Conservation

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Fish Culture in Canada

Artificial Propagation Necessary for Re-stocking Our Inland Lakes

Artificial fish culture is a necessity in connection with some of Canada's best food and game fishes. This is due in the first place to over-fishing. Then many of the feeding and spawning grounds in the lakes and rivers have been ruined by the careless deposition of industrial and other wastes. These conditions apply with especial force to such lake species as the whitefish, one of the finest of the food fishes. In 1915, approximately 281 million whitefish fry were distributed in the Great lakes. During the present season three new hatcheries are in operation. One of these, situated near Kenora, Ontario, was designed for the propagation of whitefish and has a capacity of 70 million eggs. A second, at Thurlow, near Belleville, Ontario, replaces a smaller one that had been in operation in former years at Newcastle. It will accommodate eight million salmon trout and over 60 million whitefish, and the third, in Qu'Appelle park, has a capacity of 50 million eggs. The Kenora hatchery however, will be used for pickerel as well as whitefish, although the latter will be the fish chiefly handled, the fry being used in stocking the waters in the Lake of the Woods district.

The Government is to be commended for assisting so materially in the maintenance of Canada's fresh water fisheries. These have an annual value of about $4,000,000 and, if wisely conserved, are capable of great expansion. Besides, in districts such as the Lake of the Woods region, keeping the waters stocked with game and food fish will serve to further enhance their value as tourist resorts. Canada is certain to be visited by an ever-increasing number of tourists within the next few years, and her fame as a "sportsman's paradise" will do much to increase the number. —*A. D.*

Without the co-operation of employees, guards and safety devices on machinery are of little use.

CANADA IS DEPENDENT ON FORESTRY

The proper interpretation of forestry, and what it actually means to Canada, cannot be stated too frequently. The future of this country depends upon our making every acre productive. Broadly speaking, the earth's surface can be made productive in two ways only, by producing agricultural or timber crops. South of the 60th parallel, about 69 per cent of the area of Canada is unsuited for agricultural crops. A very large proportion of this non-agricultural land is suitable for the production of merchantable timber. The production of forest products has been and will always be one of our chief industries. At the present time forest industries supply 12 per cent of our foreign trade, 16 per cent of our railroad traffic, and equal in value our annual wheat crop. We have a choice to make. Shall we let these valuable industries perish for want of raw material or shall we perpetuate them by protection of our present mature timber from fire, by protection of the young forests of our non-agricultural lands, and by the logging of our forests in such a manner as to encourage the reproduction of valuable forests? The perpetuation of these industries and their source of raw material by the investment of such expenditure as the anticipated crop will warrant is forestry.—*H. R. MacM.*

There is no such thing as a necessary accident.

After Clean-up Day, What?

The Cultivation of Civic Pride a Necessary Factor to the Clean City

In many cities and towns of Canada, the annual clean-up day has been observed. Refuse and litter have been removed. Yards have been tidied up and made presentable. This result has been secured through the active agitation of public bodies and private individuals interested in the sanitary and clean-city movement.

Cut 99 **Making Home Beautiful**

But why should this laudable effort be restricted to annual clean-up days?

In Canada, owing to the covering mantle of snow which hinders the complete removal of garbage and other refuse, there is some slight excuse for the untidy conditions found in the spring. As this excuse is not applicable, however, during at least eight months of the year, there is no reason why, after the spring clean-up, the improved conditions should not be continued.

The cultivation of civic pride is a necessary factor in the clean-city objective. The officers of municipalities, and especially the newspapers, have it in their power to create and foster this spirit of pride. With the incentive of respect for the home town, it becomes a duty of first importance on the part of its residents to see that its roads, sidewalks and open spaces are kept clean, to protect its trees, and in every way possible to preserve and beautify their homes.

Each householder can add a beauty spot to his town. True, this space may not be large, but there are very few homes without sufficient space for either a flower-bed or a piece of well-kept lawn. The illustration herewith shows what can be done in the way of improving the appearance of the home. This plot has been beautified almost entirely at the expense of labour, the monetary outlay being negligible. The cottage is that of a working-man, but the surroundings, the pride of ownership, have succeeded in creating that place of all places, *home*.

