Conservation

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Forestry's Place in Warfare

Screens of Trees and Forests Used to Conceal Manoeuvres by Troops

The fighting in Europe has drawn attention to the possible place which forestry may have in warfare. Recently, the United States War Department has asked the Department of Agriculture to make working plans for planting screens of trees near the principal coast defenses of the East. Experts of the United States Forest Service have already completed plans for artificial forests that will screen the coast defense batteries which have been installed for the protection of New York harbour, Long Island sound, Boston harbour and Pensacola, Fla. Congress has not yet made appropriations for the planting work, but it is believed that this will be done at the coming session, now that the value of forests has been demonstrated by the European war.

Army officers point out that the retention by France of certain forests along the eastern border has a profound influence upon the movement of troops, the placing of batteries and the concealing of war manœuvres in general. The planting of forests in France has been carried on so as to make the result appear as much as possible like a natural forest, without any attempt whatsoever to place the trees at regular spaces apart. The forests of Germany are parklike and while they offer many advantages in lumbering operations, they would not give the same concealment to army manœuvres as the French forests.

The effect of the war on the forests of Europe is, of course, destructive. Trees have been cut without reference to future needs, in order to form fortifications and protective works of various sorts, to build bridges and to make corduroy roads through boggy places. Many trees have been cut down for firewood to be used in camps, and even the rifle and artillery fire has resulted in tree destruction. In some cases also, forests have been burned intentionally, in order to drive out the enemy. It will undoubtedly take many years to repair the havoc wrought by war in the forests of Europe.

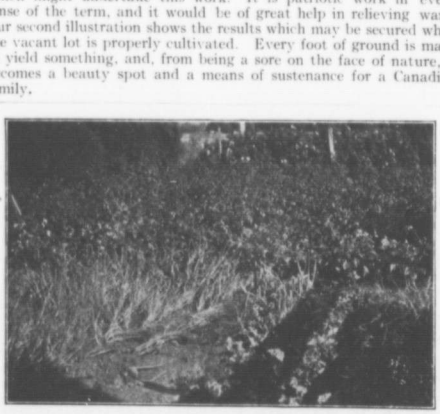
Patriotism and Production

The Vacant Lot and Garden Plot Offer Opportunities For Increasing Output

While the Departments of Agriculture of the Dominion and the various provinces are endeavouring to interest the farmers of Canada in plans to secure increased production of farm crops and live stock, the residents of cities and towns also have a duty to perform.

Cut No. 5 **A vacant lot in a large city. A nursery for weeds and an eyesore.**

In every urban community there are vacant spaces which, usually, are allowed to become breeding places for noxious weeds. Our illustration shows an example from one of our large cities. In this city there are many men out of work. These vacant spaces should be made available for cultivation. The owner may not wish to use the land for this purpose, but that the soil may be made to yield the produce it is capable of, some means should be found to bring together the owner of the land and those who would cultivate it. There are patriotic organizations in existence in almost every place of any size, which might undertake this work. It is patriotic work in every sense of the term, and it would be of great help in relieving want. Our second illustration shows the results which may be secured when the vacant lot is properly cultivated. Every foot of ground is made to yield something, and, from being a sore on the face of nature, it becomes a beauty spot and a means of sustenance for a Canadian family.



Cut No. 6
A vacant lot converted into a vegetable garden. Every foot is made to yield its own produce.

The Handling of Fresh Fish

Their Preparation For Market Requires Great Care

"Fish are never so good as when fresh and the fresher the better." This is the dictum of Dr. Harvey Wiley, the food specialist. Even refrigeration tends to break down the delicate cell structure in the flesh of fish and to some extent destroy the flavour. It is easily seen, therefore, that fresh fish is a food product requiring the maximum of care in handling if it is to reach the consumer in high grade condition. Refrigeration is, of course, a prime necessity. The larger fishing boats should carry ice in which to pack the fish as soon as caught, and they should be brought to port with the least possible delay. Unless consumers are provided with fresh fish of the highest quality, it is certain that the development of the fresh fish industry will be comparatively slow.

