

in water if kept in a slow oven for several days.

It is apparent, then, that the role of water in maintaining the shape of plants

is a very important one, and that the grip a plant has on its water content is correspondingly great.

Science News Letter, March 9, 1940

MEDICINE

Chemical Control of Cancer Advanced By Experiments

A STEP toward the control of cancer by chemical treatment is announced by Dr. Leonell C. Strong, Yale University School of Medicine. (*American Journal of Cancer*, Feb.)

So far the results apply only to mice, but they indicate the possibility of success in chemical treatment of cancer in other species, because they show that the same chemicals can affect cancers, leaving adjacent normal cells untouched, regardless of the genetic origin of the mouse.

Growth of spontaneous cancers in six different strains of mice was slowed, and in some cases the cancers liquefied while in others they disappeared completely, when the two chemicals, methyl salicylate and heptyl aldehyde, were added to the animals' food.

This shows, Dr. Strong explains, that tissue specificity, a fundamental factor in cancer development, will not impede chemical control of the malignant dis-

ease if scientists can find a chemical that will check or reverse the malignant process. In other words, even though there is an intrinsic genetic factor which plays a part in predisposing an individual to cancer, the cancer can be controlled by chemical attack. The chemicals probably could not change the genetic factor predisposing to cancer, but by their effect on other fundamental aspects of the cancer, they could check the malignancy.

This work is the logical development of similar work on the use of true oil of Gaultheria and of heptyl aldehyde used alone, which has been reported by Dr. Strong, during the past several years.

Next step toward chemical control of cancer, Dr. Strong says, will be to find a combination of pure chemicals which have the maximum effect on cancers in laboratory animals. After that it may be time to talk about chemical control of human cancers.

Science News Letter, March 9, 1940

MEDICINE

Furfural, in Rice Wine, Causes Liver Cirrhosis

CIRRHOSIS of the liver, often attributed to habitual or excessive use of alcoholic drinks, can be caused by fur-

fural, ingredient of saké, the Japanese rice wine, Drs. Waro Nakahara and Kazuo Mori, of the Laboratories of the Japanese Foundation for Cancer Research in Tokyo, have found. (*Proceedings of Imperial Academy*, Oct. 1939)

Their discovery, made in feeding experiments with rats, was part of an attempt to learn whether peculiarity of food and drink is the cause of the wide prevalence of liver disease, including cancer of the liver, in the Far East.

Wood alcohol, ethyl alcohol, and the other constituents of saké were all tested but only the furfural produced significant liver damage in the rats. When they were kept on a diet containing only this substance and polished rice,

RADIO

Charles A. Breskin, publisher of "Modern Packaging," will tell about plastic "bottles" and other new kinds of packages about to go on the store shelves of the nation as guest speaker on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, March 14, 4:15 p.m., EST, 3:15 CST, 2:15 MST, 1:15 PST.

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liver damage occurred in 38 out of 100 rats. During the first 37 days of the diet, 62 of the rats died without showing any significant change. At the end of 167 days of the diet all the other rats had died, most of them showing more or less definite cirrhotic changes in the liver.

Cirrhosis of the liver was also produced in guinea pigs and rabbits by furfural feeding. Further experiments on the production of liver cirrhosis by this chemical from rice wine are now under way, Drs. Nakahara and Mori reported to the Imperial Academy of Japan.

Furfural is found in whisky and brandy sold in the United States, but only in insignificant amounts, rarely exceeding two parts per 100,000 of the liquor, it was learned from the U. S. Bureau of Internal Revenue's alcohol tax chemical laboratory.

Any whisky that is kept for any time in barrels, especially charred barrels, such as used for aging American whisky, will contain small amounts of furfural. This chemical may also get into whisky or other liquor if it is distilled in a pot still, such as is used for Scotch or Irish whiskies or brandy.

The amount of furfural found in whiskies in this country is not considered enough to be harmful, and government scientists test for it only because it is an indication of the type of whisky and whether or not it was aged in wood.

Science News Letter, March 9, 1940

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