

LOSSES DUE TO CONTROLLABLE PLANT DISEASES

(Experimental Farms Note.)

Among the diseases of economic plants there exist some for which effective control measures have not yet been discovered. Besides these there are a large number where control is possible, but only after persistent efforts extending over a number of years. And finally there are a goodly number that readily respond to measures of control.

If we take into consideration the enormous losses resulting from plant diseases every year wherever farming and fruit-growing is an industry of importance—as in Canada—then it will be realized that negligence and indifference towards the control of such diseases as can actually be controlled, are causes of great national loss.

The person causing a forest fire through negligence or carelessness, renders himself liable to prosecution and a deservedly heavy fine, yet it is rarely that the culprit himself is the loser; the loss is debited to the whole nation owning the forests. In allowing plant disease to persist and become widely prevalent, persons are similarly guilty of criminal neglect, particularly at this time when the question of food is of far greater importance than all the gold in the world. Yet though Canada as a nation is the prime loser through the cumulative effect of such waste in production, other nations, now so markedly dependent upon Canada as a source for the necessities of life, also suffer in consequence. Moreover, it is not a commercial question of sharing in the loss and thus reducing it, but one of having to do without food which is lost through negligent members of a community.

Grain Rust causes annually millions of dollars loss. This can only be reduced by certain safety measures, but cannot so far be controlled. But the same grain that has escaped the rust is yet very seriously reduced in yield by smut diseases. In some years smut, quite apart from rust, has caused losses amounting to more than twenty million dollars in Canada alone. Smut of grain is a disease that is easily controlled by the very simple and highly effective means of seed treatment. Either from ignorance or from negligence, smut is still widely prevalent. Only this year were received reports of smut affecting one field up to 80% and more. Another example of disease causing severe damage, but which may be readily controlled, is Late Blight of potatoes. The losses from Late Blight and the rot it causes among stored potatoes amount to several million dollars per annum. On the question of disease control, valuable

information has already been published by the Dominion Experimental Farms, but farmers are urged to refer their problems more freely to experts at the Farm, from whom they will receive the best attention.

Disease control is of far greater importance in agriculture and gardening than is realized by the general public. Disease, once they have attacked economic crops, can rarely be eradicated. A plant that once has fallen victim to disease, will never give a normal yield. Poor yields are in nine cases out of ten due to lurking disease, hence individual effort becomes a necessity in saving the nation the deplorable devastation due to plant diseases.

THE IMPORTANCE OF SAVING GOOD BREEDING STOCK

(Experimental Farms Note.)

During the past four years, millions of men who had previously been producers of the largest part of the food stuffs required in Europe, have been engaged in fighting for their country, and, as a result, thousands of farms, flocks, and herds have been depleted and the finest lands made unfit for cultivation. These European countries are looking to Canada for good breeding stock to restock their abandoned farms. The demand is unlimited, and European markets will be able to receive double our present production, if we can produce stock of the quality required.

It is the sires of high quality which have made many a herd great and have done so much good to the live stock industry of Canada. Often the highest priced stock is the cheapest in the end.

A pure-bred sire of good type and individuality is the one that should be used by every live stock breeder in the country. The sire whose ancestors have not made good, or that is a poor individual, will likely turn out to be a liability rather than an asset. His use will never improve live stock even if one does get him cheaply. He is dear at any price. It is also very important that the females used as a foundation, are good, strong, healthy animals of robust constitution representing the best type of the breeds which you are working with, and that they are descendants from ancestors that have proved worthy of the breed they represent in regard to conformation, quality, and production.

This year above all others, with the high price of hay and live stock, farmers should endeavor to utilize to the best advantage possible, all roughages such as straw, corn stalks, etc., by running these through a cutting box and mixing with a small amount of cut hay, with the addition of a few pulped roots and a small

quantity of meal, you will have a food which breeding stock will thrive and winter very well on, and at the same time enabling the farmer to keep his usual quota of breeding animals.

A good many farmers are in the vicinity of lumber mills or finishing mills where they are able to procure sawdust or shavings for bedding in the place of straw, or where they could use dry muck for an absorbent. By utilizing all the home grown roughages and keeping more live stock, the farmer will be increasing the fertility of his farm by a method which has been proved most conclusively the best and most economical way of maintaining agricultural production, never more essential than at the present time.

WINTER FEEDING OF DAIRY COWS

(Experimental Farms Note.)

Cows are fed in the stable during one half of the year or more and feeding during this period may, through ignorance or on account of using unsuitable feeds, be made very expensive. The profits from the herd will, of course, depend to an extent on the economy of the methods of winter feeding followed.

Economical feeding does not mean scant supplies, but the using of the kinds of feeds and feed combinations that will be likely to produce the best results at the lowest cost.

As the milk produced depends upon the quantity and quality of the feed consumed, every effort should be made to supply the cow with all she will eat of a ration combining palatability, easy digestibility, variety, and nutrition.

The most economical ration must have as a basis, cheap but rich, nutritious, farm-grown roughages, such as clover hay, ensilage, and roots. The liberal feeding of meals is advisable to balance the roughage ration and to provide the heavy milking cow with an extra supply of nutrients in a less bulky form.