THE ECONOMIC VALUE OF BIRDS

The insects that destroy our fruit crops attack every portion of the tree and its fruit. The woolly aphis attacks the roots; the trunk and limbs are preyed upon by millions of plant-lice, scale-insects and borers; the leaves are devastated by the all-devouring leaf-worms, canker-worms and tent-caterpillars, while the fruit itself is attacked by the curculio, codling-moth and apple-maggot. By the annual expenditure of about $8,000,000 in cash in the spraying of apple-trees, the destructiveness of the codling-moth and curculio have been greatly reduced; but of course that great sum must be set down as a *total loss* to the farmers and consumers, in addition to a shrinkage of $12,000,000 in the annual crop from insect ravages that could not be prevented.

Now, in view of the foregoing, is it, or is it not, worth while for serious-minded men to do their very utmost, continuously, to protect from foolish and brutal slaughter man's only allies in the insect war, the insect-eating birds? —*William T. Hornaday in "Wild Life Conservation."*

FOR CAMPERS

Forest fires can be prevented by:

Never leaving a camp fire until it is out.

Never making a camp fire in leaves, rotten wood, or against a log.

Never tossing away burning matches or tobacco.

Never burning brush, grass, or slashings during a dry season.

Clover Seed Production

Home-Grown Seed has been Shown to Give the Best Results

In 1914 the Lands Committee of the Commission of Conservation obtained some interesting figures in connection with clover growing in Canada. Some of these are shown in the following table:

PRODUCTION OF TIMOTHY AND CLOVER SEED

(Figures given represent percentage of number of farmers).

	N.S.	P.E.I.	N.B	Que.	Ont.
Saving own timothy seed	4	55	..	35	42
Saving own clover seed	4	31	..	13	39
AMOUNTS OF CLOVER SOWN					
Acreage seeded to clover	785	733	615	2,422	3,666
Per cent of grain sown seeded to clover	82	46	52	67	40
Average lbs. per acre sown of red clover	6	2	5	3	6
Average lbs. per acre sown of alsike	3	2	3	2	4
Average lbs. per acre sown of timothy	13	8	12	8	6

The man who conducted the survey work in Ontario stated that very many of the farmers complained of not being able to secure good growths of clover during recent years. These failures may be due to one or more of the following causes: exhausted soil, insufficient quantity of seed sown per acre, inferior seed or foreign seed.

It was found on many of the Illustration Farms that, where home-grown and foreign clover seed were sown side by side, the home-grown seed gave much better results. In some cases, the difference in hardiness between the home-grown or acclimated seed and the purchased or foreign seed was sufficient to cause the crop from the home-grown seed to stand the winter, while that from the foreign seed was badly winter-killed and sometimes a complete failure. Several farmers were induced to save fields for seed who before had never produced red clover seed. The results were gratifying. On the Illustration Farm in Lanark county, Ont., 1,200 lbs. of choice seed were produced in 1914.

Many farmers pasture the second crop of clover when it would pay much better to keep it for seed. Now is the time to plan for the clover seed crop by cutting the first or hay crop early to give the second or seed crop a good chance to start. In many districts, where farmers say clover seed cannot be grown, it can be found growing along roadsides or ditches, proving that, with care, it could be grown as a profitable field crop.

There are distinct advantages from growing one's own seed. It will not likely be sown so sparingly, it will give better results than purchased seed, the danger of introducing new weeds is obviated, and, as the foreign supply is likely to be short next year on account of the war, any surplus can be easily disposed of at good prices.—*F.C.N.*

Burning Rubbish Causes Fires

Care Necessary when Fires are Started in Back Yards.

The clean-up campaign in the various cities and towns during the months of April and May, is in every way commendable. At the same time it must be held responsible for numerous small fires. Burning of rubbish in backyards, near outbuildings and wooden fences, constitutes a danger which is not sufficiently realized by those starting the fires. Sudden gusts of wind or flying embers, carry the fire to these combustible structures and they are soon in flames. In most cases, the losses are not large, but this result may be credited almost entirely to the watchful care and readiness of local fire departments.

Too much attention cannot be given to the burning of leaves and other refuse, and the custom of leaving such fires to the care of irresponsible children should be discontinued.

New York has 1,664,000 acres of State forests, has planted 7,000 acres, produces 4,500,000 young trees yearly, has established a State forest experiment station, and makes an annual appropriation for forestry of about $190,000.

I would urge the farmers to do their share in helping to assist the people of Great Britain, who for many years have borne the burden of a heavy tax for the maintenance of a great navy, in preventing them from suffering want or privation.—*Hon. Martin Burrell, in the War Book.*

Cut 100 **Harvesting Clover**

Losses by Lightning

Protection of Buildings by Lightning Rods Greatly Reduces Losses

It is an old and doubtful saying that "lightning never strikes twice in the same place." When it does strike, however, it causes destruction and death. During the month of April, throughout central and eastern Ontario and western Quebec, no fewer than 61 buildings were destroyed or damaged by lightning. It is doubtful if any of these buildings were protected by lightning rods.

