

Soil Fertility

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The problem of the conservation of soil fertility, together with other agricultural problems of vital importance to Western Canada, will be the subjects under discussion at the important conference which will be held at Winnipeg, on July 14, 15, 16, in connection with the semi-annual meeting of the Commission of Conservation. The Commission is arranging a thoroughly helpful programme, which will be of particular interest to all leaders in agricultural betterment and to all who are engaged in practical farming. Many leading authorities on soils and crops will contribute papers or addresses. The following subjects will be included in the programme, with a full discussion of related questions:

- (1) The rate and extent of exhaustion of soil fertility on western farms;
- (2) Conservation of soil moisture and its relation to the physical condition of the soil and to crop production;
- (3) Maintenance of organic matter or fibre in the soil with a discussion on the importance of soil fibre;
- (4) Rotation suitable for drought areas of the Prairie Provinces;
- (5) Soil and crop management;
- (6) Other phases of agricultural problems of the West, such as the prevention of soil drifting, suppression of weeds and the uses of grasses and legumes for the purpose of supplying forage for live stock and humus for the soil.

The whole matter of the conservation of soil fertility and the prevention of soil drifting is timely and important. It is felt that a gathering of this kind, to present the best and most authoritative facts regarding these problems, will be productive of great good. Farmers and all others interested in agriculture are cordially invited to be present.

Canning Fruits Without Sugar

Much of the Small Fruit Crop May be Conserved by This Method

Due to the scarcity and high price of sugar the possibility of much of the coming crop of small fruits going to waste is greatly increased. There is a method of canning without sugar, and, to secure the best information available on the subject, the Commission of Conservation invited Miss Jeannette Babb, Instructor of Household Science at Macdonald College, to prepare a short paper. Miss Babb especially emphasizes the caution that in sugarless canning the utmost care must be observed, and every rule strictly followed, otherwise loss of fruit and wasted effort may result.

Fermentation and decay are caused by the bacteria, yeasts and moulds, which are ever present in the air, coming in contact with fruit. We must, therefore, destroy these forms of life present in the fruit and in the containers and prevent their further entrance

into the containers, by sealing and sterilizing or boiling. This is what is termed canning.

There are many reasons why canned goods spoil. Some of these are: Because of imperfect jars; use of old or poor rubbers; use of stale products; being too slow; filling too many jars at once; inaccuracy in time of boiling; failure to test jars after sterilizing, and careless storage.

"The equipment necessary for canning is as follows: Wash boiler, or large kettle, with an airtight cover; fitted rack for bottom of boiler; good jars and covers properly sterilized; good rubbers; long-handled spoon or silver knife, strainer or clean cheesecloth for washing fruit, blanching and cold-dipping, boiling water, and clean towels, all of which should be sterile.

"To prepare the jars, test them first for leakage, by filling with water, fitting on rubber, sealing tightly and inverting on a dry table. If no moisture is seen on the table the jar is safe. Sterilize the jars and covers by placing on rack in boiler, cover with cold water, bring water to boiling point, and boil for fifteen minutes. Sterilize the rubbers in a shallow dish of boiling water for five minutes.

"In the cold pack method the importance of the two terms, blanching and cold dipping, should be emphasized. Blanching is to dip in boiling water, and keep under the boiling water for from a few seconds to five minutes, according as to whether the fruit is of the soft or hard variety. Cold dipping means the immediate plunging into cold boiled water, to set the colouring matter, to aid in keeping the fruit whole and to make it easy to handle.

PREPARATION OF FRUIT

1. Select when it is at its best—thoroughly sound, ripe but firm and free from bruises.
2. Grade as to size and quality for sake of uniformity.
3. Can the day it is picked, and as soon as possible after picking, especially where no sugar is used.
4. Clean fruit and prepare as for table use.
5. Blanch in case of hard fruits.
6. Cold dip.
7. Pack products quickly into jars, which have just been removed one at a time from the boiler, using a sterile knife or spoon handle for packing.
8. Fill with boiling water, insert knife to let air out and fill again to top with water running over jar.
9. Put on sterilized rubber, cover, and partially seal at once.
10. When all jars are ready, place on rack in boiler and cover with water of the same temperature as jars, keeping the jars separated.
11. Cover boiler, bring to the boiling point and boil until the fruit is cooked.

