keep his nose to the grindstone all the time. Treat him as a man, not as a slave, and there will be no trouble in keeping a hired man. I should like to give a word of advice, if I may, to "Farmeress": Don't aim too high, or you may miss altogether, and be pleased to fall back on the hired man.

In conclusion, I should like to say that what I have written does not apply to my own boss, as I have been with him over three years now; but he, like myself, is

"A BLOOMING ENGLISHMAN.

Preparation for Corn.

Editor "The Farmer's Advocate":

Can you give me the most successful way to prepare ground for corn. Is there any way better than plowing sod in the fall, and cultivating manure in the spring? J. W.

In considering questions like this, the point always arises whether one's object is solely to produce a large, immediate crop, or whether he is anxious to conserve soil fertility, and to that end willing to sacrifice something in immediate yields. We know of men who commence cultivating for corn the summer and autumn of the year before planting the crop. Large yields are thus secured, but we cannot help wondering whether much humus is not dissipated and much soluble plant food washed or leached away during the prolongued bare fallowing. We believe fertility is best conserved by keeping the land clothed with grass or clover as much of the time as possible when it is not employed in raising some other crop. Early spring plowing of winter-manured sod has always appealed to us as a rational method of preparing for corn, except on heavy land or in localities where early maturity is of supreme importance. As a rule, corn ripens earlier on fall-plowed land, so that if, taking principally into consideration the yield of corn, fall-plowing of sod might be advisable in many parts of Canada. As to manuring of fall-plowed land, we would prefer to have the manure applied in autumn, if available, and plowed under, as it would thus be better protected from winter washing, would be down where the corn roots would draw on it readily, and would be below the level of next summer's intertillage. If the manure were not available in autumn, we would apply during winter, and disk or gang-plow in the spring.

Points in Bean Culture.

Editor "The Farmer's Advocate":

(1) Will beans grown on old sod plowed in the fall? (2) Are they a profitable crop? (3) What is the best kind to sow? (4) How much per acre should be sown? INTERESTED.

(1) Beans will grow well on old sod plowed in the fall, but I think they will grow better on land left until the spring, and then plowed as soon as possible after the frost is out. The rotting of the sod warms up the soil before planting time, which should be about the 5th of June, after the land has been well worked up to that time.

(2) In this section of Kent County beans are found to be very profitable, especially if the land is suitable for them. The soil should be well underdrained, of rich, gravelly loam, or good sandy land. Heavy clay will not grow beans successfully. At present prices, few crops will give better returns for the labor.

(3) White pea beans are the variety mostly sown, although many have made good money planting yellow-eyes.

(4) Three pecks of pea beans per acre, and four of the yellow-eyes, should be sufficient.

Kent Co., Ont. DAVID WILSON, SR.

[Note.—Mr. Wilson has grown beans for over forty years, and had 70 acres in this season.—Editor]

Preparing for Oats.

Editor "The Farmer's Advocate":

In answer to "Doubtful," I would say that, as he had a corn field previously in clover and timothy, sod manured the winter before, and spring plowed four or five inches, I would fall plow about five inches deep, and manure this winter or spring, then disk and sow; or, if he could spare the time, fall plow five to six inches deep this autumn, then manure this winter or spring, then light plow in spring three to four inches. Plowing but the once in autumn turns up all the clover and manure put on last winter to the top, and you would also have this winter's manure coat; but, by the second method, namely, fall plowing, fall and spring, you would have a good manure mulch after finishing in spring.

Rainy River District.

Effects of Pulverization.

Editor "The Farmer's Advocate":

On an eight-acre field of my farm I had in the year 1909 a crop of corn which came within two marks of winning a prize in the Provincial Corn Exhibition, it being commended by the Inspector, L. H. Newman. The field was well plowed at a depth of about eight inches, and carefully prepared for the reception of the seed, which was planted by horse-power, and dropped as uniformly as possible three or four kernels in a hill. The germination and subsequent growth of the plants was excellent, and progressively to end of season; development, ripening and general appearance of crop left little or nothing to be desired, the yield being about 100 bushels of ears per acre, with a good crop of fodder. The factors which reduced the marking were the somewhat late planting and consequent immaturity at time of inspection, and also the fact that the corn (yellow dent) was not strictly true to type. The field was thoroughly cultivated throughout the season, but received no manure or other fertilizer. The land is surface-drained, clay loam, with clay subsoil.

The foregoing is, however, introductory to my main purpose in writing this article, which is to show what thorough pulverization of the soil may accomplish, and to state the methods pursued. So thorough was the cultivation of 1909 that in the spring of 1910 I merely went over the field once rather lightly with the disk harrow. I then drilled in about two and three-fourths bushels of oats per acre. This was all the work that was given, and the resulting crop of oats was one of the best I have ever realized. Whether or not this crop might have been yet greater had more work been put on, I am obviously not prepared to say.

As early as practicable after my oats were harvested, watching a favorable wind, I set fire to the stubble, which was heavy, as the oats had somewhat "lodged" by storms; got a good burn, making a clean and mellow surface over a considerable portion of the field. I then decided to dispense with the plow for another crop, viz., fall wheat. I accordingly went on with the disk harrow—I must confess, however, with some misgivings as to the wisdom of the course. I disked the field seven times. First, a single cut lengthwise of the lands, then double cut or half lap across; next, the same lengthwise; finally, the half lap across, completing the work. It was evident that a good, finely-pulverized-bed had been secured, with probable immunity from winter "heaving," as the deeper stratum of subsoil was left intact and solid. Without any other harrowing or working, I drilled in my wheat on the disked surface, rolling even being unnecessary. wheat was sown on the 15th of September, 1910. It germinated promptly, got good autumn growth, came through the winter with very little "heaving," and looked well in the spring. The crop was cut on the 7th and 8th of July last, and, despite the effects of drouth, yielded, when threshed, an average of about 25 bushels per acre, of superior quality of wheat.