The Department of Marine and Fisheries has with commendable enterprise done much to build up the trade in fresh fish by securing better transportation. There is yet much ground to cover in the way of educating fishermen and others who handle fish, so that Canadians may benefit more largely from their rich and varied fisheries. As a Montreal dealer in fish recently pointed out: "Sticking pitchforks in fish and walking over them does not improve them. Yet this is what is done at present." Such practices certainly do not "improve" the fish, and the fisherman or dealer who is guilty of them should not be allowed to market his product.—*A.D.*

HOUSING AND ROADS.

Two hundred years hence the great housing and town-planning movement, now at its meridian, which has for its objects the planning out with wide roads and open spaces of the land lying round cities and towns and the erection of houses for rich and poor which shall be hygienically constructed and provided with an abundance of unfettered ground space, will be compared in importance and consequences with the Renaissance of the fifteenth and sixteenth centuries.

Common-Sense Ice-House

Satisfactory and Economical Results Secured by a Tested Plan

An ice-house that will keep ice! And that is so reasonable in cost as to be within the means of tens of thousands who would put up ice if they only knew how to keep it into the summer months! Such an ice-house was designed some years ago by Dr. Edward Wheelock of Rochester, New York, and is now giving complete satisfaction on more than two hundred dairy farms around that city. It has, in addition, been thoroughly tested by the Health Department of the City of Rochester, New York. From an ice-house on the grounds of the Municipal Hospital ice was taken in August that had on it half-frozen snow, just as it was harvested in midwinter. In no case has an ice-house constructed as hereinafter described failed to keep ice through the season.

The plan of this ice-house is very much like that of the Irishman's overcoat, which he said would keep the cold out in winter and the warmth out in summer. In other words, non-conductivity of heat by the material in which the ice is packed is the essential feature in ice-keeping. The model ice-house will keep ice because it is so constructed that the sun and wind, playing over and around the ice-house, convert the outer layer of saw-dust in which the ice is packed into a dry non-conducting covering.

A house 12 x 20 x 12 feet will hold about seventy tons of ice and will carry it over the season with a loss in shrinkage not to exceed five per cent, if the ice, when packed, is not much less than ten inches thick. For an ice-house of these dimensions the lumber will cost approximately $65.00, nails $2.15, and spikes $1.50. A shingled instead of a battened roof would add about $2.00 to the cost.

High, well-drained ground should be selected as the site for the ice-house. If, however, the only available location should be on wet ground, trenches for the foundation may be dug, and a drain laid. The space about the foundation should then be filled in with broken stones and sand, so that warm air will be prevented from travelling along the drain and melting the ice. A further precaution might be added by protecting the outlet of the drain so as to prevent entirely the circulation of air in it. Whatever the condition of the soil may be, it is imperative that sun and wind shall have free access to the house. The more of each, the better. Both have drying power, and the ice keeps, as will be shown, because a dry, non-conducting layer of saw-dust is constantly between it and the outer atmosphere. Neither this nor any other house will keep ice if it is shaded and protected from the wind.

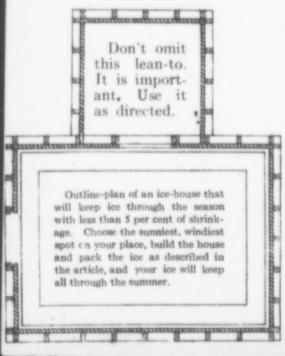
The foundation may be of brick, wood, or cement, provided it has good drainage. On the foundation erect 2 x 4-inch joists ten inches apart. On the *inside* of the joists nail six-inch hemlock boards laid horizontally, with half-inch cracks all around between the boards. The roof should be half-pitched and may be either battened or shingled. The gables should be left open wide enough to allow thorough circulation. If the roof overhangs enough to keep the rain out, the gables may be left entirely open. The house has no floor other than the soil or a layer of stones if it is desirable to improve the drainage. At one end of the house leave an opening for putting in the ice. This should extend from the ground to the level of the saddle. As the ice is put in, this opening is to be laid up with common hemlock boards.

