

wasted in the cutting, as slash, stumps, rejected whole trees left to rot where they fall, etc. And when the 72 per cent. that goes out as logs gets to the mill another chapter in the story unfolds - perhaps the biggest waste item of all. For here each log yields only a trifle more than half its bulk as usable lumber. Some 47.4 per cent. goes to the blazing trash-heap of the mill, as bark, slabs, sawdust, and other refuse. Thus only a little more than one-third of the trees of an average forest area ever reach the lumber yard as beams and boards.

Further wastes occur in the lumber yard. Decay again creeps in, and losses due to careless handling and seasoning.

And so the story goes. Losses again in building the house. Losses in furnishing it - furniture factories shave off as waste as much as 60 to 75 per cent. of the wood they take in. Losses in keeping the house in repair; for there again the demon of decay gets in its deadly work. Losses through decay in fence posts, telephone poles, railway ties; government estimates show that 50 per cent. of each year's new stock in these three items must go to replace losses due to decay.

It is against this blind devourer, decay, that the main drive of the conference is made. Replacements through reforestation of denuded areas are necessarily slow. Protection against fire and other destruction of forests can only hold stationary what is there already. Immediate results must be sought through the stopping of the leaks of waste and decay.

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#### PIGS' RHEUMATISM CURED BY DOSE OF SUNLIGHT

Even pigs need the sun. Recently doctors proved that children who were allowed to play in the sunlight were not troubled with rickets, or malformation of the bones.

And now Dr. Harry Steenbock, E. S. Hart, and J. H. Jones of the University of Wisconsin have proved that sunshine is a preventative of the rickets, or rheumatism, common to hogs in northern states.

Dr. Steenbock in a series of experiments with rats had recently demonstrated that foods exposed to sunlight can be used as a cure for rickets. It remained to be determined whether or not exposing the pigs to sunlight would have the same effect.

Twenty-four pigs, reds and blacks, were used for the experiment. To discover whether it was the sunlight alone that prevented the disease they were divided into groups of six. Two of these groups were fed on yellow corn, which is rich in antirachitic vitamin, the other two were fed on white corn which contains less of the antirachitic vitamin.

Two of these groups were placed in "dark" pens and two in light. The "dark" pens could not be considered dark in the ordinary sense of the word, but the pigs in them were shielded from the direct rays of the sun. Both groups were placed in inside pens with outdoor runways. The outdoor runways of the pigs kept in the dark were roofed over with a composition roofing which kept off the direct rays of sun.

The range of the experiment was from June to January. The time is important as the intensity of ultra-violet solar radiation varies decidedly with the season

of the year. Rickets occur in children most often in the seasons when the sunlight contains less of the ultra-violet rays.

As a criterion of progress the pigs were weighed every two weeks.

A great irregularity in growth was shown varying with the reserves of vitamin stored up by the animal from birth. It is impossible to produce rickets in any animal that has been long fed a ration rich in vitamin before the experiment. Dr. Steenbock concludes that ultra-violet light can substitute for the vitamin preventing rickets but not for the vitamin (A) which promotes growth, and that in spite of radiation, growth will cease on exhaustion of stored reserves of Vitamin A.

The yellow corn group grow better than the one on white corn. In the yellow corn group light was found to be extremely beneficial to the animals. Little by little, the pigs kept in the dark stiffened until they could hardly walk, even with extreme provocation.

On microscopic examination the bones of all pigs that lived in the light were seen to have a more regular structure and better arrangement of tissue than those that lived in the dark.

The experimenters conclude that "light in the absence of a sufficiency of the antirachitic vitamin is an important factor to consider in swine industry. In fact, there remains no question, in view of the conditions under which pigs are generally kept and fed in northern climes, that more attention should be paid to illumination.

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#### EASY TRANSPORTATION CAUSE OF DISAPPEARING FORESTS

America's far-flung transportation system has been one of the main causes of forest depletion, and may be turned into its principal cure, according to William B. Greeley, chief of the United States Forest Service, and chairman of the National Conference on Utilization of Forest Products.

"It is worth pointing out that the United States is the first country where the exhaustion of timber in one section could be readily met by the cutting of forests 2000 miles distant," he said. "Our transportation system has largely concealed the ultimate outcome of the exhaustion of old growth timber.

"This marvelous tool of transportation ought to be employed with equal effectiveness in carrying out the economies now forced upon us. It ought to make a local surplus of waste timber or inferior woods nationally available.

"An official of an important New England railroad recently proposed that low grades of lumber be given lower freight rates in order that the railways may get the benefit of the traffic. If this proposal is sound from the standpoint of the railroad, it is doubly sound from the standpoint of timber conservation."

Mr. Greeley also re-emphasized the importance of preventable decay. "Preventable decay probably destroys enough wood annually in the United States to build a city for a million people," he said.

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