United States Department of Agriculture Special Page

Bulletins and Special Articles Issued by the Government, of Interest to the Northwest; Suggestions Covering a Wide Range of Activities; Results of Federal Investigations, Etc.

Wood Pipe Should Last 20 Years

As practically all the wood pipe made of fir comes from the Northwest, the interest of the Government in the durability of wood pipe should encourage timbermen in Oregon, Washington and Idaho. There is little question of the superiority of wood pipe over steel in the majority of cases, as is testified to by the millions of dollars invested in wood pipe lines in America.

"HOW long will it last?" is a question asked perhaps more than any other concerning the use of wood pipe for irrigation. That the life of such wood pipe should be at least 20 years if the pipes are fully exposed and supported free from all contact with the soil; if the material is either fir or redwood; and if the pipe has been properly maintained, is the conclusion of a specialist of the United States Department of Agriculture in a professional paper on "Wood Pipe for Conveying Water for Irrigation" (Bulletin No. 155). Irrigation engineers and the owners of irrigation works will be particularly interested in this new pamphlet, which may be had free of charge by applying to the Department of Agriculture, Washington, D. C.

Many millions of dollars are already invested in wood pipe lines in the United States and this amount is being increased annually. Protection of these investments demands that existing pipe lines be maintained and operated in accordance with what experience has shown to be the best practice. Future investments should also be safeguarded by designing, maintaining and locating new pipe lines according to the best known practices.

Life Short for Buried Pipes.

The length of life of wood pipe is dependent on the life of the wood rather than on the life of the bands, although contrary theories were held 30 years ago. Only in rare instances have the bands failed first. Corrosion of the bands being a chemical action, requires the presence of moisture and oxygen. It usually occurs most rapidly where pipes are buried and the backfill is wet, under conditions which, as a rule, are most favorable for the life of the wood. Corrosion is greatly accellerated by the presence of alkali in the soil.

The decay of wood pipe is due primarily to the growth of fungi, though possibly certain forms of bacteria may assist in the final destruction of the wood cells. The growth of fungi to an extent detrimental to the life of the wood requires a favorable combination of moisture, air and heat. The exclusion of any one of these beyond certain limits inhibits their growth.

Exclude Air.

It follows that with pipes buried in the ground the wood will endure longest where the air is most nearly excluded either by a high internal pressure which completely saturates it or by a deep covering of very fine soil.

In accordance with the foregoing statement experience shows that in contact with the soil wood pipe decays more rapidly under a light head than it does under heavy pressure, and other things being equal, it usually decays more rapidly in a porous open soil, such as sand or gravel, than it does in a fine soil of silt or clay, because the finer soil is more effective in excluding the air.

Experience appears to indicate also that wood decays more rapidly in a loamy soil, rich in humus or partially decayed organic matter than it does in one containing little or none. This is probably due to the fact that the presence of organic matter affords more favorable conditions for the development of fungus growths and bacteria.

Fungi Cause of Decay.

Pipes fully exposed to the atmosphere and free from contact with the soil will, as a rule, be too dry on the exterior to favor the development of fungus spores, and so long as the outside of a pipe remains dry no appreciable decay will occur, even though the internal pressure is very light. Decay of exposed pipes almost invariably starts at the ends of staves, as a result of leaky joints. Where water leaks out and runs down over the outside of the pipe favorable conditions are afforded for the growth of the algae, which usually get a start, then mosses may begin to grow in the soil that collects on such spots, and decay spreads to adjoining staves.

Bruising the staves in handling or injuring by too tight cinching of bands renders them more susceptible to infection by the spores of wood-destroying fungi, thus hastening decay. The life of exposed pipes may be prolonged by promptly stopping all leaks as they develop and by keeping the exterior dry. The decay of buried pipes has also in some instances been arrested by removing the covering and leaving them exposed.

The asphaltum or tar coating applied to machine-banded pipe, while intended primarily as a protection against corrosion of the bands, doubtless helps also to some extent in preserving the wood. Until recently the practice has been to leave the ends of wooden sleeve couplings untreated.

