

VALUE OF BIRDS TO AGRICULTURE.

PREPARED BY V. W. JACKSON FOR HON. VALENTINE WINKLER, *Minister of Agriculture, Province of Manitoba.*

Birds prevent insect plagues. Plagues of locusts occur only in treeless and birdless countries like Egypt. Where birds are plentiful, insects are kept in check. The waterfowl of the Mississippi valley save it from the Rocky Mountain locust. Blackbirds, plover, quails and prairie chicken have rescued Nebraska from crickets several times. Meadowlarks, kingbirds, cuckoos, grouse, killdeers, black terns and gulls have no doubt saved Manitoba from the devastating army worm, which, on several raids, never got farther than the southwest corner of the province. Grosbeaks, nighthawks, and quails feed upon potato bugs and slugs. The United States has spent millions in investigating the damage due to insects and the value of birds in checking that damage. The annual loss of crops and trees due to insects is thought to be nearly \$700,000,000 in the United States, and \$125,000,000 in Canada. Fifty thousand birds' stomachs have been examined by the United States Biological Survey, and it was found that over fifty different species fed upon destructive caterpillars, and fifty live upon destructive scale insects and plant lice. One Nighthawk's meal was found to consist of 340 grasshoppers, 52 bugs, 3 beetles, 2 wasps and a spider.

Robins take five ounces of food per day, Chickadees will eat 200 to 500 insects per day. Most birds take over 100 insects daily to feed their young, to keep up their high temperature, and supply energy for twenty active hours per day. Chester A. Reed gives the following figures for Massachusetts: 800 square miles x 640 x 5 insect eating birds per acre x 100 insects per day, equals 21,000 bushels of insects consumed per day in that small state. Five times that amount, would be consumed in all probability in Manitoba.

Take a peneil and calculate the value of our birds to Manitoba: 47,000,000 acres of farm land x 3 birds per acre x 1½ ounces of weed