

We use the metallic system, and we had in operation on the 31st day of March some 55 miles of line, and in the neighborhood of 160 'phones, at a cost of \$10,000. Since that date they are building 18 miles more, and adding about 80 subscribers. Our business is increasing far more than we anticipated.

We connect with the Bell Telephone Company at two points. It is not advisable for any independent company to sign an agreement with the Bell, in which it agrees not to connect with another independent company. According to the law as it now reads they have to give connection, but in any case they will do so, and we found that although they tried to drive a hard bargain (and so did we) that they gave us a square deal.

The telephone is of advantage to the farmer in that he can get the doctor at any hour of the day or night, and it brings him into communication not only with his neighbors, but the outside world.

In conclusion, I would state that, taking into consideration the experience we had, it is best for any section inaugurating a telephone system to have a lawyer look after the organization proceedings and get the directors started right.

Then as regards construction, do it all by contract, and build according to Government standard. R. E. GRIGGS.  
York Co., Ont.

### Uses Disk After Harvest.

Editor "The Farmer's Advocate":

In regard to the after-harvest tillage of unseeded stubble fields, I may say that peas and corn are the only crops which we care to grow after a crop of cereal grain. For either, we prefer sod, but sometimes, through failure of a clover catch, or other uncontrollable circumstances, we have such stubble fields to deal with. In preparation for either peas or corn, and when time with men and teams can be spared, we would prefer to either disk or gang plow lightly as soon as possible after harvest, and harrow sufficiently to form a good earth mulch. By so doing, sufficient moisture will be retained to germinate any weed seeds which may be in the surface soil, and the cultivation will also have the beneficial effect of rendering unavailable plant food available, which will be needed for the next crop, after a crop of cereal grain has been grown. On heavy lands, which are often so dry and hard after harvest that plowing can scarcely be done, the disk harrow is the better implement to use, as a finer earth mulch can be formed than with the gang plow and smoothing harrow. Then, before winter, we would plow more deeply. This plowing will bring to the surface any weed seeds which have been buried too deeply to germinate, and these can be destroyed the next spring, before the seed is put in the ground. If we had not time to treat all our stubble land in this way, we would do the part intended for corn first, and depend upon the one late plowing for the peas, as keeping the corn field free of weeds is one of the essentials to success with this crop. On our soil (clay loam), plowing deeply after harvest, and allowing it to lie this way until the next spring, is not advisable, as the soil would become so run together and compacted that it would be very difficult to prepare a good seed-bed.

Lincoln Co., Ont.

H. W. HOUSER.

### No After-harvest Tillage.

Editor "The Farmer's Advocate":

In regard to the after-tillage of stubble fields, there is no practice in this locality of such tillage. The most of the stubble fields are summer-fallowed the following season, or plowed early in the fall. As we have never tried such tillage on our farm, I am not able to speak from experience, but should think it would be of considerable advantage where a hoed crop, such as corn or roots, is to be grown the following season. A stiff-tooth cultivator would be my choice of an implement to do the work with. Land treated in this way could be plowed in the late fall, or cultivated over, and the furrows run and ditched. Such a cultivating in the late summer would destroy a lot of weed seeds. I would prefer the plowing in the late fall, after the cultivating, as that would bring up fresh weed seeds, which would be destroyed with the cultivator the following season when cultivating the crop.

I do not think, where grain is to be sown the following season, that there would be any material advantage over early fall-plowing, as, owing to the press of work at that time of the year, it is doubtful whether a farmer could treat much of his stubble land with the cultivator.

Welland Co., Ont.

