A little oil rubbed over the mouldboard of the plow, and the knotter and needle of the binder, may save a lot of time and bother the following season.

Last summer I used some cheap machine oil to brush over the horses during fly time. When lightly brushed over the hair, it kept the horses free from annoyance by flies for the day. It did not appear to injure the hair in the slightest degree. More oil of the right sort, applied at reasonable intervals, results in less friction, lighter draft on the horses, fewer breakages, less expense, less bother. Rather worth the while, is it not?

Middlesex Co., Ont. W. E. WILLIAMS.

Clover-seed Production in Ontario

The first of the meetings in connection with the Guelph Winter Fair was held in the lecture-room on Tuesday, December 6th, at 2.30 p. m. This meeting was a seed meeting, and was addressed by three of Canada's best authorities on the subject. In the absence of Hon. J. S. Duff, J. Lockie Wilson took the chair, and, after a few introductory remarks in reference to the importance of good seed, shown by an illustration of a man who in four years had by selection produced from one potato 200 bags of fine tubers, he introduced T. G. Raynor, of the Dominion Department of Agriculture, as being one of the men who were doing much for the improvement of the seed industry to-day.

Mr. Raynor spoke on clover-seed production in Ontario, and laid particular stress on the spread of noxious weeds throughout the Province. He drew attention to the literature pertaining to weeds and weed seeds that was available to the public, as well as any who cared to write for it. It included cards, which, if signed and sent to the Department at Ottawa, on receipt of same, the person sending them will receive the bulletin or information required, such as copies of the report of the Canadian Seed-growers' Association, the Seed Control Act, reports of experiments, etc. He also drew attention to the large, illustrated bulletin, entitled, "Farm Weeds," which may be had by sending $1.00 to the Superintendent of Stationery, Printing Bureau, Ottawa. He also showed a tray of seeds, which can be put up at a cost of $2, and contains all the noxious weed seeds in such a form that farmers may become familiar with them.

In speaking of noxious weeds, he spoke at some length of buckhorn or ribgrass, and demonstrated how to separate it from common clover seed. The method consists of placing a layer of cheese-cloth over an ordinary fanning-mill sieve, and, after dampening this, the seed is thrown on and allowed to dry. The longer it dries, the tighter the buckhorn will stick, and the clover seed will loosen, and can be easily shaken off after about thirty minutes.

He stated that money from red-clover seed is looked upon by farmers as a present, because the seed is usually obtained from the second crop. He estimated the acreage seeded to clover each year in Ontario at 1,075,000 acres. The area producing clover seed is confined to that part of Ontario up to a line drawn between Kingston and Georgian Bay. At two bushels per acre, the production would be 2,150,000 bushels, if all the area seeded each year were also used to produce seed. Only 150,000 bushels are exported, and probably an equal amount is retailed at home. Thus, he showed the opportunity for an increase in production of seed.

The Minister of Agriculture authorized the selection of a number of men the past season, twenty-eight of them in twenty-six counties. These men inspected 15,996 acres of red clover, and proportionately large areas in the other clovers. Their report states that on 184 farms the clover fields inspected were clean, or quite clean; 1,707 could be easily made clean, and only 112 were too dirty to leave for the seed.

He impressed on his hearers the importance of clean, plump seed. Color is not so important, but dark-purple seed is preferable. Farmers were requested to send representative samples of their seed to the Seed Branch, Department of Agriculture, at Ottawa, where it is carried free through the mails, and the work is done free of charge, and they will report on the same. He impressed upon those present the necessity of sending representative samples, taken from several bags, and placed in an envelope and carefully sealed. In this way they can become familiar with the weed seeds, and the plants can be recognized by use of the illustrated bulletin, a copy of which should at least be found in each public school. He advocated sowing clean seed on clean fields, viz., fields which had been hoed the previous year. He also advocated shallow plowing of the hoe-crop field, if plowed at all, previous to seeding with clover, because deep plowing brings up weed seeds from below.

The amount of seed of red clover to sow to the acre he recommends at 7 to 8 bushels, according to the richness of the soil; the poorer the soil, the more seed required. Seed should be sown to drop ahead of the grain drill, and the soil should be in fine tilth as possible, by harrowing after the seeder. Sow as early as possible, especially where it is sown on fall wheat or rye.

Alsike should be sown, if grown for seed, at the rate of 6 to 7 pounds per acre of heavy soils, which are best adapted for producing alsike seed. If for hay, much less will be sufficient—2 to 3 pounds per acre. He pointed out that most of the weed seeds found in samples of small seeds were found growing on the killed-out portions of the field. These places should be cut with the scythe, and ribgrass, where present, should be spudded out. Bladder campion and ribgrass are considered by Mr. Raynor to be two of the more common weeds in Ontario found in red clover seed crops, and bladder campion is one of the very worst weeds to fight anywhere. Spudding out after the hay crop is removed, he recommended as the best remedy for the ribgrass; and spudding out, and the use of salt on the roots, he stated, would exterminate bladder campion.

