

Creosoted Piling and Cross-ties

Their Durability Increased by Treatment—Extensively Used on Pacific Coast

Wherever the teredo is found in the Pacific, untreated Douglas fir piles have a remarkably short life.

In Southern California the life of Douglas fir ties is about two and one-half years, but, in more favourable cases, untreated ties have not been replaced for seven years.

Some form of treatment is therefore necessary, if wooden piles are to be used in the more permanent structures. After considerable experiment, treatment with creosote has been recognized as the best method and is now used extensively on the Pacific coast.

The engineers of a large company recently investigated the economy of treating piles, now that creosote costs 10.04 cents as against 7.25 cents per gallon in 1912. The result showed that an increased cost of one cent per gallon increased the cost of treated piles one cent per linear foot, and that taking the life of untreated piles at eight years, it would be economical to treat piles until the cost of treatment reached 22 cents per linear foot, which corresponds to a creosote cost of 22 cents per gallon. These figures were based on a cost for untreated Douglas fir piles of 10 cents per foot, as against 30 cents for creosoted piles.

The life of a treated pile will depend largely on the condition of its outside surface after it is driven. Mechanical injuries, such as result from hooks, or hammer blows, are to be carefully avoided, but even more serious than these is the checking that may result from treatment or in driving.

Cross-ties are now extensively being treated with creosote and the accompanying table from U.S. Forest Service Bulletin 118 gives the estimated saving due to the treatment of ties with preservatives:

ESTIMATED ANNUAL SAVING DUE TO TREATMENT OF CROSSTIES WITH PRESERVATIVE AND USE OF TIEPLATES*

Species	Estimated life in years			Cost of Ties			Annual Charge in Track			Annual saving of treated over untreated Ties		
	A	B	C	A	B	C	A	B	C	B	C	
Cedar	11	7	5	\$0.46			\$0.103					
Langleaf Pine	7	20	10	0.52	0.80	0.90	0.159	0.103	0.103	0.056	0.042	
Douglas Fir	6	15	11	0.41	0.78	0.80	0.160	0.114	0.118	0.046	0.042	
Spruce	6	14	11	0.49	0.86	0.66	0.175	0.127	0.127	0.048	0.048	
Western Pine	5	17	12	0.53	0.90	0.70	0.215	0.115	0.123	0.100	0.092	
Lodgepole Pine	5	16	11	0.46	0.83	0.63	0.199	0.113	0.124	0.086	0.075	
Tamarack	5	15	11	0.41	0.78	0.58	0.187	0.114	0.118	0.071	0.069	
Hemlock	5	15	11	0.33	0.70	0.50	0.169	0.106	0.108	0.063	0.061	
Red Oak	4	20	12	0.45	0.82	0.62	0.240	0.098	0.114	0.142	0.126	
Beech	4	20	12	0.36	0.73	0.53	0.214	0.090	0.104	0.124	0.110	
Maple	4	18	12	0.45	0.82	0.62	0.240	0.104	0.114	0.136	0.126	

*In each case a charge of 25 cents per tie for tieplates and 15 cents for placement has been added to the cost of the tie, and is included in the computed annual charge. Creosote was assumed to cost eight cents per gallon. Interest charged at 5%.

A, untreated; B, treated with 10 lb. creosote per cubic foot; C, treated with 4 lb. zinc chloride per cubic foot.—W.J.S.



Cat No. 77

Corn Shocking Horse

Corn Shocking Horse

A Useful Farm Implement which can be Made at Home.

A useful corn horse for the shocking of corn in the field is shown in the above illustration. This implement may be made as follows: The main frame consists of a scantling 2x6 inches and 16 feet long, or a smooth cedar pole will answer. Two legs of 2x6 inch material, five feet long, should be mortised into and securely fastened to one end of the main frame; the other end is allowed to drag on the ground. A two-inch auger hole is bored through the main frame five feet from the upper end, so that a fork-handle may be put through to support the bundles or sheaves. A rope, with pulley attached, is used to draw the tops together, when they may be securely tied.—J. F.

It is better to be careful a thousand times than to be injured once. Get the safety habit. If you see a man acting carelessly, tell him about it.

Human interests demand, unconditionally, that useful birds should be protected, and that the destruction and increase of injurious ones should be controlled. This protection of useful birds depends on the supply of conditions necessary for their existence and increase.

Destruction of Rats

Systematic Methods Necessary to Secure Permanent Results

There are various estimates regarding the annual loss of property caused by rats in Canada. In the United States the loss is estimated to be as much as \$300,000,000. Of grain alone, they are estimated to have destroyed \$100,000,000 worth, or enough to feed a laying hen for one year for every man, woman and child in the country.

Co-operation and organization in rat destruction must not be overlooked. To destroy the rats on only one farm in a community has little permanent effect, since they are soon replaced from neighbouring farms. If plenty of food is left unprotected and within reach of the rats, they are sure to multiply rapidly and become a serious pest. Care should be exercised to protect grain, roots, vegetables and other foodstuffs on the farm. Poorly-fed rats will not multiply so rapidly and are more easily trapped.

The use of concrete for floors or wherever rats burrow, will do much towards reducing the loss from these pests.

The value of dogs as ratters can hardly be over-estimated. Small Irish, Scotch and fox terriers can be properly trained and are superior to other breeds. Under reasonable favourable circumstances a good terrier may be relied upon to keep farm premises free from rats. Such natural enemies of rats as hawks, owls, and smaller predatory mammals should be given protection. Greater cleanliness about stables and farm buildings, care in construction of buildings and drains, the early threshing of grain, to remove food and harborage, the removal of piles of trash from the fields, and the systematic destruction of rats are important aids in limiting their numbers and in reducing the losses from their depredations.—F.C.N.

The Dustless Cleaning of City Streets

Climatic Conditions in Canada Favourable to the Adoption of this Method

Canada's climatic conditions to a certain extent peculiar to herself, impose handicaps in the care of pavements which are hard to overcome.

The dust of the asphalt pavements on business streets is the admitted cause of immense damage to stocks of merchandise and also is very disagreeable to the individual. This is especially so in early spring and late autumn, when the water sprinkled on the pavements freezes, resulting in accidents to horses and pedestrians.

Water used on pavements at such times is also the cause of serious damage to them, as it soaks into the crevices in the pavement, and freezing, causes the upheaval and disintegration of the asphalt. This is especially noticeable along the curbs and street car lines.

Dustless street cleaners, operated on the combined vacuum and sweeper principle, are in use in a number of North American cities. It is claimed that their work is entirely satisfactory, that after cleaning, no sprinkling is necessary, as the dust has been thoroughly removed. The advantages of this system are numerous, including the absence of the dust nuisance, resulting in conservation of both health and property; the saving of water and a large percentage of the cost of sprinkling; the saving of labour in street cleaning, and the avoidance of damage done by water to pavements in frosty weather.

This method of cleaning streets should appeal to the engineering departments of our Canadian cities as another step forward in sanitary science.

Care Required in Storing Potatoes

Potatoes should be thoroughly dry and should be stored in a cool, well-ventilated cellar or storeroom which is perfectly dark. Do not pile the potatoes in heaps on the floor or against the wall; slats should be nailed about one inch apart and four inches from the wall; a temporary floor should be laid about four inches above the permanent floor, with openings between the boards. This will allow the air to circulate through the pile. Large piles should have ventilators running through them. These should be made of wood, with slats on two sides for openings. The temperature of the cellar or storehouse should be kept as nearly as possible at from 33 to 35 degrees. The cooler potatoes are kept without freezing, the better. If too warm, their value for seed is lessened, as they sprout too early.—J. F.