offered for sale in the trade. Some reliable seed houses sell grass and clover seeds sealed by them and for which they alone are held responsible so long as the seal remains intact, but not after it is broken.

To avoid the provisions of Section 3 of the Act, which applies mainly to seed grain, some seed vendors represent to farmers that, on account of the Seed Control Act, they are offering their grain for sale for milling or feeding purposes. If offered for sale for seeding, such seed vendors are required to make clear to intending purchasers that the seed contains wild oats, wild mustard, cockle, and such other noxious weed seeds when they are in the seed. The object of the Act is to protect farmers who want to protect themselves against such weeds. It provides the means for farmers to buy seed intelligently. Farmers who deliberately buy feed grain and use it for seed can scarcely hope for legislation that will protect them from loss on account of noxious weeds.

G. H. CLARK,
Seed Commissioner.

Ottawa, Ont.

The Pure Food Show

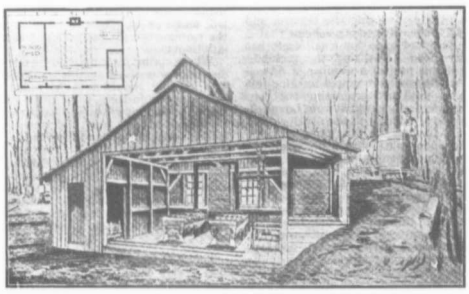
The Pure Food Show held in Toronto last week was largely attended. A special feature was a series of cooking demonstrations given by representatives of the Lillian Massey School of Domestic Science. These were of a practical nature and very much appreciated by the housekeepers present. A suitable musical programme enlivened the proceedings.

Tapping the Trees

There is not as much maple sugar made in Ontario now as there was when the writer was young. In those good old days most of the farmers made at least a little sugar, if only to afford sport for the young people, but in Eastern Ontario and the Maritime Provinces the output is still of commercial importance, the average annual money value being nearly two million dollars. This should have been almost an ideal season for "sugaring," the bright sunny days and frosty nights affording perfect conditions for big runs of sap. The result will no doubt be shown in a large yield for 1907.

In the early days the implements we used in gathering the sap and "sugaring off" were of the simplest and for the most part home made; those rough and ready makeshifts would not satisfy the present generation and so much more convenient, but less romantic utensils have been devised and the whole process has been put upon a business basis.

The accompanying illustration showing a modern boiling plant with evaporators, etc., in striking contrast with the open fire and crude appliances of the good old-fashioned way.



An up-to-date sugar-making outfit.