

pressed and shaped at lower temperature.

Well, there stands lignin, taught by Uncle Sam's chemists and technicians how to do a big job in a big industrial field. His sleeves are rolled up and he is ready to go to work. It probably won't be long now until plastics manufacturers will be clamoring for his services.

Odd Jobs

As a matter of justice to lignin, he wasn't altogether a loafer before his present big chance came. He picked up what odd jobs he could get.

One has been holding down linoleum. Waste liquor from paper mills contains the lignin from the wood pulp, rudely torn away from Brother Cellulose by chemical means. Turned out of the factory as a bum, lignin long was an undesirable waterfront character, polluting rivers, destroying fish, and in general making a nuisance of himself. Then someone discovered that if you boiled most of the water out of the waste liquor, what was left made a good adhesive for sticking linoleum to floors. So there was at least a small job for lignin.

Lignin in the same waste liquor from pulping mills has been used to some extent on unpaved roads, to make the dirt stick together better and raise less dust. Odd job number two.

Soil Aid

Recently some rather promising experiments with lignin as a soil conditioner have been made. Lignin has little if any direct fertilizer value, but does help to make certain heavy soils lighter and more tillable, serving as a sort of artificial humus. With this lignin soil treatment, direct fertilization with nitrates is usually also added.

Nor are the chemists by any means through with their ambitions for this hitherto neglected brother of the wood family. As they overcome lignin's reticence and learn more about his inner nature, they can find new jobs for him. Some aptitudes in the direction of oxalic acid, a valuable bleaching agent, and possibly dyestuffs also, have been discovered. They'll make a useful citizen of lignin yet.

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Steel varies in hardness from material hard enough to scratch glass to material soft enough to be scratched with a needle.

PUBLIC HEALTH

Flood Forces Destruction Of Vast Quantities of Food

"Tragic but Necessary" Condemnation of Trainloads Supervised by Men From Food and Drug Administration

AS FLOOD waters subside on the Ohio, the greatest destruction of foodstuffs and medicine in history is being carried out in all cities and towns in the inundated region. How much, it is uncertain as yet, but there is no doubt that the quantity condemned and destroyed after the 1936 flood, estimated at 50,000 tons, will be greatly exceeded—perhaps doubled or trebled.

The destruction of flood-damaged food and drugs is being carried out by a cooperative arrangement between Federal food and drug authorities and state, county, and municipal public health officers. The Food and Drug Administration of the U. S. Department of Agriculture has thirty inspectors in the field, and the various states concerned have supplied the services of sixty or seventy of their own men. Flood-spoiled commodities condemned by them are carted away and destroyed by workers of the W.P.A. and the C.C.C., and by volunteer labor of private trucking and merchandising firms.

The wholesale destruction of whole trainloads of food was described by George Larrick of the Food and Drug Administration as "tragic, but necessary." Whatever the polluted water touched it ruined, so far as possibility of safe human consumption is concerned. Even if it were thoroughly heat-sterilized, so that the danger of typhoid and dysentery were removed, there would still be so much filth in it that it could not with any decency be offered to even the neediest of flood refugees.

Individual items in the holocaust are shockingly impressive. In the Cincinnati yards the inspectors found 139 carloads of fresh fruits and vegetables that had been under water. With the exception of some cars of bananas and strawberries, all looked fair and appetizing. Yet the inspectors could not dare to release the contaminated food, and ordered it all destroyed.

In a Cincinnati warehouse there were 132 tons of coffee that the water had reached; in a Louisville dairy, 100,000 pounds of butter. All had to be destroyed.

Typically, the work was divided by assigning inspection of wholesale warehouses and railroad freight concentrations to the Federal officers, while municipal and county officers took over the retail establishments. First scouting trips of the inspectors were made in boats, while the water was still high in the streets. As the river went down, trucks and railroad cars were loaded with the commodities marked for destruction.

Disposal of the condemned goods was not easy. Most of the regular city dumps were flooded, and municipal incinerators are still out of commission. New dumping sites had to be selected, and wherever the damaged materials could be hauled by rail the railroad dumps were used. Glass containers were smashed, kerosene sprayed on such foodstuffs as flour and sugar to "denature" them, and wherever practicable the destroyed food and drugs were buried deep under the trainloads of mud and debris shoveled up out of the city streets.

Only two classes of packages were permitted to be salvaged: canned goods, and food and drug products hermetically sealed in glass. Screw-top glass jars could not qualify. The permissible salvaged cans and bottles were scraped clean of their labels, washed, chlorine-treated, and then passed for use. Many firms contributed large quantities of such salvaged foods for relief.

Whisky in Louisville's famous warehouses is probably safe, said Mr. Larrick; though inspectors, with the more important problems of food and drugs to deal with first, have not got round to that yet. Both bottles and barrels are well sealed, he explained, and if they are thoroughly washed and chlorinated outside the contents will doubtless be all right.

"Besides," he added, "any germ that might get through and tackle the contents would probably find straight Kentucky liquor a bit too strong for it."

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