These couplings almost invariably decay long before the main pipe. This may indicate that infection by wood-destroying organisms starts principally where the coating is absent, though less perfect saturation of the wood in the sleeves may be the more largely responsible for the early decay, as it may be noted also that decay occurs at summits of pipe lines where air accumulates much sooner than at depressions.

The practice of coating continuous stave pipe has not been common, but in a considerable number of cases some treatment has been applied for the purpose of preserving the wood. There is wide difference of opinion as to the value of such treatment, and the effectiveness for the purpose intended may depend also greatly on what is used and upon how and when it is applied.

On exposed portions of new pipes the United States Reclamation Service has used a paint consisting of six pounds of red oxid mixed with one gallon of boiled linseed oil. One gallon of the paint was sufficient for two coats on 125 square feet of pipe. On top of the pipe where exposed to the sun and where water from leaky joints runs down over it this paint does not last long, much of it being gone in two years. Repainting while the pipe is in use is usually not practicable, because oil paint will not adhere readily to wet material. The use of paint on exposed pipes under ordinary conditions probably adds very little to their life.

The new bulletin, which consists of 37 pages, contains a number of figures and tables of practical use to irrigation engineers. Continuous stave pipe and machine-banded pipe are described in great detail and many specific instances are given to show how long wood pipe may be expected to last under special conditions.

Government Drug and Food Work

THE false and fraudulent labeling of medicines and mineral waters has recently received a great deal of attention from the Bureau of Chemistry, according to the bureau's report for the year ending June 30, 1914.

A large number of instances have been found in which impossible claims for the preparations in question have been made and in these cases steps have been taken to compel the owners to alter the labels. This is true of a large number of veterinary medicines and in particular of (so-called) cures for hog cholera. As for mineral waters, the position long held by the bureau, that so-called lithia water must contain enough lithia to produce an appreciable therapeutic effect, has now been sustained by the Supreme Court of the District of Columbia, and in consequence action has been taken to enforce this ruling.

Measures are being taken to prevent the exploitation of so-called radio-active waters in which the amount of radium is negligible. Furthermore, mineral waters to which has been added carbonic acid gas or mineral salt are not any more sold as "natural," but are properly labeled.

Oyster Regulations.

In connection with the bureau's work of food inspection, two important sanitary surveys have been made of oyster growing localities, one in Chesapeake Bay and one in Jamaica Bay, N. Y. Wherever these surveys resulted in the discovery of polluted areas the oystermen moved their stock to clean water and maintained it there for a sufficient time until all danger to the consumer was done away with.

Altogether there were nearly 12,000 samples of food and beverages collected and analyzed. The cooperation of other branches of the Government has been secured for the prosecution of cases not fully covered by the food and drugs act. For example, in one case connected with illegal traffic in bad eggs, a number of persons were indicted for conspiracy. In another case a manufacturer of beverages received a long prison sentence for putting wood alcohol in his products.

Important Discoveries.

In addition to this regulatory work connected with the enforcement of various laws, scientists of the bureau have been carrying on important investigations. The report makes pacticular mention of the study of the subject of potato drying.

Dried potatoes may be kept indefinitely for stock feed and are of course much less bulky and, therefore, less expensive to transport than ordinary potatoes. This investigation will ultimately be extended to other uses for potato products, such as the manufacture of starch and glucose, in order to encourage the production of potatoes as a regular part in crop rotation in sections where this could be done with benefit.

Two new ways have also been discovered of utilizing surplus and cull apples. One is the manufacture of apple syrup by clarifying and boiling down apple juice. The syrup obtained promises to be a welcome addition to diet as well as affording a new market for the apple-grower. The other method of disposing of the surplus of apples is the manufacture of concentrated cider.

Concentrated Cider.

Hitherto the market for cider has been limited, due to the fact that it can only be kept sweet a short time and that its bulk makes its transportation too expensive when long distances are to be covered. The concentrated cider ferments very slowly when kept at a low temperature. When diluted with water it has practically the same flavor as the original apple juice from which it was made, and its condensed form makes it much cheaper to ship.

Considerable attention has also been devoted to the fish industry, which up to the present time has been a study of much less scientific study than meat packing.