THOS. McCREDEE

### Soil Preparation for Wheat.

Editor "The Farmer's Advocate":

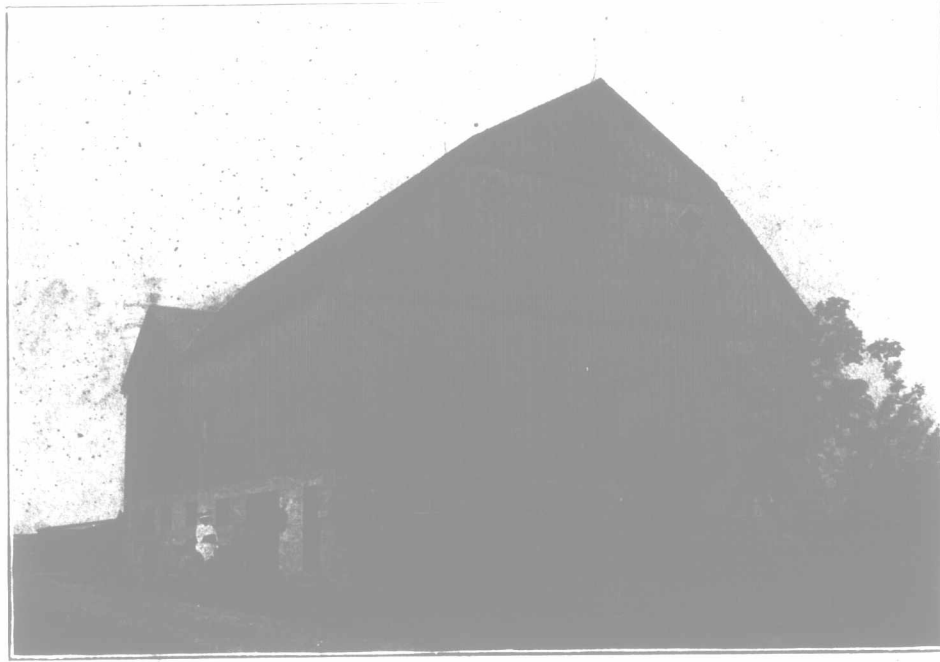
In preparing a field for fall wheat, I always prefer the old-fashioned summer-fallow; but, in fitting stubble land as soon as the crop is harvested, it should be worked shallow. It is a good plan to run a mower over to cut the stubble short, so that it will not choke in the cultivator. I prefer the cultivator to the disk or gang plow, as it breaks all the ground to the same depth. After cultivating, roll down; then, as soon as the weeds start, plow to a depth of six inches, and work thoroughly. In case the ground is not good and rich, it is well to give it a coat of well-rotted manure that had been repiled in spring to kill all weed seeds. Manure should be put on with a spreader, so as to top-dress evenly, using about twenty loads per acre. I always try to sow about the 10th of September. In this locality the land is mostly clay loam, and we think it does wheat good to harrow in spring, as soon as the ground becomes dry enough. If the field is to be seeded, we sow before harrowing about seven quarts per acre of mixed grass and clover seed. S. MITCHELL.

Lambton Co., Ont.

### Preparation of the Soil for Grain Crops.

KILL WEEDS, CONSERVE MOISTURE, AND GROW BIGGER CROPS.

To be successful, a systematic rotation is necessary, either three, four or five-year, this to be arranged according to locality and requirements. When a rotation is carried on, grain follows the hoed crops, therefore the land is thoroughly cultivated and hoed during the summer; and as soon as the corn, roots or potatoes are harvested, plow the land thoroughly, then leave it exposed to the winter frost. In the spring-time, the disk



Barn of Wm. Cottrelle, Halton County, Ont.

harrow will be found best for the corn land; the cultivator for the root and potato land. Next, harrow all the surface thoroughly before sowing the grain, grasses and clovers.

For fields not in the rotation, that are over-run with foul weeds, to be sown to grain next season, just as soon as the hay or grain crop is harvested, cultivate, without plowing, the sod field can be cultivated as well as the stubble. Cultivate over the whole field but once; next, take a good heavy harrow and run it crossways of the cultivating. By this operation you will loosen and shake out a great deal of the sod. This will bring it up to the surface, so that it will be dried out completely by the sun. Next, pass the cultivator in opposite direction to the first, also the harrow, until about six cultivations and harrowings have been given. The whole of the sod should be cut and dried out on the surface. Cultivations should be continued at intervals on very warm, sunny days, until autumn, then plow the land thoroughly.