Isolated and exposed as they are to the danger of lightning, it seems remarkable that so few farm buildings are equipped with this cheap and efficient protection.

Lightning rods have proven their efficiency. Many buildings owe their protection entirely to the fact that they were rodded, and losses on these buildings have been reduced to a minimum. According to W. H. Day, Professor of Physics, of Ontario Agricultural College, "out of every thousand dollars' worth of damage done to unrodded buildings, by lightning, nine hundred and ninety-nine dollars' worth would be saved if those buildings were properly rodded." This opinion is based on data compiled from investigations and reports covering ten years and including a record of 599 buildings that were struck by lightning. Of these 317 were burned, or 53.6 per cent. Of the 599 buildings only 18 were rodded, and of these, three were burned, or 16.6 per cent, as against 53.6.

When it is understood that the losses to the insurance companies in Canada, by lightning, approximates a half-million dollars annually, and that this represents probably less than half of the total loss, the necessity of more adequate protection to farm buildings is apparent.

Some records of lightning rod efficiency follow: In Ontario for 1912, 94½ per cent; for 1913, 92 per cent; in Iowa, for eight years, 1905-1912, 98.7 per cent; in Michigan, inspected rods showed an efficiency of 99.9 per cent for four years, 1909-1912, inclusive. These figures are worthy of the careful consideration of the residents of the rural districts of Canada.

Further information on the subject of lightning rods and their efficiency may be obtained in Bulletin 220 of the Ontario Department of Agriculture, supplied free to those interested.

Railway Fire Protection

Special Protection Afforded in the Algonquin Park Forest Section

In order to secure better fire protection along their line in Algonquin Park, Ontario, and the forest sections both east and west of the park boundaries, the Grand Trunk railway has equipped a flat car with water tanks of nine thousand gallons capacity, and with pumps and hose, so that up to four one-inch streams can be thrown at the same time on a fire burning upon or near the right of way. The car will be kept at either Madawaska or Algonquin Park, and arrangements will be made for its immediate transportation to any point on the Ottawa-Depot Harbor line where its services may be needed. In addition to this provision, special instructions relative to reporting and extinguishing fires have been issued to all employees in accordance with the requirements of the Railway Commission, and a special fire inspector has been appointed by the Company to ensure the fullest possible compliance with the instructions. It is expected that as a result of these precautions, there will be no repetition of the bad fires which occurred during the season of 1914. —*C. L.*

CLEAN LOGGING CONDITIONS

According to H. R. MacMillan, the British Columbia Forest Branch has sold several hundred million feet of timber to loggers during the past two years, under regulations requiring clean logging, and such disposition of slash as will prevent the accumulation of a dangerous fire hazard and will encourage the regeneration of the forest. There has been no trouble with the logging industry over the adoption of such a policy; rather it is supported by the industry. The important point is that regulations are as few, as simple, and as economical as possible. They are framed with a knowledge of the logging conditions of the particular area to which they are to apply, and their estimated cost is allowed for in setting the price for the sale of the timber. The cost of the regulation falls upon the public in the case of such timber sales, which is, of course, proper, as the regulations are designed for the public benefit. The logger or timber owner, therefore, has nothing to fear from forestry.

Commission of Conservation

CANADA

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CONSERVATION is published about the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of the same, together with timely articles covering town-planning and public health.

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CONSERVATION is mailed free to those interested in the subjects covered by the work of the Commission.

OTTAWA, JUNE, 1915

Do not throw all the responsibility upon the farmers for increased production. Everybody with a plot of ground, no matter how small, should this year raise something that will add to the total of the world's food supply.

The Nova Scotia Legislature has passed a compulsory Town Planning Act under which all municipalities in the province have to prepare either town-planning by-laws or a town-planning scheme within three years.