A pound of grain when the cow is fresh is equivalent to several pounds of grain after the cow has decreased materially in her milk flow. Feed one pound of meal for every 34 pounds of milk produced as her lactation period progresses, decrease the meal gradually to one pound for every five pounds of milk produced.

The following are two well-balanced daily rations for the 1,000 pound dairy cow suitable to the individual needs of farmers throughout the district:

No. 1. Mixed hay 16 pounds, turnip or mangels 40 pounds, meal mixture composed of bran 6 parts, ground barley 2 parts, oil cake 1 part, and cotton seed meal 1 part. This meal fed at the rate

of 1 pound per 34 pounds of milk produced.

No. 2. Mixed clover hay 12 pounds, corn ensilage 30 pounds, meal mixture composed of bran 5 parts, cotton seed 2 parts, oil cake 1 part, fed at the rate of 1 pound for every 3 or 34 pounds of milk produced.

All cows are not of the same temperament. On this account a study should be made of the requirements of the individual animal. In the best-bred herds, therefore to obtain the greatest profit, records should be kept of both milk and feed, and tests made occasionally to ascertain if it would pay to increase or decrease the grain.

Cows, in order to make a maximum production at a minimum cost, should be housed under the most favorable conditions, that is, in regard to cleanliness, good ventilation, plenty of light, with necessary bedding and occasional grooming.

A cow should have all the good quality roughages she wants, with a well-balanced grain ration regulated by her production, also plenty of fresh water, and from one to three ounces of salt added to her feed daily.

THE USES OF SPHAGNUM MOSS

(Experimental Farms Note.)

These plants (for there are many species of Sphagnum) grow best in a climate that is moist and only moderately warm in summer. They are one of the chief forms of vegetation to be found growing in the swampy regions known as "Muskegs." Sphagnum bogs occur principally in Newfoundland, the Maritime Provinces, Northeastern Quebec, Labrador, and the western parts of British Columbia.

The Sphagnum plant consists of a stem and branches which are clothed with small, numerous, overlapping leaves. They differ from most other mosses in being entirely devoid of rootlets. Another peculiarity of Sphagnum is that the leaf never has a central vein or midrib. The outer part of the stem as well as a considerable part of the leaf is composed of a large number of special "absorbent cells" which are able to take up and hold water like a sponge. The amount of water absorbed varies according to the species but ranges from ten to twenty times the weight of the dry Sphagnum.

Owing to the ability of these cells to absorb the water required by the plant for its development, the presence of rootlets is unnecessary. Sphagnum usually

grows in a situation where the soil underneath is permanently damp.

Sphagnum or Bog Moss has been used for a considerable period as a packing material for plants. Owing to its power of retaining moisture, it helps to keep rooted plants in a fresh condition until they arrive at their destination. It is also extremely useful when dried, as bedding material for horses.

But it is owing to its use since the beginning of the war in the form of absorbent pads for dressing wounds that Sphagnum has recently gained an importance hitherto unknown. Cotton is so largely in demand for the manufacture of explosives that some substitute had to be found, and in any case cotton wool has an absorptive power of only four to five times its own weight. Of the species of Sphagnum found growing on this continent four are used for the purpose. When collecting the moss great care should be taken to have it free from any admixture of leaves, twigs or roots of other plants which may be growing in the immediate vicinity. Each handful should be squeezed gently, to remove excessive moisture, but care should be taken not to break the main stem. The moss should be spread in thin layers to dry; before the drying process is complete it should be gone over carefully and sorted, after which the dried moss may be packed into bags or light boxes for dispatch to the depot where it is required. The final making up into pads of the sizes required should be left to be done by the experts of the war Department.

At the present time Scotland is turning out these pads at the rate of four millions per month, while Canada during the year 1918 was asked to supply twenty millions of such pads.

BRITISH GOLFERS COMING TO AMERICA

Chicago, December 7.—Harry Vardon, James Braid, Edward Ray, and J. H. Taylor, British golf experts, who have won many championships and are known to golfers on this side of the Atlantic, plan to visit the United States next season. This information is contained in a letter to Alec Duncan, local professional, from his brother, in London, which was made public to-day. The British professionals expect to engage in matches with American players, and may enter the National and Western open championships.

"Charley, dear," said young Mrs. Torbins, "when you play the races do you depend on tips or use your own judgment?" "Why do you ask?" "I was hoping you depend on tips. I'd hate to think your judgement about anything could be so bad."—Washington Star.

MAPLE SUGAR INDUSTRY IN QUEBEC

The maple sugar industry in the Province of Quebec dates back almost to the discovery of the country, but it has only been for the last forty years that it has been carried on in an improved and economical manner.

The total production of maple sugar in Canada is 27,800,000 lbs. Of this amount, the Province of Quebec produces 18,270,000 lbs., or about two-thirds of the whole. Ontario produces 9,046,000, or about half of Quebec's production, and the Maritime Provinces produce about 500,000 lbs.

