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Forest Fire Fighting

Prompt Action Necessary to Prevent Rapid Spread of Fire When Started

In a recent report, Mr. Page S. Bunker, formerly of the U. S. Forest Service and now Forest Warden and City Forester for Fitchburg, Mass., calls attention to some popular misconceptions relative to the control of the forest fire menace. Mr. Bunker's statements are equally applicable to conditions in Canada.

Certain didactic statements, made early in the development of American forestry, have unquestionably, according to Mr. Bunker, acted in the past to the detriment of forest protection. One of these fallacies is found in the general impression that the best time to fight a forest fire is at night. It is well to correct this belief by stating that the best time to fight a forest fire is all the time that it is burning. This principle should be taken in its literal sense which is also its broadest sense.

Another erroneous belief, early expressed, is evidenced by the statement that the use of water is of little aid in combating fires in the woods. As a matter of fact, the use of water intelligently applied, even in small amounts, is one of the most practicable and effective means of checking a fire. Still another erroneous belief which, while not as generally accepted as the others, nevertheless needs correction, is that the point of attack should be along the flanks of a fire, working toward its head. In practically every case, the logical point from which to attack the fire is in front of it, checking its head and later working down the flanks.

Perhaps the greatest fallacy of all is the belief accepted in many quarters that the extinction of a forest fire can best be attempted through the indiscriminate employment of a large mass of unskilled labour. As compared with no protective measures whatever, mere mass methods may retard the rate of destruction but at a cumulative annual cost which, combined with the cumulative annual damage, may amount to an enormous expenditure in money and forest resources, even approaching a total loss of each to the full extent that

Canada's Timber Industries

Their Permanency Cannot be Assured Unless the Growth of Another Crop of Timber is Provided for

In a recent address before the Commission of Conservation at Ottawa, Mr. H. R. MacMillan emphasized the importance of timber industries to Canada. Mr. MacMillan is chief of the British Columbia Forest Branch and is now under temporary appointment as Dominion Trade Commissioner to Australia and other countries. His opinion is accordingly entitled to the thoughtful consideration of all Canadians.

Mr. MacMillan forcibly brought out the fact that timber industries cannot be permanent unless the growth of another crop of timber is assured, and that thus the practice of forestry is imperative as an economic measure. Every section of the Canadian public is interested. Roughly, the proportion of non-agricultural land in Canada south of the 60th parallel is: Nova Scotia, 81 per cent; New Brunswick, 72 per cent; Quebec, 76 per cent; Ontario, 64 per cent; Dominion Lands, 51 per cent; British Columbia, 85 per cent. Some of these Governments already have forestry departments; none can afford to be without some forestry organization, charged with the study, protection and administration of timbered and non-agricultural Crown lands. Such lands should be studied, in order that the protective and administrative measures adopted may be decided with a full knowledge of the value of the products to be expected from the land. In this way expenditure is avoided on inaccessible and non-productive land which will not yield returns, and the investment is made on those lands where quality and situation guarantee a profitable crop. In each province the area of timber-land is very great. The conditions of forest growth, of fire hazard, of utilization, are so variable that no rule of thumb methods may be safely adopted. The Forest Branch must include men trained to, and free to study, each of these problems, in order that loss of revenue may be prevented, and the most economical possible scheme of administration and protection worked out for each section of the country. In no case are these matters being handled as yet on a really adequate basis. In particular, there is everywhere needed closer attention to organization, coupled with larger appropriations. The latter are necessary in order that adequate protection may be afforded the vast areas of young growth which in many cases are now without protection of any kind.—C.L.

they are involved. One expert fire fighter, furnished with specialized equipment, develops efficiency equal to that of fifteen or twenty unskilled labourers.

Another lay impression, which has resulted in much loss, is that a fire which is not spreading at the moment is under "control." This term has little practical significance, especially in the case of large fires. Theoretically, it applies to that condition of a fire which obtains when an immediate increase of the hazard to its maximum limit will not enable the fire to extend beyond its existing bounds. Since such a condition seldom obtains before

the extinction of the fire, it readily will be appreciated that the term "control" has small place in the lexicon of the forest conservator. The complacency with which the temporary checking of a fire by natural or artificial means has been regarded by untrained fire fighters has caused the loss of millions of dollars in damage and expenditures.

Campers and others are apt to be careless regarding the wearing of damp or wet clothing. This practice is conducive to rheumatism and other ills. Care should be taken to have clothing and beds thoroughly dry and well aired.

Value of Liquid Manure

Great Waste Results from Loss of the Most Valuable Portion of the Manure

One of the most serious sources of loss of farm manure is the practice of allowing the liquid portion to drain away and be lost. On many farms there are stables with cracks in the floors through which the liquid escapes, and even today some farmers are guilty of boring holes in the floor to get rid of the urine from the farm animals. By so doing they are facilitating the loss of the most valuable and quickly available fertilizing portion of the manure.

While the analyses by various investigators do not exactly agree regarding the relative amounts of fertilizing constituents contained in the solids and liquids, all agree that the fertilizing elements contained in the urine of farm livestock is much greater than that in the solid dung. The serious nature of the loss which the farmer must suffer when he allows any portion of the urine of his domestic animals to be lost, or permits the natural drainage from the manure to escape, will be made very apparent by examination of the figures in the table here given showing the composition of these different classes of material. These figures are taken from an article by W. P. Brooks in *Cyclopedia of American Agriculture* by Bailey:—

COMPOSITION OF FRESH EXCREMENT

One thousand pounds of fresh dung contain:

| | Water | Nitrogen | Phosphoric Acid | Alkalies |
|-------------|--------|----------|-----------------|----------|
| | Pounds | Pounds | Pounds | Pounds |
| Horse | 760 | 5.0 | 3.5 | 3.0 |
| Cow | 840 | 3.0 | 4.5 | 1.0 |
| Pig | 800 | 6.0 | 4.5 | 5.0 |
| Sheep | 580 | 7.5 | 6.0 | 3.0 |

One thousand pounds of fresh urine contain:

| | Water | Nitrogen | Phosphoric Acid | Alkalies |
|-------------|--------|----------|-----------------|----------|
| | Pounds | Pounds | Pounds | Pounds |
| Horse | 890 | 12.0 | 0.0 | 13.0 |
| Cow | 920 | 8.0 | 0.0 | 14.0 |
| Pig | 975 | 3.0 | 1.25 | 2.0 |
| Sheep | 865 | 14.0 | 0.5 | 20.0 |

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