

Live Stock and Soil Fertility

Good Management Essential to Successful Results

Farmers are being repeatedly urged to keep more live stock on their farms. Many reasons why they should do so are given, chiefly that stock farming is profitable and that it will increase the fertility of the soil. Certain points are often insufficiently emphasized in the discussion of this question. If stock farming is to be profitable, the stock must be of good quality, and must be given proper and intelligent care. Scrub stock never did and never will yield the profitable returns which are to be derived from pure bred or high grade stock. Those who are in the stock business, or who contemplate going into it, cannot afford to overlook this consideration. Canada has too much *poor* stock; what we need is more *good* stock.

If the fertility of the soil on the stock farm is to be increased or even maintained, wise management in connection with the rotation of crops, the care and use of the manure, and the tillage operations must accompany the keeping of the stock. Meat and the various dairy products cannot be made from nothing any more than can grain and hay, and, if these are sold from the farm, the fertility taken from the soil in their production must be restored. A test conducted on two Iowa farms, one a grain farm and the other a stock farm, where pure-bred stock was kept, showed that the soil on the grain farm was more fertile than on the stock farm. This was largely due to the rotation followed and judicious management by the grain farmer. The live stock farmer, however, made \$799 over the five per cent interest on his investment, while the grain farmer lacked \$380 of even making interest on his investment. It must be remembered, also, that the stock farmer had a larger investment upon which to allow interest. These men were both good farmers and it was not poor management that led to the difference in profits. The man who made the greater profits could afford to invest a part of same in purchasing and applying to his soil what is required to maintain fertility and still be ahead, or he could arrange his rotation in such a way that his soil would not become impoverished.

Good management must go with the keeping of good stock if profits are to be made and soil fertility maintained.—F.C.N.

From 180 to 200 pounds of roses, of about 200 roses to the pound, are required to produce one ounce of attar of roses.

Losses in Heating

Value of Storm Windows in the Saving of Fuel

Owing to the rising price of coal and the need for heating our dwellings in winter, the cost of fuel is a large item of expense to the householder. Anything that can be done to reduce this cost without suffering inconvenience from the cold should be welcomed by all. The average householder has but little knowledge of the principles and application of heating, and there are many portions of Canada where the saving of fuel by the use of storm windows (commonly known as double windows) is not fully appreciated.

Heat is lost from a building in two ways, by (1) radiation, that is, transferred through walls, windows and other exposed surfaces by conduction and lost, and (2) convection currents, or leakage, namely the losses through the openings around window, doors, etc.

By the opening of outside doors much heat is lost. This, to a great extent, can be overcome by the use of storm or outside doors. Better still is the storm porch, which allows of one door being closed before the other is opened. This porch may be removable, to permit of the use of all verandah space in summer.

The radiation losses are usually of greater importance than the convection. As losses due to radiation from walls, floor, ceiling and doors are determined by the structural features of the house, they are largely unavoidable. The most serious radiation losses are from windows and the saving of heat resulting from the use of storm windows is largely due to the layer of dead air—one of the best non-conductors—between the inner and the storm sashes. Storm windows also prevent uncomfortable drafts.

The great heat loss from single windows is demonstrable. A square foot of window surface radiates as much heat as $2\frac{1}{2}$ square feet of an 8 inch brick wall surface. Storm windows reduce the loss to nearly one half of this amount. In addition, they reduce the loss due to leakage and save from 10 to 15 per cent of the fuel bill.—W.J.D.

SETTLERS' CLEARING FIRES

The Lower Ottawa Forest Protective Association has recently secured four convictions of settlers for failure to observe the Quebec law which prohibits the setting out of land clearing fires during the summer season without first securing a permit from a forest officer. Several more cases are still to be heard, so that the total convictions for 1916 may be in the neighbourhood of 10 or 11, within the territory protected by this Association. In 1915, 39 convictions were secured, and 40 in 1914. Where properly enforced, the permit law has proved thoroughly effective in checking one of the most serious menaces to the forest wealth of the country. Experience shows also that such enforcement meets with the hearty support of the great body of the settlers themselves.—C.L.

BRITISH COLUMBIA'S FISHERY RESOURCES

By virtue of its salmon and halibut fisheries, British Columbia occupies first place among Canada's provinces in the annual value of fisheries production. During the last year, these two species, jointly, contributed approximately \$12,700,000, or over 87 per cent of the total output of British Columbia's fisheries. It is evident, therefore, that, if British Columbia is to retain its predominant position in the fishing industry, her salmon and halibut fisheries must be accorded effectual protection against depletion, and it is a matter for serious concern that both the halibut and the Fraser river salmon fisheries have reached the stage where rigid protection is urgently required. In both cases, international action between Canada and the United States will be necessary to secure the desired result, and steps should be taken without further delay to arrive at agreements whereby halibut and salmon fisheries will be subjected only to such exploitation as will not impair their permanent value and productivity.

CARE WITH MATCHES

The November supplement to the Canadian Official Postal Guide contains the following timely warning respecting the enclosure of matches and solid alcohol in parcels going overseas:

Postmasters are requested to take every opportunity of warning the public against enclosing matches or solid alcohol in parcels, particularly in parcels going overseas.

It will be readily understood that the presence of any easily ignited articles in a parcel mail might cause a fire on board ship which might result in a terrible catastrophe.

In this connection attention is directed to section 190, on page 44 of the Postal Guide, which states that "the person who encloses any inflammable, explosive, dangerous or destructive substance or liquid in any mailable matter sent by post, is guilty of an indictable offence."

(Revised Statutes, Chap. 66, Sec. 122.)

In view of the countless fires resulting from carelessness with matches, the foregoing instructions should be strictly observed, not only by the postmasters to whom they are specifically issued, but by the general public.

Study Your Soil

To Secure Maximum Crops a Knowledge of the Land is Necessary

The soil is the farmer's capital—his workshop. Upon it is founded the whole business of farming, and upon its fertility will depend in large measure the success of the farmer's operations. Too often it is not given the proper care nor is sufficient intelligence exercised in its use.

The plant derives certain substances necessary to its development from the soil; the most important of these are nitrogen, phosphoric acid and potash. The farmer should know whether his soil contains these in sufficient quantities to meet the requirements of a maximum crop providing good cultivation is given, or if he is not getting satisfactory yields, he should find the cause. No two farms have been treated and cropped in past years in exactly the same way, which means that even adjoining farms may be entirely different so far as soil requirements are concerned. To bring it up to a state of profitable productivity one farm may need a rotation different from the other or a different fertilizing treatment. Bulletins, books, experts and governments help the farmer in many ways, but they cannot be expected to furnish every detail in a manner to fit his every need. The farmer himself should learn what his crops require, learn what his soil contains, learn what is lacking in his soil, learn how to supply the deficiencies, and then he may safely look for increased yields and greater profits. It involves study, but the farmer must work out many of his own problems on his own farm under his own conditions, by trial, by test, and by experiment.—F.C.N.

Careful inspection and prompt repair of defective flues, and asbestos or metal protection for all woodwork near stoves and pipes would materially reduce the number of fires in Canadian homes.

Adding moisture to the air reduces the amount of heat necessary for comfort. As much as 20 per cent of the coal bill can be saved by adding moisture to the air. Air should never contain less than 40 per cent and preferably 50 per cent of humidity.

The Farmers' Union of New South Wales has passed a resolution requesting the state government to push with the utmost vigour its scheme for handling wheat in bulk. Hitherto the Pacific trade in grain has been handled in bags, but since the war there has been difficulty in securing the bags. The bulk handling scheme includes the erection of terminal elevators.