(a) Soft fruits require from 10 to 15 minutes where sugar is used.

When no sugar is used we add 15 minutes more to the required length of time with sugar.

(b) Hard fruits with sugar require from 30 minutes to one hour plus twenty minutes without sugar.

12. Uncover boiler at end of time for sterilizing or boiling, allow steam to escape and seal jars tightly immediately upon removing from boiler. Invert until cool.

13. When cool screw tight again, wash outside of jars, label and put away in a cold, dry, dark place.

NOTE.—In sugarless canning, the utmost care must be observed, and every rule strictly followed.—*Jeannette Babb, Instructor Household Science, Macdonald College.*

The British Columbia Forest Service is installing nine sets of Marconi wireless telephones. Four sets will be used on land, and the remaining five sets will be placed on the larger patrol launches of the department.

Coal has been reported at Lampman, Saskatchewan, which should produce an important addition to the fuel supply of Saskatchewan and Manitoba. The coal is reported to be of a high carbon content. It consists of seams varying from 4½ to 15 feet in thickness, at a depth of 210 feet. If the commercial product approximates to the reported analysis, this coal will be of one great value to the consumers of these provinces.

The flax industry of Canada is growing so rapidly that it has been found necessary to bring in flax workers from Ireland.

Deforestation and Bridges

The effect of the removal of the forest cover on the watersheds of our waterways is more widespread than is generally supposed. Not only is the snowfall allowed to melt more quickly and heavy rain fall permitted to reach the streams more rapidly, but in doing so carries with it much lumbering waste and other forest debris. Such material causes serious jams, forming itself into closely-woven masses against the abutments and piers of bridges; the pressure of the water behind these jams carries away the bridges and their approaches, and floods much surrounding territory.

The rapid rise of the streams in response to the precipitate run-off also requires the provision of greater clearance between the abutments of bridges, whereas the tendency has been to reduce the spans, thus emphasizing the possibility of their destructions by freshets. Mr. James W. MacKenzie, Assistant Road Commissioner of Nova Scotia, says:

"It seems to have been the custom for years, as wood became scarce, to narrow up and confine the streams in smaller vents. If it is a fact that the clearing of the

country is the cause of the water running off suddenly in case of heavy downfalls, our bridges must be enlarged to carry the increased streams, and this has been my experience during the last twenty years.

The most destructive summer freshet experienced in the counties of Antigonish and Pictou for the last twenty years, was the freshet of August 2nd, 1908. Some forty-six bridges in Antigonish county and fifty-six in Pictou were carried out, and in some sections every structure in wood was cleaned away. I took particular notice that, where the lumber trimmings had been thrown into the stream, the destruction was the greatest.

Steps should be taken to prevent lumbering and mill refuse being washed into the streams, and to remove obstructions in the streams on which jams may form.

Alberta Coal on Winnipeg Market

Summer Shipment of Coal to Storage Will Permit Continuous Operation of Mines

This summer an attempt on a large scale is to be made to place Alberta coal on the Winnipeg market. Difficulty has been experienced in this market extension work by the lack of storage capacity in Winnipeg, and the unwillingness of the consumer to purchase his coal during the summer, when it could be delivered direct from the cars. To overcome this objection, to early ordering, storage sheds, with a capacity of 20,000 tons, are being erected. These sheds will permit the shipping of Alberta coal to Winnipeg during the slack season and storing it against the rush period. This will have a twofold effect. First, it will relieve the traffic congestion of the autumn, when the railways are handling the grain traffic. Secondly, it will permit the operation of the mines during a period when, owing to the absence of a market for the output they were ordinarily compelled to close down or operate with a reduced staff.

This latter difficulty has had rather a widespread effect, and has militated against the ability of Alberta coal to meet competition. With the closing down of the mines for a portion of the year, the overhead charges of the entire year have had to be absorbed by the period during which the mines were operating, thus increasing the cost of production to a considerable extent. The enforced idleness of the miners also had an unsettling effect, and created difficulty in securing and retaining efficient operatives.

This new enterprise of Alberta coal mine operators will be watched with interest, and it is hoped that, with successful operation, the partial dependence of the western cities upon United States coal will be materially relieved.