

"shoves" from a handful of broken flax when held against them. A small oil engine is the most convenient source of power, but electric or water power, if obtainable, will do equally well. Scutching is generally carried on during the winter months and should only be done by an experienced workman.

Yield.—About two tons of dried flax straw with the seed on are considered an average yield per acre. The average yield of flax seed per acre for the whole of Canada for the five years from 1911 to 1915 was 11½ bushels, while the average yield in the Province of Ontario, where the crop was grown primarily for fibre, was for the same period 16½ bushels per acre. With proper attention an average yield of 450 pounds of scutched fibre per acre should be obtained.

Flax fibre is absolutely necessary for the construction of aeroplane wings. Flax, therefore, is an indispensable munition of war. Russia and Belgium formerly supplied five-sixths of Great Britain's demand; now they supply little, if any. Consequently, and despite the greatly increased acreage of flax in Ireland in 1917, Great Britain has not now more fibre on hand than is sufficient to keep the mills running one and a half days a week. To further complicate matters, the flax seed crop in Ireland was perilously near a failure last year. So serious indeed was this seed shortage that the members of the Irish Linen Industry held a meeting in Belfast last January to consider the situation. Finally it was agreed that £2,000,000 should be provided to plant 10,000 acres in Ireland with Western Canada oil seed, as a monster experiment to prove whether or not this inferior variety of flax could be utilized as a fibre crop. The Ontario-grown flax is a fibre flax. It is the seed of this kind of flax that should have been used in Ireland, if it had been available.

In 1917 thirty-three flax mills were operated, 6,000 acres were planted, and 2,600,000 pounds of fibre and 45,000 bushels of seed were produced. Our flax business last year had a total value of \$2,000,000. Moreover, the seed produced will accomplish a vital mission abroad, as a large part of it has been shipped to Ireland to meet the great seed deficiency there. And for 1919 Ireland will require more seed of the Ontario fibre flax.

Excellent though last year's effort was, greater effort is needed in 1918. Already flax-growers are planning an 8,000 acre production, at least. Each of the thirty-three mills is in the market for all the straw and seed that can be secured, and good prices are assured the grower. This latter encouraging feature is made the more sure as a sufficient tonnage of ocean bottoms will be available to transport a greatly increased crop to English and Irish mills.

The arrangements made in the past have, for the most part, provided for the leasing of flax land by the mills at a rental of from \$10 to \$15 an acre. The grower ploughed the land, prepared the seed-bed and hauled the crop to the mill—except where the crop was carried on the railroad. The mill operator supplied the seed, often did the seeding, and always harvested the crop. The flax was pulled by hand and the workers were housed in the fields in tents. Their transportation was paid by the mill company, and they received \$15 an acre for pulling. It took a first-class puller three days to finish an acre. As the workers prepared their own meals, the growers were in no way inconvenienced by having them on their farms.

While this system is still followed almost entirely, farmers may very profitably grow flax, doing all the work and selling the crop outright to the mills. An acre of good flax will produce some nine bushels of seed and two tons of straw. The seed sells now for from \$7 to \$9 a bushel, while the price of straw will be dependent upon quality. It cannot be too strongly emphasized that a small acreage of flax of the highest quality is more valuable both in terms of dollars and aeroplane wings than a large area of inferior flax. Quality rather than quantity must be the slogan. In case labor conditions prevent the pulling of flax the crop may be harvested with a binder, the seed sold at a remunerative price, and the straw at about \$15 a ton.—From Dominion Circular No. 77 and Organization of Resources Circular No. 7.

White Flour Forced on Buyers.

EDITOR "THE FARMER'S ADVOCATE":

There is a matter which has been a wonder to me for some time past and would like to have your opinion on it. In every paper we pick up these days there is the cry to use other articles of food to save the white flour, so much needed by our boys at the front, yet in the County of Dundas a buyer cannot order a car of feed without taking one-fifth of it in white flour. Farmers going to our stations for feed are coaxed, yes almost compelled, to take home a bag of white flour and I know one farmer who took 10 bags rejected by the other farmers who didn't need it and said he would use it for pig feed. And yet we are told to make graham flour, cornmeal, etc., take the place of the white as much as we possibly can on our tables. This is true at two stations at least in Dundas, and probably in plenty of other counties, too, and can be plainly seen by anyone who goes there. Furthermore we buy bread at many of the neighboring bakeries and can almost never get a loaf of brown bread, although we would be glad to do so. I should like to know why white flour is so common that it can be used as pig feed in this county and yet we are continually reading "substitute the white flour."

Dundas Co., Ont.