The production in Quebec brings in a revenue of \$1,680,000 per year. With the encouragement the maple sugar industry is receiving now from the Government, it is confidently expected that this sum will be trebled in a few years.

Model sugar schools have been established throughout the Province by the Minister of Agriculture, Hon. Mr. Caron, and these schools, largely visited as they are by the farmers and others interested in producing good maple sugar have done a great deal of good.

The method of procedure in getting maple sugar, is for the producer to choose a place on the maple where the bark is strong and without blemish, and then pierce deep enough to hold the spigot bearing a can full of sap.

Three points are essential in making first-class sugar. First, is to commence operations with cleaned and well-washed utensils. All vessels which have contained sap must be frequently washed. Secondly, gather the sap every day. The sap spoils very quickly in the air, and requires to be evaporated as soon as possible. The third point is to see that the fire is well managed. Very dry wood is needed. The shorter time sap is on the fire before turning into syrup, the finer the syrup will be.

Quebec sugar farmers are now after quality in their maple sugar products. They believe in the old principle that a good article is always easy to sell, and there can never be too much of it. Syrup retains the flavor longer than sugar.

A law for the safeguarding of pure maple products was adopted in 1915. It provided that no one be allowed to sell maple sugar or syrup unless it is absolutely pure, in conformity with standards fixed for these products. The manufacturer or seller of adulterated maple sugar or syrup is liable under the law to a fine of from \$50 to \$1,000, and in default of payment to an imprisonment of two to six months.

Minard's Liniment Cures Garget in Cows

THE SPIRIT OF SANTA CLAUS

If ever Canada deserved a revival of the Spirit of Santa Claus, it is this year—1918. Commemorate the "Peace Xmas" with a gift to all your friends. Even though it be small, let it be useful. Every nook and corner of our great store is aglow with the Xmas spirit. Throughout the entire store, Xmas readiness is supreme, and all our preparations are complete, to make your Xmas shopping a pleasure.

GIFTS FOR YOUNG LADY

Silk Hosiery in all the new shades from the medium to the pure Silk.
Taffeta Silk Petticoats in plain and changeable shades.
Sett of Black Fox Furs.

A big lot of Ladies' Silk, Satin, and Serge Dresses, of the better sort. Dresses worth \$18.00 to \$25.00. Prices for the "Peace Xmas" \$14.90. All sizes and colors, one price.

Kimonos of Fancy Blanket Cloths which possess good qualities, at moderate prices, \$2.00 to \$4.00.

COAT SPECIALS!! Handsome winter Coats, warm for cold weather, and rich enough for dress or better wear. Some with big collars, others Fur trimmed.

FOR "MY BOY"

Nice Neckwear
Silk Initial Handkerchiefs
Khaki Handkerchiefs

Hundreds of warm Sweaters, all sizes and styles. Biggest variety of any store.

Girl's Skating Sets, pretty combinations.

Rain Coats for women and children, specially marked for "Peace Xmas."

SPECIAL BARGAINS

Imported Swiss Taffetas and Wash Satins, 36 inches wide, in a variety of colors that many of the big city stores could not show you. Selling away below their present day value, being contracted for 12 months ago.

Georgette Crepe Waists. Our "Peace Xmas" showing for gifts is remarkable in quantity, variety of colors, styles, and prices. This is a line to boast about. We expect every woman to have one of our "Peace Xmas" waists.

Women's Silk Poplin Skirts, regular value \$6.50, special Peace offering \$4.98.

3 Specials of Great Merit

First: Crepe de Chine Camisoles, made of Pussy Willow and Crepe Silk, lace trimmed. See them!!

Second: Boudoir Caps in Crepe and Satin trimmed with Val. lace and insertion. Some rare beauties. Buy now when you can get them from 50c. to \$1.00.

1000 Boxes Ladies Handkerchiefs, 3 in a box, to sell at the old time prices, 25, 35, and 50c. per box.

Useful presents for everyone: Warm Blankets, Large, Heavy Puffs and Comfortables.

FOR MOTHER.

Knitted Wool Skirts.
Sleeveless Wool Jackets.
Warm Shoulder Shawls.
Good Wool Gloves.
Suit of Warm Underwear.

Third: Ladies Neckwear. Nothing but the very best and latest. Some very choice for a "Peace Xmas" gift.

Gift Umbrellas are always appreciated. The new Umbrellas are smart in design, and include Green, Navy, and Purple, with handsome borders. Cord, Strap, and Bracelet handles are among the latest styles.

SPECIAL MUFF BARGAINS!! 100 Large Muffs in Hudson Fur. Regular \$5.50, "Xmas Peace" offering \$3.25.

FOR THE KIDDIES

Infants' Sweaters
Crochet Jackets
Infants' Leggings
Infants' Booties and Mittens
Infants' Bibs
Infants' Sleigh Robes

We have won the War—let everyone celebrate—and make it a grand "Peace Xmas" with a gift to all their friends.
A MERRY CHRISTMAS TO ALL!

C. C. GRANT,

St. Stephen, N. B.