At one side of the house build a lean-to approximately 6 x 8 x 6 feet, into which the sawdust may be thrown, to dry for future use. In the wall of the ice-house against which the lean-to is built leave an opening, so that the excess saw-dust may be shoveled into the lean-to as the ice is removed. Not more than two feet of sawdust should be on top of the ice at any time. In filling the house with ice this opening should be closed by boards in the same way as the opening where the ice is put in. This room for storing and drying sawdust is one of the most important features of the model ice-house.

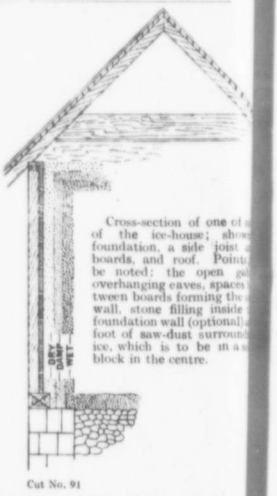
When ready to harvest the ice-crop, cover the bottom of the house with eighteen inches of clean litter or short shavings, similar to horse-bedding. Put the ice in, one layer at a time, taking care not to place one cake directly upon another; *the joints must be broken so that they do not come opposite each other*. The ice must be in a solid block, so that any tendency to melt will have no crevice to follow. Leave at least twelve inches of space all around between the block of ice and the walls of the ice-house. As each layer of ice is put down, fill this space with clean, dry sawdust, tightly rammed in. When the house is filled to within a foot of the saddle or hip, cover the whole mass of ice with two feet of sawdust. Do these things, and you will have ice on the hottest and latest day of summer—unless you use it up.

Summed up, the salient points in the construction of the model ice-house are as follows: It is cheap. It can be built by any one capable of handling tools. If the soil is wet, it must have a foundation, drained with loose stones into a blind drain. It must not have a drain-pipe opening into it, for then the warm air will pass up through the drain and melt the ice. The upper part of the house must be well ventilated. The crevices between the boards must be half an inch wide. The layer of sawdust between the ice and the walls of the ice-house must be at least twelve inches thick. The layer of sawdust next the ice will be wet, the middle layer damp, and the outer layer dry. By ventilating the upper part of the ice-house, draining the lower part, and drying the outer layer of sawdust through half-inch cracks in the boards, the ice is kept from melting.

Finally: do not build the ice-house in a sheltered place. Put it in the sun.—*George W. Goler, M.D., in Good Housekeeping for January*, 1915.



Outline-plan of an ice-house that will keep ice through the season with less than 5 per cent of shrinkage. Choose the sunniest, windiest spot on your place, build the house and pack the ice as described in the article, and your ice will keep all through the summer.



Cross-section of one of the ice-house; shows foundation, a side joist, boards, and roof. Points to be noted: the open gable overhanging eaves, spaces between boards forming the wall, stone filling inside foundation wall (optional), foot of saw-dust surrounding ice, which is to be in a solid block in the centre.

Cut No. 91

From Proceedings of Sixth Annual Meeting of the Commission of Conservation, held at Ottawa, January 19 and 20, 1915.

In speaking to a paper by Mr. Rhys D. Fairbairn, President of the Ontario Technical Education Association, Sir Clifford Sifton said in part:—"I do not hold with the idea of establishing grammar schools and collegiate institutes to teach boys to make critical examinations of Shakespeare's plays and Milton's poems when they know nothing about agricultural chemistry and have not the faintest idea of mechanics or other branches of technical education. As soon as these boys get through with their school course they are obliged to look all over the world for some place where they can get a job where they can make use of the education they have received. We have been doing that for two generations and the result is that our boys are all over the world except in Ontario, while we have natural resources here, illimitable in extent, requiring capacity and technical education to develop them; and 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. I regard this development which Mr. Fairbairn has indicated as one of the most valuable things that can be imagined and I am glad to see that we are getting back in Ontario to the place where we ought to have started about 40 years ago and I hope it will be followed in the other provinces."

Dr. C. C. James, Agricultural Commissioner for Canada, speaking of conditions in Alberta, said:—". . . . . He (Hon. Duncan Marshall) said: I want a man, a good Canadian, to put in charge of the Vermilion Agricultural school. I told him where there was a man in the United States, a Canadian. I said: 'You will have to pay money.' What we want is to get as many as possible of our educated Canadians into Canada, because we need them. We were exporting them for years. The State in whose employ this man was, raised his salary $200 or $300 but Mr. Marshall met every raise."