Ontario is not producing one-half of what it could in agricultural products if that industry had the intelligent attention of the men we have been educating and sending all over the world to work for other people.—*Sir Clifford Sifton, at* 1915 *Annual Meeting.*

"I do not know anything that the men (of the I.C.R.) have taken a greater interest in, both for their own sake and for the sake of the travelling public, than the Safety-First movement. Since the Safety-First movement was introduced, accidents have been very materially reduced all round."—*Hon. Frank Cochrane, in House of Commons.*

As birds are the chief enemies of our insect pests, it is very important in the destruction and control of those insect pests to pay particular attention to the question of the protection and encouragement of our native species of insectivorous birds.—*Dr. C. Gordon Hewitt, Dominion Entomologist, at the* 1915 *Annual Meeting of Commission of Conservation.*

KILL THE WEEDS

One way to obtain increased production on Canadian farms this year is to put forth extra effort in combating weeds. This is within the reach of every farmer, and combined action will mean greatly increased yields of field crops and more lasting progress toward weed eradication.

The weed question has received considerable attention from the Lands Committee of the Commission of Conservation, and some facts have been revealed which show the real seriousness of the problem. Many of the worst weeds are getting ahead of the farmers and, unless methods of control are put into practice at once, will gain the upper hand.

In 1910, 100 farms were visited in each of the Prairie Provinces, and on 100 per cent of the Manitoba farms, wild oats were found. In Saskatchewan, 71 per cent, and in Alberta, 3 per cent reported wild oats. In 1911, on the same farms in Alberta, 31 per cent reported wild oats, while in 1912, a still larger number reported this weed, showing that it was travelling westward at a rapid rate.

In 1914, 200 farms were visited in Quebec. On 96 per cent of these farms, couch grass was found, and 82 per cent of the farmers reported it to be on the increase.

Farmers can not afford to ignore the danger from weeds. Yet there is a lamentable lack of concerted action to destroy these enemies of crop production. Land is too valuable in Canada for owners to permit 25 per cent of its producing power to be destroyed by weeds. It is time that all who are interested in agriculture realized the situation. Steps must be taken to rid the soil of the roots and the seeds. Co-operation between farmers in the same community and between farmers, the Experimental Farms and Stations, and the Governments, both Federal and Provincial, is necessary before satisfactory results can be secured. Only by continuing the fight to the end with method and thoroughness, can these enemies be held in check and ultimate freedom from noxious weeds be achieved.—*F. C. N.*

THE OLD STORY

Three deaths.
Nine severely injured.
All women.
Cause—Kindling fires with coal oil.

It is an old and oft-repeated story, yet the statistical fire table for the month of March contains the above report. Safety first is needed at home as well as in the factory.

The Canadian farmer, earnestly bending all his energies to increase the food supply for the Britisher at home and the British soldier at the front, is doing his share in the gigantic struggle of the Empire.—*Hon. Martin Burrell, in the War Book.*

Protection of Canada's Birds

Preservation of Bird Life Essential in Interests of Agriculture and Forestry

We recognize that game preservation and the protection of bird life are intimately associated with the conservation of natural resources. We therefore favour game protection under regulation, the creation of extensive game preserves, and special protection for such birds as are useful to agriculture.—*Declaration of Principles, North American Conservation Conference.*

To a great extent the general public, and farmers in particular, have under their own control protection from the depredations of insects.

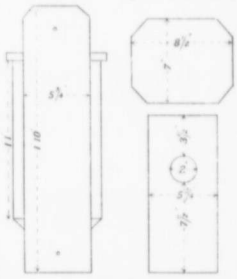
Beyond question, the greatest enemy of insect pests is bird life. Investigation has thoroughly proven that all Canadian birds, at some time, feed upon insects, some species to the extent of 95 per cent of their diet, while even the common sparrow subsists largely upon insects.

Cut 101 **Nesting Box Made of Slab-wood, Ready for Hanging**

There has been a gradual reduction in the number and variety of birds annually visiting Canada, and this is no doubt due partly to the lack of protection afforded them while with us. If some of our favourites are to continue with us, it is essential that steps be taken to improve the conditions under which they sojourn in Canada. By the cutting down of forests and clearing of wood lots we have removed the haunts of the birds, and thus have driven away those which formerly lived and reared their young in these localities.

To keep the birds with us it is necessary that some means be taken to foster them. Action has been taken to attract birds by setting aside, as bird sanctuaries, the Central Experimental Farm and Rockcliffe Park at Ottawa, and distributing nesting boxes therein. Good results have been secured; in 1913 no less than 75 per cent of the boxes were occupied. In this way the birds are encouraged to return year after year, and to this extent they constitute a regular protection against the insect pest.