On the 25th of March I seeded the field with clover, which is a superb "catch," admittedly the best in this locality, and incomparably the best that we saw in our trip to the National Exhibition this year. As the extreme drouth has so generally spoiled the clover seeding, to what other cause than fine pulverization of the soil can the success noted be due?

I do not wish to be understood as advocating the disuse of the plow; on the contrary, I think it must be regarded as the first and essential implement in agriculture. The only suggestion is that under some circumstances it may be dispensed with, and to advantage, as when, in our clay soil, the ground turns up in hard, almost unbreakable lumps if plowed, making pulverization and after-cultivation extremely difficult, when the disk harrow can be rendered effective in giving better results, at less labor and cost. In the case of the particular field under notice, I feel convinced that greater success has been achieved than would have been possible had the plow been employed.

Kent Co., Ont. W. J. WAY.

Frosted corn fields, standing in many localities for weeks after growth was arrested, proclaim the unsolved problem of expeditious and economical silo-filling. Did we say "unsolved"? Perhaps some readers have solved it, but to many it is a puzzle how one outfit can be expected to fill twenty to thirty silos a season, without grave chances of many being left in the lurch in the event of an early general frost. Co-operative outfits are satisfactory in some cases; in others, not. Filling with individual equipment, consisting of a small box and power, is tedious, and not wholly to be recommended, though some have been driven to it, and more may be, especially with the coming of cheap electric and other forms of power. Meantime, it is often a case of doing the best one can, planting moderately early varieties of corn, promoting maturity by all possible means, and getting the silo filled betimes.

Insect Pests and Birds.

Editor "The Farmer's Advocate":

There is a great outcry by farmers and fruit-growers about the loss caused them by bugs, beetles, worms, etc., and the cost in time and money involved. They cry out and complain; laws are made (about this and weeds), and no notice is taken by any of our authorities or the complainers themselves.

On a recent Saturday, when rowing down the Thames for a couple of miles, fifteen gunners, armed with fowling-pieces and Winchester rifles, were counted, some hurrying forward to a tree or telephone post upon which would be a blackbird or kingfisher; others would stalk the unwary robin or bobolink by crawling along the shelter of a tree trunk or electric-wire post. Ten shots would be fired, and no death of either man or bird follow, but the eleventh might pot one or other, or a boatman. This indiscriminate slaughter of innocents for no useful or scientific purpose (unless to the all-sort-of-bird-eating Italian), is only one afternoon in one spot of the thousands doing the same. True, most of our birds here are migrants (winter or summer), except, perhaps, the much-questioned "English" sparrow; but migrants and their families have a wonderfully instinctive power (if left alive, of course) of returning to the same spot or district next year, if not frightened from doing so, and nothing scares a "wild" bird or animal so much as a gun.

Now, sir, nearly all our migrants are insect-killers or weed-seed pickers, and few do any harm to the farmer. Were he to see his bird friends protected, he would save more than he could make by many other means.

The British protect all their wild birds, and even breed additional game ones which assist the farmer, as well as hurt him, and they have no insect ravages, and comparatively few damages, and the balance of nature's power is more evenly maintained. Why, they jealously protect even owls, in order to keep down mice, etc., which alone destroy more grain than all the game birds put together. Then, they get bigger rents for their game than for their farms. The farmers, sportsmen (in its proper sense) and landlords all can live together, just because they protect the wild birds. A CANADIAN SCOT.

Middlesex Co., Ont.

Mustard Killed by Spraying.

Editor "The Farmer's Advocate":

Replying to your interrogation, we may say that in the year 1910 we secured an outfit for spraying mustard, and used it that season, but with rather unsatisfactory results. This year the sprayer was a success. We used it on two fields (about twenty acres), and there was scarcely any mustard perceptible at threshing time. In other years the grain would be a third mustard. We sprayed this summer just when the mustard was beginning to flower, and used about 12 lbs. of bluestone to 40 gallons of water. We boiled the water before putting it on the bluestone, as the chemical dissolves so much more easily. We put about 100 pounds of bluestone in a large barrel, and measured the water we put in, and kept constantly stirring till it was all dissolved, and put about a tenth of the mixture to 40 gallons of water in the tank on sprayer. We strain the water through cheese-cloth before putting in sprayer, also the bluestone mixture; the wire strainer on the sprayer is not sufficient of itself. I think that the cause of our trouble the first year was imperfect straining, as clogging of the nozzles seems to be the bane of a sprayer.

Oxford Co., Ont. JAMES CLENDINNING.

POULTRY

Duck Raising.

Editor "The Farmer's Advocate":

I have often wondered why, when duck-raising is so easy and pays so well, more girls and women on farms do not go into the business. I think there is little danger of the market being overstocked.

During quite an extended drive through Eastern Nova Scotia, I was surprised to see so few flocks of ducks and geese. There seems to be a sort of prejudice against ducks on account of their ferocious appetites; but, while ducks are large eaters, they will consume almost anything. It is quantity, not quality, that appeals to them. Grass, weeds and all sorts of stuff will do to fill up, and what will "fill up," will help fatten, in the case of ducks.

I have heard people say that the white breeds are less hardy than the colored ones, but I have not found it so. I prefer the white ones, both from an artistic standpoint, and because they are much easier to make presentable for market.

I was never in the business in a large enough way to use an incubator, but always set my duck eggs under hens, and found they made satisfactory mothers. Immediately on being hatched, I take