Note.—There can be no doubt as to the necessity of conserving wheat, yet the complaint voiced in the foregoing letter is only too common. Why it is that the authorities have not shown a stronger hand in this matter we cannot understand.—EDITOR.

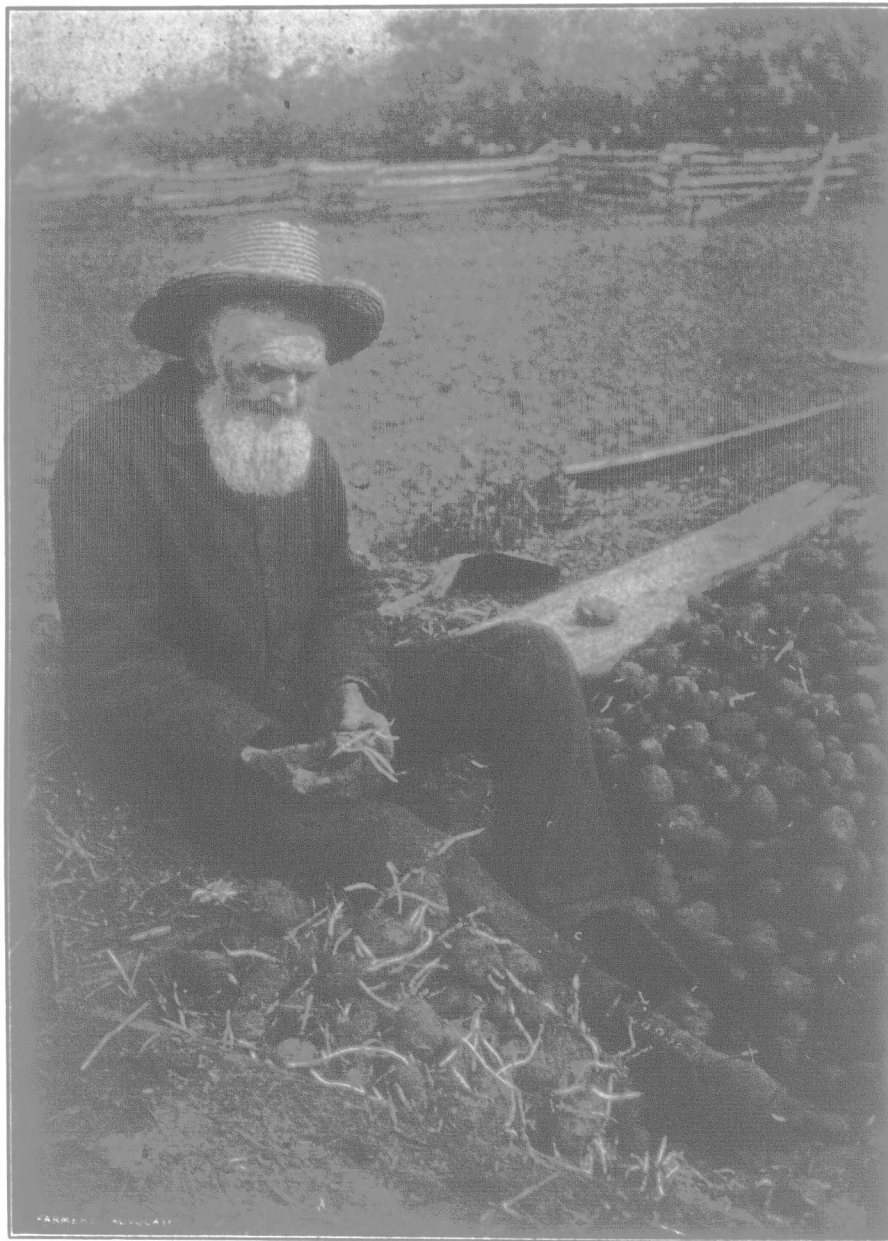
The Barberry and Wheat Rust.

BY PROF. J. E. HOWITT, O.A.C., GUELPH.

At the present time when "wheat, more wheat" is the cry that reaches us from the firing line, and when the success of the Allies and the very freedom of the world depends upon sufficient food supplies to maintain our armies in the field, no possible means of insuring the maximum yield of wheat per acre should be overlooked. Therefore, the attention of all concerned in wheat growing is again called to the relationship of the barberry to the stem rust of wheat.

It is not necessary to go into the complicated life-history of the fungus which causes stem rust of wheat and other grains. Scientists have known for many years that one phase of its life cycle is passed on the barberry, and all who have made a study of the matter agree that the amount and severity of stem rust is very much increased by the presence of the barberry in the neighborhood of grain fields.