Both city and country residents have a duty to perform in *protecting their protectors.* Nesting boxes should be put in the trees. They are easy to make and the cost is very small. The illustrations herewith show the completed box and details of construction. Three pieces of slab wood, with bark on outside, are nailed together to form three sides of a long box; a round



Cut 102
View of Box from Back. **Lid and Front of Box**

hole 2 inches in diameter being made as shown in diagram. The back of the box is a flat piece of wood. The top and bottom may also be made of slab wood. To keep the nest dry several holes are bored in the bottom, which is nailed on. The top is hinged to the back, and when in use is screwed down. This hinged cover allows the box to be cleaned of old nests. These nesting boxes may be attached to the trees by means of two pieces of wire passing through holes in the top and bottom of the back board respectively.

It has been clearly shown that, in proportion as facilities were provided for nesting, more birds availed themselves of the opportunities. Thus the bird-nesting boxes have been the means of increasing bird life, and especially the number of insectivorous birds, in the region where the boxes have been distributed.

Further information on the influences of bird life and the protection of birds is given in Bulletin No. 5 of the Division of Entomology, by Dr. C. Gordon Hewitt, Dominion Entomologist, Ottawa.

Hon. Frank Cochrane, Minister of Railways and Canals, has announced that along the lines of the Intercolonial, International and Transcontinental railways, the same measures for the prevention and control of fires will be taken as are required by the Railway Commission to be observed along railway lines under private ownership.—*C. L.*

COAL GAS RESIDUALS.

Note—This is the first of a series of articles dealing with the importance, waste and use of coal gas residuals. This subject is of special interest at this time on account of the effect of the war on the industries dependent on aniline dyes and because the English lyddite and French melinite explosives are made from carbolic acid, a coal tar derivative. A new explosive, trinitrotoluene, is attracting even more attention. It is made from toluene, which is found in the benzol, obtained by distillation from tar or in ordinary coal or coke-oven gas.

Coal gas residuals form the bases of many industries. Owing to the great development of by-product coke ovens and gas plants in Germany and the application of modern chemistry to the utilization of their by-products, these industries have largely been controlled by that country. In the readjustment of industrial and trade conditions after the war, it is desirable that as many of these industries as possible be established in Canada and in other parts of the British Empire.

There are two large by-product coke ovens in Canada which produce 67 per cent of our coke output. These plants are situated at Sault Ste. Marie, Ont., and at Sydney, N.S. Since the outbreak of war, the latter plant has been installing a benzol recovery plant, but, in western Canada, there are numerous beehive coke ovens which do not save any by-products whatsoever. Again, while large quantities of tar are recovered from local gas plants, no industries have been established for the refining, separation and use of the products obtainable from it.

Not only is the saving of the by-products from the coking or carbonization of coal a measure of conservation but the sale of these residuals is the means of reducing the cost of production in a degree corresponding to the efficiency of the recovery methods adopted and the market value of the products. —*W. J. D.*

Prohibition of Sale of Game

An Effective Conservation Measure in that it Prevents Commercial Slaughter

During the past fifteen years, many states have gradually been cleaning house in the matter of the commercial slaughter of their game, and many good half-way laws have been enacted. The original rule was for a state to protect its own game, but to permit the sale of game slaughtered in other states. This essentially selfish basis led to an immense amount of mutual poaching and selling, and the results were most disastrous.

In 1911, the state of New York led the way in a sweeping reform. The legislature enacted the now famous Bayne law, which absolutely prohibits the sale in that state of any American wild game, no matter where killed, and strictly limits the sale of all foreign game. It does permit the importation and sale of six species of game birds and mammals that are very commonly killed in Europe on preserves and sold for food; and it also permits the sale, under official state tags, of white-tailed deer, mallard ducks, black ducks and pheasants that have been bred and reared *in captivity* in New York, and killed and tagged according to law.

This law had the immediate and visible effect of stopping fully one-half of the enormous annual duck and goose slaughter on Currituck sound, North Carolina, and it directly benefited each of the sixteen states in the line of annual flight of about 150,000 unkilled wild fowl. The action of New York was immediately followed by similar action in Massachusetts; after which, in 1913, the state of California also wheeled into line.—*William T. Hornaday, in "Wild Life Conservation."*

Nitrogen from the Air

Rain and Snow Bring Down Small Quantity and Assist in Providing Plant Food

It is now a well-established fact that nitrogen forms the principal element in plant food. Other things being equal, the growth of vegetation is determined by the amount of nitrogen in the soil in a form available for plant food. The problem of returning to the soil the nitrogen used up in crop growth is one of the most important in agricultural science.

