

## A Forestry Report.

Last month the MUNICIPAL WORLD was privileged to review in its columns a report of the Forestry Commission. Another valuable document on forestry has appeared in the annual report of the Clerk of Forestry for the Province of Ontario. The report is a brief one, but in character is most interesting and instructive. It contains a review of the steps taken since 1890 toward the establishment of forest reserves, a question dealt with by the Ontario Government at its last session. Farm forestry receives due attention in an article dealing with the business view, its relation to dairying and fruit growing, planting waste lands with trees, forests and climates, loss of moisture occasioned by forest destruction, the shelter offered by forest belts, and the natural reproduction of trees. With respect to the care of woodland, the report says: "Once the forest is in good condition the axe is the only tool required to keep it in that condition. The over-ripe, dead and crooked trees should be cut out to allow room for a more profitable growth. If the underbrush comes up too thick it should be thinned out from time to time to give the survivors room. Nature would do this in time, but her process is slow and it is profitable to assist her.

As the young seedling trees grow up they need more light, and gaps must be made in the crown canopy by taking out some of the older trees. Herein the skill of the trained forester is displayed, but anyone, by exercising his common sense, may succeed in vastly increasing the annual growth of timber on his wood lot.

It should be remembered that trees do not usually bear seed every year and in thinning out, with a view to securing a new crop of young trees in the open space, regard should be had to the presence of seed on the remaining trees.

Where it is found necessary to transplant, quite small seedlings, not over a foot in height, should be used, and they should be transplanted early in the spring before the sap has begun to flow, or in the fall after it has ceased.

Further articles included in the report are those on the birch tree, the tussock moth, the spruce gall-louse, and manufacturing development. Copies may be had on application to the Bureau of Forestry, Parliament Buildings, Toronto.

The recent investigation regarding the source of the typhoid fever scourge in Philadelphia traced the contamination of the water supply to a defect in a sewer, which polluted the water pumped into the reservoir. The committee of physicians who appeared before the mayor declared an epidemic of typhoid as being nothing less than a crime, that it could be prevented, and the efforts should begin at once. They recommended the installation of a filtration system with all possible speed.

## Well Water.

While the water obtainable from under ground supplies has the same origin as that of rivers and streams, *i. e.*, the rain fall, the matter of protection against pollution is different in the former case from that which is obvious in the latter. The impossibility of insuring against contamination all the water which may ultimately enter a well renders it necessary to know whether natural filtration will take place in a degree sufficient to remove the bacilli of disease.

The investigations of Pettenkofer, the researches of Hauser, and the experiments of Martin and Robertson, tend to prove that typhoid and cholera bacilli can flourish only near the surface and in a polluted soil, and Fraenkel shows that the subsoil is free from germs even when the soil above has been contaminated for a long period. Dr. Thresh's own investigation in sand at various depths shows that very few organisms are found at a depth of four feet, none occurring at a depth of five feet. In fissured strata, of course, these conditions do not hold good, and in such cases the inflow from possible sources of contamination must be carefully prevented. The principal difficulty with shallow wells lies in the absence of precautions against pollution, but there is no good reason why this should be so. Although the use of shallow wells sunk in populous neighborhoods is not to be commended, there is very little doubt that in many such places a perfectly safe water supply may be derived from the subsoil. The essential features are the prevention of the entrance of water at any point less than six feet below the surface, and the absence of any cesspool within the area of the zone of drainage, say, from forty to sixty feet distant.

Because well water is clear and shows no physical effects of pollution, it is often assumed that purification is complete in passing through the strata of earth, sand and rock, but such an assumption is far from being a safe one to make. Rock strata often contains fissures in which water runs long distances without any opportunity for filtration, and being beyond the action of light and air the ordinary purification of flowing water is not secured. This is also true in coarse gravel strata. Pollution has been traced many hundred feet in such strata. It is often impossible to locate a zone of pollution for a well, even if comparatively shallow, but a study of each case should be made and the attempt at location made, that the continued purity of water may be assured, if possible. In all cases frequent examinations of water should be made that entrance of impurity may be detected promptly. The most frequent source of pollution in wells is the entrance of surface water, or of polluted water from strata near the surface through defects in the casing of the well which was intended to cut off such water.

## Government Reports and Blue-Books.

Government reports are a source of information the value of which is not sufficiently recognized. They are prepared by experts in the various branches, are in nearly every instance the best and most reliable source of information, are adapted to local subjects, circumstances and requirements. A partial List of those published by the Ontario Government will, perhaps, indicate the scope covered by these pamphlets.

Issued by the Department of Agriculture are reports of the Agricultural College, the Bee-Keepers' Association, the Dairymen and Creameries Association, the Farmers' Institutes, Fruit experimental Association, Fruit Growers' Association, Bureau of Industries, Live Stock Association, and reports on roadmaking, entomology and factories.

From the Department of Crown Lands come reports on mining, forestry, game and fish, surveys and new lands, and insurance.

From the Provincial Secretary's Department are issued reports on health and vital statistics, prisons, asylums, gaols, houses of refuge, hospitals, blind, deaf and dumb institutions, and neglected children.

From the Department of Education come full discussions of matters pertaining to common schools, high schools, collegiate institutes, colleges and universities, of utmost value to teachers. The archaeological report comes under this department as well.

Under the department of the Provincial Treasurer are prepared reports on liquor licenses, insane asylums, division courts and the annual public accounts statements.

These do not include by any means all the annual reports nor a large number of special reports, not of regular annual occurrence, which appear from time to time as the public need requires, on questions of temporary interest. From the Dominion Government reports may be had on a wide list of subjects. Copies of these can be obtained, free of charge, by any person applying for them by postcard until the supply is exhausted, and forms a source of accurate and carefully prepared information of which every citizen should avail himself.

## Municipal Hygiene Certificates.

The trustees of Rutgers College, in New Brunswick, N. J., have decided to institute examinations and to grant certificates in municipal hygiene to officers of local boards of health, sanitary, factory and plumbing inspectors and those who may seek appointment to these places.

The Indianapolis Health Board has ordered the discontinuance of the daily collection of pencil and pen holders in the public schools as a means of preventing the spread of contagion.