Another plan may be followed with success, especially in a wet season. As soon as the crop is harvested, plow four to six inches deep, disk harrow and harrow thoroughly, and sow rape or white turnips in rows, so that they may be kept thoroughly clean. Do not delay the sowing after the land has been plowed, and, as soon as the plants appear, put on the hand wheel hoe first, then the cultivator, and use the hoe freely. This appears to be a lot of work, but the crop will pay for it. This is an excellent plan for those wishing good fall pasture for either sheep, steers or hogs.

If seed is not required, after plowing and

working the surface thoroughly, sow buckwheat broadcast, at the rate of three bushels per acre. By plowing deep and working the surface thoroughly, getting the buckwheat in promptly, it should make such a rapid growth that in a very short time the ground would be perfectly covered with buckwheat, which will smother out most of the weeds. The buckwheat can be plowed under later in the autumn. It will be necessary to use the roller and a rolling coulters when plowing the buckwheat under.

### CULTIVATION FOR CORN.

If the land requires cleaning, I would advise the same treatment as for grain during the summer and autumn. If the land is quite free from weeds, allow the clovers and grasses to grow well up to the time for sowing the corn; one plowing in the spring-time will then be sufficient.

### CULTIVATION FOR ROOTS.

I would advise the same summer and autumn cultivation as for grain, manure being applied before the last plowing. If no manure is on hand in the fall, apply it during the winter, and plow under in the spring. Where the land is perfectly clean, I would plow thoroughly fairly early in the autumn, then again in the spring-time. The spring plowing for corn or roots is the cheapest labor spent on those crops, as it lessens the very expensive after-work of hoeing, gives you a better seed-bed, and bigger crop.

JOHN FIXTER,

Supt. Macdonald College Farm.

### Plow Lightly After Harvest.

Editor "The Farmer's Advocate":

In regard to the question of after-harvest tillage, would say that we do not touch our grain fields here after harvest, for the reason that we invariably seed down with clover when we sow grain. If it is not intended to leave the field to meadow next year, we sow clover just the same for fertilizing purposes. The above remarks apply to our regular rotations.

In our work in connection with variety tests, where we sometimes sow two crops of grain in succession, we have tried various methods of fall or late-summer treatment, and find that plowing with a very shallow furrow, using a two, three or four furrow gang plow, is more satisfactory than trying to rip up the land with a disk harrow or cultivator. The advantage being in this, that the weeds, etc., are covered and soon rot, whereas, if the surface is merely worked up, they remain exposed, dry out, and the field presents an unpleasant appearance all the season. As to results the next year, I may say that we have not noted very much difference in the two methods of treatment. In either case the land is plowed again in the fall, say the latter part of October. We have not found it advisable ever to plow deep early in the season, unless it was intended to ridge up in the fall rather than plow again, in which case a furrow of usual depth is run, the soil kept well worked up during the latter part of August and September, and about the middle of October ridged up by means of the double-mouldboard plow. This treatment has given us better results than any other of the different systems or plans tried.

The treatment outlined above is that given to land upon which it is intended to sow grain the next year. If it is the intention to sow roots, then the normal plowing is given, manure applied on the surface and worked in during the fall and the land ridged up. This has given uniformly good results.

Where corn is to be grown, our experience is to allow the clover or grass to grow until late in the fall or next spring, spread the manure on the surface and plow in with a shallow furrow. Of course, if stubble land without clover or very dirty land was to be treated, then a different system would be advisable; in fact, the plowing of a normal furrow, ridging up in the fall, has given us the best results with corn, as well as with grain, under such conditions. The reasons for this last plan seem to me to be obvious. The surface soil, being exposed to the light and air, all the weed seeds therein have a chance to germinate.