Experiments conducted for seven years at the Central Experimental Farm, Ottawa, show that rain and snow help to restore some, at least, of this nitrogen to the soil. The average annual precipation in the vicinity is about 34 inches and the average quantity of nitrogen per acre returned to the soil by rain and snow is about 6 pounds, of which about 85 per cent is supplied by rain. Six pounds per acre is not a large amount, but, as it is all in available form, and as for the most part it is supplied at a season when vegetation is active, the action of rain in supplying plants with nitrogen is not without importance.

The nitrogen brought down by rain is, of course, derived from the air, where it is found both in gaseous compounds, such as ammonia, and in dust particles containing nitrogenous matter. The chief source from which these substances are derived is combustion. It has been noted that, after extensive forest fires, rain tends to be unusually rich in nitrogen. Similarly, in the vicinity of cities, rain has a high nitrogen content, and, in some parts of England, a quantity equal to 20 pounds per acre has been observed. Violent storms, particularly thunder-storms, also increase the amount of nitrogen in the rain, probably owing to the stirring up of dust particles, but perhaps also because nitrates may be formed by the electric discharges.

These observations are interesting, but their most important result is to show that rain, though it is of some assistance, does not restore nearly enough nitrogen to the soil. Hence the importance of using nitrogenous fertilizers or of growing leguminous soiling crops to make up the deficiency is emphasized.—*P. M. B.*

"Come and let us Save the Kiddies"

The above words, credited to Mr. Alfred G. Vanderbilt in his last hour upon the doomed *Lusitania*, will, as the Bishop of London has said, ring round the world. Many men and women have used the same terms, though probably not under such tragic circumstances. To day, in Canada, we have groups of self-sacrificing men and women, who are devoting both their time and energies to the saving of the children.

The playgrounds movement, which has been taken up by many cities in Canada, is only one of the many ways in which this result is being secured. In Canadian cities and towns, there are still innumerable children who will not be able to have a day in the country this summer—who are confined, for their pleasure and play, to the street or lane. It is on behalf of these children that the appeal of Alfred Vanderbilt rings out as truly as it did to the children on the *Lusitania*. Let Canadian men and women, who are interested in child welfare, organize, and see to it that every child, whether of Canadian or foreign parentage, has the opportunity of the open air, and liberty to develop the young life, that he may grow up to manhood, a credit to Canada and Canadians.

It is in opportunities such as this that the true spirit of conservation is found. Canada is looking to the future, and there is no field in which greater results may be secured than in the conservation of the individual unit—the child.

A supply of wood sufficient for our future needs will be the result of:

1. Reducing the per capita consumption.
2. Protecting the forests from fire.
3. Increasing the annual growth per acre through the practice of forestry.

By greater economy in the use of wood the per capita consumption could easily be reduced from the present figure of 260 cubic feet to 150 or even 100 cubic feet without hardship. We use only half the total volume of the tree and waste the other half.

Wild Duck Foods

Water Fowl may be Attracted by Growing Suitable Food Plants

Sportsmen and naturalists frequently observe that some ponds and sloughs are favourite resorts of water-fowl, while others are seldom visited and then only for short periods. The explanation of this difference is usually to be found in the food supply. Men who have on their estates stretches of water which they would like to see occupied by wild ducks, geese and other aquatic birds, can attract them in large numbers by growing the right kinds of plants.

The plants best suited for duck foods are: wapato or arrowhead (*Sagittaria latifolia*), which will grow almost anywhere and is relished by all kinds of waterfowl; wild celery (*Vallisneria spiralis*), which is especially loved by the canvas-back; water-cress (*Nasturtium officinale*); wild rice (*Lizania aquatica*), a fine cereal food; blue duck millet (*Echinohloa crus-galli*), a plant of which mallards are particularly fond; several of the numerous species of pondweeds (*e.g., Potamogeton natans, lonchites* and *pectinus*); chufa (*Gyperus esculentus*) and water chinkapin (*Nelumbo lutea*).

In gathering and storing the seeds of water plants, it is important that they be kept wet, as, if allowed to become dry, their power of germination is lost. It is necessary to study the situation in which they are to be planted, the depth and nature of the water, kind of soil, etc., and to grow plants which are observed to succeed in similar places.

Upon the initiative of the Dominion Parks Branch, the E. B. Eddy Company of Hull, Que., is printing notices upon thousands of its match boxes, warning the public against the danger of forest fires resulting from carelessness with matches in the woods. This is an excellent example for all match manufacturers to follow.—*C.L.*