FIRE INSPECTION APPRECIATED

Commissioner Adamson, of the New York Fire Prevention Bureau, in speaking of the inspection work by uniformed firemen, said: "The important thing about these inspections is that they cover superficial and easily remedied conditions which, if left uncorrected, constitute our most fruitful causes of fires. The chief benefit is the great improvement in good housekeeping which they may cause. These inspections are not intended to harass property-owners and business men, but to assist them. I am glad to say that we are receiving the greatest co-operation from the public generally."

Commission of Conservation

CANADA

SIR CLIFFORD SIFTON
Chairman

JAMES WHITE
Assistant to Chairman and Deputy Head

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.

The newspaper edition of CONSERVATION is printed on one side of the paper only, for convenience in clipping for reproduction.

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

OTTAWA, MARCH, 1915

Local boards of health should at once commence preparations for their annual clean-up day.

Supply the birds with nesting boxes and they will become annual visitors. The birds will well repay any attention given them.

The insect we now call the "house fly" should in future be termed the "typhoid fly," in order to call direct attention to the danger of allowing it to breed unchecked.—*L. O. Howard, Chief U. S. Bureau of Entomology.*

With the disappearance of the snow and ice, there is usually left exposed an accumulation of refuse, which, even though it may not cause unhealthy conditions, at least has a very untidy appearance. Householders should have sufficient personal and civic pride to see that this refuse is properly disposed of.

There is strong reason for the belief that the forest resources of Canada have been much overestimated, and the necessity for a general stock-taking is obvious, in order to provide the basis for a comprehensive plan for intelligent conservation.—*Sir Clifford Sifton, at Sixth Annual Meeting of Commission of Conservation.*

Millions of dollars are spent annually by American and Canadian tourists and pleasure-seekers in Europe. Under present war conditions European resorts will not be available. Canada possesses as fine scenery and means of transportation as any country in the world. Our resorts and railway and steamboat lines should at once undertake an active campaign to place their attractions before tourists.

BIRD PROTECTION

With the increasing knowledge of the value of wild birds has come a demand for a larger measure of protection for them in their passage to and from Canada in their annual migrations, as well as during their sojourn here. Numerous organizations are at work to this end, and some of our brightest minds are devoting their time and energies on behalf of the birds.

Farmers and fruit growers, almost as a unit, have come to recognize the value of birds as enemies of destructive insects. Careful investigations have shown that by far the greater number of our birds subsist on a diet of insects, and only on rare occasions do they attack fruit.

Still further education is required among the young, however, for the protection of birds and their nests. The Boy Scouts have been doing valued work in this direction. The city and rural schools can in a large measure promote this protection among pupils by holding nature study classes. Special days might be set apart for excursions to the fields and woodlands to see the birds in their haunts, learn their names, their habits and their usefulness. In this way children will get more intimately acquainted with the different species, will become more interested in them, and constitute themselves protectors of the birds. Let the children be taught to watch for the arrival of the birds in the spring, to keep record of the dates of arrival of the various species, the dates of nesting, their food, and other interesting data. In doing this they will learn to appreciate what bird life means to the country from an economic standpoint as well as from the sentimental one of companionship of the birds.—*D.*

THE FLY NUISANCE

The common house fly, notwithstanding the campaigns of destruction which have been waged against it, is still one of the most dangerous pests with which civilization is afflicted. Due entirely to conditions which have been created and maintained by the people themselves, the house fly continues to exist and to multiply.

Persistent effort is the only insurance against the house fly. Its rapid propagation renders any intermittent campaign nugatory. The fly must be attacked first in its breeding place, which is that of stable manure or filth. It requires a period of about ten days for a fly to hatch and become full-grown. From their breeding places they scatter to food supplies, into homes, dairies and shops, carrying with them typhoid, dysentery and other disease germs.

