The main drains lead up the lower part of the field and receive the water from the submains and laterals.

In any drain, the utmost care should be taken to have the bottom of uniform grade or inclination. This is necessary in order to produce an unchecked flow of the drainage water and so prevent the collection of mud and earth.

The submains should ascend the smaller dips in the field.

The laterals are the smaller drains and are joined with either the main drains or submains.

As to the depth at which the pipes should be inserted, and the distance between the rows, no definite rule can be laid down.

Experience has proved that in heavy land they must be near together, and not too deep; (1) but in lighter land the lines may be comparatively far apart.

About three feet deep is the usual proportion, but care must always be taken to have the tiles below the reach of frost.

As to the distance apart at which drains should be sunk there is no fixed rule. The distance will depend upon their depth and upon the "stiffness" or "openness" of the land to be drained.

In a very light soil, a single drain at a suitable depth may serve to control a large area ; whereas, in a stiff clay, the drains may need to be laid only 15 feet apart and not more than 2 feet 9 inches below the surface. (2)

In practice, 33 feet is an ordinary distance apart on heavy land, with a depth of 4 or 4½ feet. On light lands the width between drains may be extended to about 66 feet.

Main drains should be 3 inches lower than the submain and lateral drains, and the outlets should be placed at the lowest possible position, and be brick or stone faced with a grating to obstruct the entrance of any vermin. If the end tile is of glazed or vitrified ware it will better withstand the action of frost. The number of outlets should be as few as possible, and every outlet and in fact all the drains ought to be marked on a plan of the farm, so that anyone of them can be traced whenever necessary.

Very good indeed, except as to the depth mentioned in the text 3 to 3½ feet, which we have taken the liberty to alter, is too little. See the editor's articles our drainage, in the 2nd volume (1880) of the "Journal of Agriculture."—Ed.

WALTER S. G. BUNBURY,
Compton Model Farm.

(1) Wrong: 4 feet in the "London clay" formation is a capital depth.—Ed.

(2) Parkes, the great drain-engineer, never laid a drain, unless under peculiar circumstances, less than 4½ feet deep.—Ed.

STATE OF THE CROPS

To the Editor of the Journal of Agriculture

Dear Sir

Allow me to congratulate you on the new dress of the Journal. I think it is quite an improvement on the last one, or the small one if you will, looked rather insignificant, the type in the new one is plain and a good size. I wish you all the success you deserve.

Crops

Wheat. This crop is looking remarkably well and there is quite an acreage sown—in a few days it will be time to harvest it. I see that in Ontario the new crop has been on the market for some weeks, but the crop there is mostly fall wheat.

Oats. Are a grand crop this year, I have not seen much rust so far. Although there may be some in a few sections, quite a few farmers have already cut oats and in a few sections they have threshed, they are much better quality than last year, the season for harvesting is quite advanced in many sections.

Pease. This crop has not proved a great success this year, the season, say, about six weeks ago, was generally wet, and they did not do well. I think most farmers do not cover this grain deep enough, they should to ensure a good crop be ploughed in 4 inches deep.

Barley. Has done well and has matured early, in some cases has been cut in about 80 days after sowing, showing the rapid growth here in Canada: it will yield fairly well and a good color.

Rye. Has done well but very little has been sown this year, we do not grow much of this grain in the Province of Quebec.

Buckwheat. Quite an extensive acreage has been sown this year, so far the appearance is very good, but it is impossible at the present time to say what the yield will be, so many things come into play: too great heat when in blossom, early frosts, &c, &c.

Corn. In some sections this crop is the all important one, as by means of the silo farmers are enabled to keep far more dairy cattle. The dairy