With the growing scarcity of meat, however, it seems obvious that fish will come to play a more important part in the Nation's food supply and such questions as the best means of storage, transportation and the prevention of waste deserve careful investigation. An instance of the value of this work is afforded by the Maine sardine industry. As a result of Government investigation a marked improvement has taken place in the quality of American sardines put up by establishments along the coast of that state.

Seeking You.

Into the shades of the forest
I followed the call of the wild;
And over the verdant valleys,
Abloom where the south sun smiled.
Then the city's light and glamour
My senses enthralled, and I ran
The gamut of fair, false pleasures
That beguile the heart of man,
Ambition came, and she swept me
With her flame—and my blood leaped high—
I sacked the storehouse of knowledge
with a will to know or die!
* * * * * * *
After weary years love whispered
Very tenderly, then I knew—
The winding roads of life had led,
Dear, over the miles, to you!
—Jo Hartman.

Puffer.

That Puffer is a tiresome chap,
There's not the slightest doubt:
He's blowing now of how much he
Blew in at his blow-out!
—Harold Susman, in Lippincott's.

Government After Rabbits and Rodents in Northwest

ACCORDING to the report of the Bureau of Biological Survey of the United States Department of Agriculture, prairie dogs have been completely exterminated over large areas in the forests in Colorado, Arizona and Utah. A large proportion of the prairie dogs were killed by poison and predatory birds and animals exterminated those remaining.

The burrowing rodents in the Strawberry Valley of the United States Reclamation Service near Provo, Utah, which have caused extensive washouts in dikes and fills, have, it is believed, been dealt with in such a way that little further trouble will be experienced.

In the states of Oregon and Washington investigations are being made with a view to dealing effectively with moles, which interfere materially with the cultivation of crops.

As a result of campaigns against the ground squirrels in portions of California National forests, ranchmen and land owners were encouraged to co-operate with the bureau, also to carry on independent campaigns. As a consequence on thousands of acres which once supported squirrels in abundance it is now difficult to find more than an occasional animal. Similarly, successful poison baits were prepared for the Richardson ground squirrel, which has become so destructive in North Dakota.

Other experiments dealt with the extermination of rodents which hinder reforestation by digging up and devouring seeds or gnawing the bark of saplings. Special experiments were conducted in the National Forest near Ocala, Fla., and at the Converse nursery in Southern California.

In response to requests for aid from farmers in Southern Idaho and Eastern Oregon and Washington, the Department assisted in destroying jackrabbits, which had been doing extensive damage. In one restricted region, by the use of extermination baits, over 50,000 rabbits were destroyed.

Experiments also were carried on in destroying crawfish, which do great damage in Mississippi and Alabama.

Modified Quarantine to Allow Cattle Shipments

SINCE the publication of various orders modifying the Federal quarantines declared on account of the foot-and-mouth disease the authorities have received numerous inquiries with regard to the exact meaning of the regulations now in force.

The quarantines which were declared at the beginning of the outbreak prohibited the shipment of cattle, sheep, other ruminants and swine into the quarantined area for any purpose save that of immediate slaughter and prohibited absolutely the shipment of such stock out of the quarantined area.

Since then the quarantines in parts of some states, notably Michigan, Illinois, Indiana, Pennsylvania, Kentucky, Iowa and Wisconsin, have been modified so that they now permit the shipment of livestock into these areas for all purposes, and the shipment of livestock out for immediate slaughter, at places where the Federal meat inspection service is maintained.

Certain counties, however, have been exempted in each of these states from the privileges granted by the modified quarantine. Into these counties no stock can be shipped for feeding purposes and no stock can be shipped out except after a preliminary inspection and certification by the Federal authorities. In the areas under modified quarantine various restrictions governing the shipment of carcasses, hides, hay, straw, etc., have also been removed.

It is probable that further modifications of the quarantines will be made in the near future. In these cases it is expected that the same procedure will be followed and the counties into which feeding stock cannot be shipped and in which inspection is demanded before export shipments are made will be specifically named in each order.

Nobody ever hurt anyone with a smile, and that is just the reason some folks wouldn't wear one for anything.