It is not too early to take precautions against the annual attacks of the house fly pest. With the melting snow and ice, manure piles should be thoroughly removed and the surroundings disinfected. During the summer, if it is not feasible to remove accumulations of manure daily, it should be kept in a closed bin or other receptacle, impervious to flies. Yards should be cleaned up and kept free from wet and rotting matter which harbours flies. Garbage cans should be cleaned out thoroughly, and disinfected.

Carefully protect all food and drink from flies by wire or other screens. All doors and windows of homes should be screened, and, if flies get inside, they should be at once killed. Fly swatters are cheap and handy. Sticky fly paper and fly poisons are effective means of destruction. Formalin solutions are easy to prepare and may be used with success. Two methods of use are as follows: Mix two tablespoonfuls of formaldehyde (formalin) with one pint of a mixture of milk and water. Pour into a shallow dish with a piece of bread in the centre for the flies to light on. This may be placed at the back doors of residences, in or about dairies and barns, or wherever flies gather.

Or a soup plate may be filled with damp sand. Cover with a disk of blotting paper and sprinkle over it a mixture of one part of formalin to twenty parts of water.

The object to be aimed at is, however, the destruction of the house fly, and any means to accomplish this will be justified.—*D.*

FOREST FIRE PROTECTION

It is generally recognized that in all phases of a campaign for better fire protection, *prevention* should be the primary object, and that one essential to this is the reduction of the fire hazard through removal of the underlying causes. One feature of the forest fire hazard is the presence along many roadways of much inflammable debris, usually consisting of old slashings from logging operations or settlers' clearings. The systematic removal of such debris is taken up in various sections of Canada and the United States. An illustration of what is being done along this line in one of the states is shown by the following summary of instructions issued by the Forestry Commission of New Hampshire:

1. Preserve and protect all valuable shade trees.

2. Cut all sprouts, brush, bushes, young trees, or weeds, that in any way obstruct travel, cause a fire risk, or are objectionable from the standpoint of roadside beauty.

3. When cutting bushes, leave a thrifty sprout or young seedling in each clump. These will soon grow into trees and help shade out the undergrowth, making less brush to cut in the future.

4. Young evergreens should be left unless they shade the road so heavily as to hold the frost late in the spring. Their value in holding moisture in the ground surface reduces the fire risk. Trim these young evergreens three feet from the ground and remove the inflammable litter under them to reduce the danger from surface fires.

5. When the brush is cut it should be collected in small piles at a safe distance from any young growth and burned as soon as weather conditions permit burning to be done with safety.—*C.L.*

WHAT TOWN PLANNING IS

Town or city planning is application of scientific principles to all matters connected with the town or city. The town as distinguished from the country is not necessarily unhealthy but method of growth or lack of method may and does lead to unhealthy conditions.

The first elements in the town plan are (1) the protection and extension of the business interests of the city and (2) the provision of healthy living conditions for the citizens. Both are complementary and equally important. The efficiency of the human factor in (1) is secured by (2). Growing out of these two essential elements in a healthy city are:—

(a) Education (Schools, Universities, etc.)

(b) Recreation (Parks, Playgrounds, etc.)

(c) Transportation (Roads, Railways, etc.)

(d) Markets and Food Supply.

(e) Civic Centres (Town Halls, Museums, Church, etc.)

U. S. FORESTRY ADVANCEMENT

Twenty-five States have active forest departments, the majority of which employ professional foresters.

Twenty have efficient fire-protective systems.

Fourteen have established State forests, with an aggregate area of more than 3,400,000 acres.

Thirteen maintain forest-tree nurseries which produce each year about 10,000,000 small trees, about half of which are distributed to private owners at cost.

Minnesota has 43,000 acres of State forests, and makes an annual appropriation for forestry of about $233,000. Citizens of the state have planted 250,000 acres of their lands with trees.

Massachusetts has 15,000 acres of State forests and 56 separate municipal forests. Each year it produces from its nurseries upward of 1,300,000 young trees. The annual appropriation for forestry amounts to about $55,000.

Pennsylvania has 983,529 acres of State forests, has planted to date 2,800 acres with young trees, produces 2,500,000 forest tree seedlings from its nurseries every year, has a number of State forest experiment stations and makes an annual appropriation for forestry of about $328,000.