A lively discussion followed, in which many important questions were answered, Mr. Raynor stating that clover seed should always be sown deep enough to get moisture; that there is always a market for good clean seed, and that the producing of clean seed is in the hands of farmers, who could improve it by cutting and pulling the weeds from their clover fields. The importance of the bumblebee was pointed out, and the knowledge of its benefit, he said, should be instilled into the minds of school children as the best remedy. For black medick, he suggested sheep, and for clover midge, early cutting of the hay, or pasturing up to June 20th.

Couch Grass Eradicated.

That couch grass can be pretty thoroughly eradicated from fields without losing the use of the land for the season in summer-fallow, has been demonstrated in a good many instances. Where a crop of corn is grown and thoroughly cultivated, couch grass or any other perennial weed gets a pretty hard rub. Peter White, of Renfrew Co., had a field three years ago which was quite full of couch. After taking off a crop of peas and oats, he plowed so lightly as to barely catch under the roots, then put on the spring-tooth and chisel-tooth cultivators, raked up five to ten wagon loads of roots, and burned them. Then took every other tooth off of the chisel-tooth harrow, and the center row out of the spring-tooth, and cultivated to the full depth of the plowing both ways of the field, then put on a scratch harrow to expose the roots and turn them up to the sun. The cultivators were run over two or three times after this, and the last cultivation was just previous to a frost, which seemed to be just as effective in destroying the roots as a hot sun.

The field was manured heavily during the winter with manure drawn direct from the stables.

In the spring, after plowing and cultivation, it was planted in corn, hills 34 inches apart each way, and, during the growth of corn, cultivated both ways.

After the corn crop was taken off, the field was plowed in the fall, and next spring cultivated and put to oats, and seeded to red clover, alsike and timothy, in the proportions of three parts red clover to two parts alsike and one part timothy, about ten pounds of the mixture to the acre.

This season, forty-three tons, by actual weight, of hay were taken off the field, which contains 16½ acres, and the weed, Mr. White informs us, has been practically exterminated.

He is experimenting with another field now out of sod, and promises us the results of this next season. He considers it questionable whether it is any advantage to draw off the roots, and whether it would not pay to leave them on for the humus there is in them.

Commercial Fertilizers on Mangels

Editor "The Farmer's Advocate":

The past waste of soil fertility and the growing complexity of farm operations, tend to lead the agriculturist to look for some means of restoring what has been lost, and to simplify the problem of increasing the live-stock capacity of the farm. Up to the present, commercial fertilizers have been looked upon as a commodity for the use of market gardeners and those engaged in highly intensive work. That the farmer may find profitable use for them in certain cases is being more and more clearly demonstrated, and the following results with mangels, obtained on a Prince Edward County farm during the past season, seem to add testimony to the fact. It is a noteworthy fact that, while some Canadian farmers have used fertilizers without appreciable result, others have found them profitable as a supplement to farmyard manure.

The test covered three-quarters of an acre of gravelly clay loam, selected for its suitability, without regard to rotation. The land was manured heavily during the winter of 1909, and produced a crop of potatoes that season. The mangels were sown on April 15th, 1910—three plots of one-quarter acre each. Plot No. 1 received no fertilizer. Plot No. 2 received 40 pounds muriate of potash, 100 pounds acid phosphate, and 40 pounds nitrate of soda. Plot No. 3 received the phosphate and nitrogen only, at the same rate as Plot No. 2. The potash and phosphate were applied April 5th and 8th, and the nitrogen on May 31st, after the plants were well started. The crop was harvested on October 20th. Uniform plots, each two square rods in extent, were harvested separately, and the crops weighed. The unfertilized plot yielded at the rate of 656 bushels per acre. Plot No. 2, with the three fertilizers, at the rate of 1,112.66 bushels, and Plot No. 3, with nitrogen and phosphate only, at the rate of 953.33 bushels per acre. The cost of the fertilizers per acre on Plot No. 2 was $12.80, and on Plot No. 3, $8.00 per acre. Estimating the mangels at 10 cents per bushel, and deducting the cost of the fertilizer, there is a profit of $33.86 per acre from the use of the nitrate, phosphate and potash, and of $20.93 from the use of the nitrate and phosphate. It will be noticed that the use of potash, at a cost of $4 per acre, gave a profit of $8.93. It is possible that, as we become more familiar with their use, and learn to know the requirements of our soil better, that commercial fertilizers will take a larger place in our farm operations than they do at present.

EXPERIMENTER

City or Country Life for the Graduates of Our Schools?

At the parting of the ways stands the rural school. Let the education obtained there meet the needs of our children and the city may call many in vain.