

# Conservation

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## Heavy Losses from Barn Fires

Hay, Improperly Cured, May  
Cause Spontaneous Combustion

During the years 1912-1916 inclusive, no less than 5,200 barns were destroyed in Canada, with an aggregate loss of over \$7,850,000. These, like the majority of fires, might have been avoided by the exercise of intelligent forethought and proper care. Investigation shows that the most prolific sources of barn fires are lightning and spontaneous combustion. Evidence gathered from all-parts of Canada and the United States proves that rick buildings are practically immune from lightning damage, the cost being a mere fraction of the possible loss in case of fire, it is of economic importance to the farmer that every barn should be efficiently protected by lightning rods.

While it is more difficult to arrive at conclusions with regard to fires caused by spontaneous combustion, it is generally held that such fires are of frequent occurrence. Owing to the excessive number of barns burned in Ontario during the summer of 1916, an investigation was undertaken by Prof. W. H. Day, Professor of Physics, Ontario Agricultural College, in a view to discovering the exact conditions favourable to spontaneous combustion in stored grasses. It was proved that large quantities of imperfectly cured hay were frequently stored in barns with little air ventilation, and that the high temperatures reached during fermentation resulted in a number of fires. Farmers are not generally aware that the cells in hay continue their existence for some time after being cut and, when the moist compressed mass is housed in close bins, a temperature of 132 deg. F. is quickly reached. Added to this, the heat from microscopic spores, germinating seeds and the heat of sun upon the roof may raise the temperature of the mow to 212 deg. when charring commences. The carbon thus formed absorbs oxygen and the mass grows hotter, until, at 265 deg. F., visible combustion begins to place. Bran, grain and sil-

## Canada's Woodpulp Resources

Commission of Conservation Undertakes a Study of  
Conditions Looking to Perpetuation of Supply

Canada is undoubtedly to become one of the world's greatest sources for the supply of woodpulp and paper. This industry has grown by leaps and bounds during recent years, and further large developments are to be anticipated, both in the east and the west. This will mean a constantly increasing strain upon our forest resources, and must result in careful consideration as to whether very large areas, in which the heaviest cutting is being done or is to be done, are not in danger of depletion.

The ravages of fire have been very serious in our pulpwood forests, and the question arises also as to whether present methods of cutting are sufficiently controlled to ensure the reproduction of another forest on cut-over lands. The area of pulpwood lands in Canada is so great that, if fire can be kept out and the reproduction of the forest secured through proper regulation of the cutting methods, the annual growth will provide the basis for an enormous development of the pulp and paper industry for all time to come. This means the practice of forestry, of which we have as yet in Canada only the beginnings.

The Commission of Conservation has started a study of these fundamental problems. This investigation will have for its objects the determination of the extent to which cut-over pulpwood lands are reproducing valuable species in potentially commercial quantities; the effect of fire on reproduction, and the rate of growth of the reproduction present, to determine how long after cutting one may reasonably expect another crop. The answer to these questions should go far in determining what additional measures are necessary to place the business of pulpwood production upon a thoroughly permanent basis.

The work for this season will be under the direction of Dr. C. D. Howe, of the Faculty of Forestry of Toronto University. A co-operative arrangement has been made, under which the first part of the study will be made upon the limits of the Laurentide Company, whose forester, Mr. Ellwood Wilson, will co-operate in the field investigations. It is expected that similar studies will be made in other sections of the pulpwood forests of Canada during succeeding years. The results will undoubtedly be of the greatest interest to all who are directly or indirectly concerned in the perpetuation of this great industry.—C.L.

age may also ignite spontaneously under similar conditions. The remedy for spontaneous combustion is simple and easily applied. All hay should be perfectly dry before storage. In mixed grasses, special care should be given to the clover. Timothy may appear perfectly dry while the heavy stalks of clover may retain a large percentage of moisture. All barns should be provided with ample top ventilation. If these simple matters are

given the attention they deserve, spontaneous combustion will cease to figure as a cause of barn fires in Canada.

Until recently, British Columbia herring was little used except as bait for halibut fishing. During the past season, after experiments, 22,000 cases of herring were packed in various ways, such as kippers and in tomato sauce and oil.

## Get Ready the Machinery

Time May be Saved at Harvest  
by Being Prepared

Time is money on the farm at harvest time. Now is the time to repair the mowers, binders and rakes which will very shortly be required for service. All machines should be inspected now and, if any parts are broken or missing, they should be obtained immediately. It is much better to secure what is needed now than to risk having to make a special trip to town during the busy season, thus causing a serious delay and, possibly, extending the harvesting of the hay or grain crop into wet weather. It is also an excellent plan to keep on hand a few extra pieces or parts which need frequent renewing, such as knife sections, canvas slats, reel slats and braces, rivets, etc. These are convenient to have and will often save time and annoyance.

Clean out the oil cups and oil all running parts of the machinery a few days before it is to be used. This will allow the oil to penetrate to the bearings, and permit the machine to quickly get into smooth running order.

The knives should all be sharpened and in readiness. These things should be particularly attended to this year. Help is scarce, production is needed, and if crops are to be saved with as little loss as possible good management must prevail. It is good business to be ready for the harvest season. Do it now.—F.C.N.

## RECLAIMING WASTE PAPER

A process, known as the Jasper-son de-inking process, by which the printing ink is removed, has been developed for the reclamation of printed papers. This will permit of old newspapers, magazines, etc., being utilized for the making of newsprint. Previously, this material could be used only for the making of the rougher grades of paper, where the ink content was not a drawback. The application of this process should be a further incentive to the saving of waste paper.