NOTES FROM THE BIOLOGICAL DEPARTMENT OF THE ONTARIO AGRICULTURAL COLLEGE—II.

THE PROTECTION OF SHADE TREES IN TOWNS AND CITIES.

IN the February, March and April numbers of the CANADIAN HORTICULTURIST of last year, the writer called special attention to the care of shade trees, and dealt somewhat fully with some of the main causes which were operating to produce the diseased conditions so commonly met with in our towns and cities. The causes were grouped as *physiological*, such as lack of air, water, and food ; *insects ;* and *fungi*. It is evident that there is an awakening in several quarters in the matter of care of shade trees, if one may judge from the reports of some of the horticultural societies. The planting and protection of shade and ornamental trees have been left too much to the individual who has made no special study of the conditions under which trees attain their best development.

The citizens of New Haven, Connecticut, have already taken this matter in hand, and as a result of their action a bulletin has been issued on "The Protection of Shade Trees in Towns and Cities," which deals with some of the causes of the present condition of the shade trees of that city, and makes certain recommendations to the authorities. A summary of the causes stated in the bulletin may be interesting to our readers.

Briefly stated they are, (1) Old age ; (2) Lack of water and air about the roots ; (3) Lack of plant food ; (4) Mutilations of the trees ; (5) Poisoning by illuminating gas ; (6) Insect injuries ; (7) Lack of knowledge and care in planting ; (8) Electric currents from wires.

The recommendations made for the removal or abatement of these causes are valuable, and should be studied carefully by all interested in shade tree protection.

1. "For old age there is no remedy," although the life of the trees may be lengthened by proper care.

2. Trees would grow better if they were planted on the lawn side of the walk instead of near the curb. The space for the growth of the roots would be greater, watering could be done just as well, and the trees would be out of the reach of mutilation by horses.

3. To supply plant food, an annual spring dressing of an odorless fertilizer is recommended. The composition of the fertilizer is given as follows :

50 lbs. nitrate of soda.
300 lbs. cotton seed meal.
100 lbs. acid phosphate.
100 lbs. muriate of potash, and costing about $8.00.

This is sufficient for an acre.

4. City By-laws, if enforced, would soon prevent many of the mutilations of trees, and all trees near the curb should be protected by frame or by wire netting.

5. The damage done to trees through poisoning by gas could be lessened by compelling the gas companies to pay for the injuries done.

6. Against insect attacks, spraying with some poisonous substance for leaf-eating insects, and with kerosene emulsion or whale-oil soap solution for sucking insects is recommended.

7. The cause of unsymmetrical trees is usually poor nursery stock, or poor judgment in selecting the species, or unwise location of trees, or improper planting, or lack of care after planting. A town or city forester is a necessity if the foregoing defects are to be remedied. The forester's