In several States and in Ontario, legislation has been passed regarding the destruction of this shrub. So far as this Province is concerned the "Act" respecting the barberry shrub appears to have been a dead letter up to the present time. This "Act" should be enforced. The barberry in Ontario should be destroyed. There is strong evidence to show that barberry bushes are centres of infection which in wet seasons may give rise to severe epidemics of stem rust. This is especially likely to be the case this year when so much more spring wheat than usual is being grown.



Signs of Spring.

In Denmark it is recorded that there used to be severe epidemics of stem rust of wheat every three or four years. Ten years ago a law was passed which resulted in the extermination of the barberry. Since then epidemics have not occurred, and stem rust has ceased to be a factor in causing loss.

While scientists do not expect to see rust entirely disappear if the barberry is destroyed, the general consensus of opinion seems to be that if it were completely exterminated the chances of severe epidemics of stem rust occurring would be greatly reduced.

Let all concerned realize that the barberry does increase the amount and severity of stem rust of wheat, and a sentiment will be created for the enforcement of the present "Act" respecting the barberry shrub which, if properly enforced, should do much to aid in ridding the Province of this menace to wheat. There should also be individual action. Farmers should search out and destroy any barberry bushes that may be growing on their farms.

The common barberry is the culprit. The average man does not know this shrub when he sees it. However, a little study should enable anyone to recognize it. It is a spiny bush, from six to nine feet high, with

yellow wood, arching branches and grey twigs. The leaves are bright green, smooth, somewhat oval, from one to three inches long, the margins with bristly teeth. The flowers are small, yellow, and borne in long, drooping clusters. The berries are oblong, red and sour. Unfortunately, the barberry has been much planted in some sections of Ontario for ornamental purposes and has become wild in many localities.

If barberries are required for ornamental shrubs, the low-growing, small-leaved Japanese Barberry (*Berberis Thunbergii*, D.C.) may be planted, as this species does not harbor the rust.

Ontario Crop Outlook.

The following information regarding agricultural conditions in this Province is contained in a bulletin prepared by the Ontario Department of Agriculture, based upon information furnished by a large staff of correspondents under date of April 12th:

Wintering Crops.—Although most farmers who grow winter wheat had intended to increase their acreages last fall, the late harvest and the scarcity of help kept the area sown to about that of the preceding year. Considerable of the crop had hardly enough top to enter the winter satisfactorily, although otherwise the young plants appeared to be vigorous. After the snow cleared off, the nights continued very cold, and the crop suffered from the alternate freezing and thawing of the unprotected fields. The present appearance of the young wheat is not encouraging, most of the fields being

more or less brown and patchy, and all of them standing in need of good spring rains, as the latter part of March and the early days of April were cold and clear with practically no rain, while frequent winds helped to make the ground exceedingly dry for the season. A few good warm showers may yet help the crop to pick up, but the general opinion is that a good deal of drilling in of spring grains will be necessary, and also some plowing up of portions of the fields, in fact some reseeded has been done already. In those counties in Eastern Ontario where fall wheat is raised it has done better relatively than in the Western Counties where the crop is more largely grown.

Winter rye has also suffered injury by the trying spring weather, but not to so great an extent as the wheat.

Clover, however, has come through better than either wheat or rye. While some heaving has been reported, and while looking sick in places, the general appearance of the fields is encouraging, considering the rather unfavorable spring for young crops wintering over. As correspondents reported, the crop was needing rain in order to receive a good spring start.

Orchards.—Unusually low temperatures during the winter injured some of the buds on tender varieties of peach trees, and froze back a portion of the young wood on some grape vines, but the total amount of damage is not serious. There are complaints of girdling of young fruit trees by field mice and rabbits. The general condition of fruit trees, however, is favorable.

Live Stock.—Horses are plentiful, and drivers and undersized general-purpose animals are selling cheaply, but heavy working horses are more in demand, and are commanding good prices.

Cattle are in good general condition, although not so many beef animals are being fed, owing to the high price of grain and millfeeds. Many dairy cows are falling off in milk from the same cause, and owners are eager for early grain.

The swine industry is at high mark. More brood sows are kept than ever before. What is known as "The Hog Campaign" has been pushed widely and vigorously for several months past, and farmers generally are raising all the young pigs they can feed, considering the discouragingly high prices of all classes of feed and the comparative failure of the corn crop. A Wellington County correspondent states: "I have raised already 200 sucking pigs, and could sell 400 more if I had them at \$7 each." There will likely be a steady increase in the number of hogs from now on, although

animals react relatively

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