Capturing Enemy Patents

Some British Patents of Enemies that are Available*

The new Patents Act of Great Britain empowers the Board of Trade to confer upon British subjects the right to manufacture under enemy patents. The list given below includes some of the British patents relative to mining which have been granted in favour of residents of Germany, Austria or Hungary. If any patent listed has been assigned to a non-enemy proprietor, the law does not apply.

20145/11—Preparing peat. Raw peat to be dried is mixed with hard, dry, compressed peat and the mixture compressed, the product being used as fuel, or mixed with further supplies of raw peat, and treated in the same way. The pressure is continuously and gradually increased. E. Albrecsh, Germany.

20312/11—Fuel; grinding, crushing, etc. P. Hoering, Berlin.

20633/11—Gas producers; ashes, removing. Gas producer of the kind having a rotary ashpan carrying a rotary grate. A. von Kerpely, Vienna.

21019—Haulage rope grips. Relates to load actuated grips for suspended cableways, in which the haulage rope enters the grip jaws from below, and comprises an arrangement whereby any tendency to drag the rope out of the grip increases the gripping force. M. A. and M. P. Bleichert, Germany.

22424/11—Composition fuel; treating ores. Close burning coal, coke, ore, or other material difficult to agglomerate by pressure alone, is mixed with a binding agent made by adding hot liquid pitch or other ingredient that liquefies when heated, to wet caking coal, the mixture being strongly compressed to form briquettes. A mixture of pitch, tar, naphtha, and mazut, or of two parts resin and one part of mineral oil, may be used instead of pitch. A binding agent, consisting of three parts by weight of finely-ground, dry caking coal, one part of preferably cold water, and one part of the hot liquid ingredient, may be added to about 20 parts of the material to be agglomerated, and the product pressed at about 400 atmospheres. F. O. Gripp, Germany.

22696/11—Coking. Coal of inferior quality, peat, lignite, wood waste, etc., is mixed with a binding agent, such as pitch, tar, or the like, and compressed to a high degree into small briquettes or the like, which are fed continuously through coking chambers heated, at least partly, by the introduction of steam superheated to coking temperature. E. Enke, Germany.—*W. J. D.*

**Condensed from Colliery Guardian, Dec. 24th, 1914.*

Fire Losses

Education in Fire Prevention Gradually Showing Results

Canada is making headway in the matter of reduction of fire losses. From reports of fires in Canada for the two months of 1915 a loss is shown of $2,498,884 as against $5,717,061 for the same period of 1914, or a reduction of $3,218,177. This is the lowest fire loss for over five years.

Of the 581 fires which occurred in February, 1915, however, 364 took place in dwellings, and the majority of these originated from easily preventable causes. Defective pipes and flues are well established as the causes of the largest number of fires. Flues are defective in numerous ways and even close inspection may not reveal a dangerous condition. Critical examination is, in most cases, impossible, as the construction is in itself faulty, and a cold spell, with forcing of the heating apparatus, finds the weak places.

ILLUSTRATION FARMS

In his report on the inspection of the Illustration Farms conducted by the Commission of Conservation, the agriculturist of the Commission at the annual meeting said:—

"This work has been intensely interesting, and the manner in which the farmers have undertaken and so successfully carried on the work outlined is indeed gratifying. Another feature which must not be overlooked has been the interest aroused among the young people in the great possibilities of the old home farm when scientific and up-to-date methods are adopted. On one of the Illustration Farms, among the French-speaking farmers of Quebec, the farmer and his six grown-up sons would drop all work to accompany the instructor each time he visited the farm, all joining in the discussions and asking questions relating to the farm operations. This farmer himself stated that, since following the advice of the Commission's instructors, he had the first successful crop of clover and of corn he had ever grown on his farm. This was in 1914."

In a forthcoming report on Waterworks Systems of Canada, to be issued by the Commission of Conservation, information on sewage and sewage-disposal has also been obtained. The information gathered reveals the fact that, in Canada, 57 river-systems on inland waters receive raw sewage from 159 municipalities, while 111 water-supply systems obtain their water from streams or bodies of water into which raw sewage has been discharged above the intake points. Good progress, however, is to be noted in the installation of sewage treatment plants, of which there are now 61 in operation in Canada.

Farm Losses

POOR AND INSUFFICIENT CULTIVATION

Poor ploughing and careless and insufficient cultivation in preparing the seed bed account for more poor yields than we are able to estimate accurately. On the 1,000 farms visited last year in connection with the agricultural survey conducted by the Commission of Conservation, a lamentably large number of fields were seen which had been poorly ploughed, scratched over once or twice with the harrow, and seeded. The result of such practice is that visible ridges are left where every furrow is turned, and the farmer jolts over these ridges when harvesting his crops until the ground is ploughed again; unfortunately, in many cases in Quebec and the Maritime Provinces this is not until about ten years later. The small seeds cannot do their best under such conditions. They are not entirely covered and consequently there is poor germination. Then the young plant cannot send its root hairs, by which it feeds, through solid particles themselves; they must go between the soil grains. The more the soil is pulverized, the more openings between grains, and the greater room for root growth. Poorly tilled soil gives plants limited feeding ground, retards beneficial chemical changes and causes soil to dry out in dry weather, all of which mean loss in crop yield. More and better tillage mixes the humus and eliminates the undesirable air spaces under the furrow, increases the feeding ground of the plants, hastens beneficial chemical action and conserves moisture. These mean increased crop yields.

The following table is of interest in showing profits from various yields:

Yield in bush.	Price	Market value per acre	Cost of production including rent	Net profit or loss, per acre
20..	$0.638	$12.76	$7.89	+$4.87
16..	.638	10.21	7.89	+ 2.32
12..	.638	7.66	7.89	– .23
10..	.638	6.38	7.89	– 1.51
8..	.638	5.10	7.89	– 2.79

From the above table it will be seen that as large a net profit is realized from one crop of 20 bushels per acre as from two crops of 16 bushels. An extra two or three bushels per acre in yield can easily be obtained by better cultivation and the net profit increased at very slight expense.—*F. C. N.*

Care in removing projecting nails from boards, boxes, barrels, sidewalks and floors will often prevent accidents through stepping on nails.

Smut in Grains

Simple Treatment Will Prevent Continuance of Pest

It is estimated that the field los in the United States due to smut amounts to over 35 million dolla annually. A proportionate loss i Canada would be from nine t twelve million dollars.

Out of the 500 farmers in Quebec and the Maritime Provinces visite by representatives of the Commis sion of Conservation, only thre were found to be treating thei seed grain for smut. In Ontario 23 per cent, and in the Prairie Provinces about 90 per cent were found to treat their seed grain The losses from this source ar much greater than imagined b the farmer, and, even if only small amount of smut was presen in last year's crop, it will pay t treat the grain before sowing t this spring.

Several methods have been de vised to control the various form of smut, but, as the formalin treat ment is the cheapest, simplest an most effective for stinking smu of wheat, smut of oats, and covere smut of barley when properly use it will be described. The com mercial (40 per cent) formalin i used in solution with water at th rate of one pint (1 lb.) to for gallons. The grain to be treate should be spread out upon a clea floor or canvas, in a layer two o three inches thick. The solutio is then sprinkled over it. A ordinary sprinkling can or sm spray pump is useful for this pu pose. The grain should be shove ed or raked over during sprinklin to insure that every grain thoroughly wetted. After this t grain is shoveled into a close pi and covered with canvas or o sacks to hold in the fumes of th formalin. The grain should r main in the covered pile for fro eight to ten hours, after which must be spread out thin so as dry without sprouting. One ga lon of solution is sufficient for bushel of grain.

After drying, the seed may b planted at once or stored f future use. Here it is importa to remember that the seed ma become re-infested from old sac bins or even the drill itself. Ever thing, therefore, which comes contact with the grain after it treated should be first thorough disinfected with a strong formal solution. Commercial formal usually costs from twenty-five fifty cents a pound (pint). If t grain is planted before it is co pletely dry, enough more should sown to compensate for the in re in size of the seed through swellin

In treating stinking smut wheat it is best to immerse t grain so that the smut balls c be skimmed off.—*F. C. N.*

Employees should understa that the "safety first" moveme is a humanitarian effort in th own interest and that of the nati