MEDICINE

Teach Hens To "Smoke"

Four Scottish biddies have learned to smoke half a cigarette every other day for several months. Other animals would not learn to smoke.

➤ WHILE it is improbable that the habit will be adopted by the poultry population of the world as a whole, hens in Glasgow, Scotland, are learning to smoke cigarettes. Four hens have smoked half a cigarette every other day for several months in the Cancer Research Department of the Royal Beatson Memorial Hospital, Glasgow.

They did not seem to mind once they had become used to it, reports P. R. Peacock, who has been in charge of this new approach to the problem: Does cigarette smoking cause lung cancer?

It was realized that conclusive proof could only be gained by a controlled experiment, which could not be performed on humans. Unfortunately, it is difficult to teach animals to smoke.

Mice were tried, unsuccessfully, even as non-smokers. If they were kept in a smoke-filled box, they seemed to find the experience "disagreeable," and they were classified as uncooperative.

Moreover, the box did not provide a parallel to the human habit. The mice could not get a breath of fresh air at all, whereas human smokers can take several breaths between puffs. In addition, the smoke clung to the mice's fur and they licked it, confusing the test results.

Now the research workers are using hens, by making a small hole in the air sac leading to the lung. This does not injure the bird and it is possible to "smoke" a cigarette into it by means of a syringe.

"Some birds merely showed surprised interest in the smoke emerging from their beaks," says Mr. Peacock.

Others closed their eyes and dropped their heads, evidently disliking the experience. When this occurred the smoking was immediately stopped for the day.

Birds quickly became accustomed to the procedure and after a few days showed no signs of discomfort and accepted their smoke without opposition.

The question remaining, which must be answered in a further report is: Will any of the cigarette-smoking fowl develop lung cancer?

Science News Letter, January 7, 1956

MEDICINE

Treatment of "Dead Drunk"

Injection of salt solution into veins or treatment with artificial kidney suggested to flush alcohol out of system as rapidly as possible.

➤ SALT solution injected into the veins in large amounts was advised for treatment of "dead drunks" in a report by Dr. Theodore Koppanyi of Georgetown University, Washington, D. C., to the American Association for the Advancement of Science meeting in Atlanta.

Treatment by the artificial kidney for six to eight hours might also prove useful, Dr. Koppanyi said.

Object of either treatment would be to flush the alcohol out of the system as rapidly as possible.

Injecting salt into the veins would greatly dilute the alcohol in the blood and therefore lessen the poisonous action on the brain and nervous system. It would also greatly speed the excretion of the alcohol by the kidneys because the added fluid would be excreted.

This method, in which the fluid injected contained one percent of salt (sodium chloride), saved the lives of animals getting enough alcohol by mouth to kill 99 out of 100 of them, Dr. Koppanyi and associates found.

Whether the salt solution treatment or the artificial kidney is used, care must be taken to avoid embarrassment of the heart, or waterlogging the lungs and brain, Dr. Koppanyi warned.

While the new tranquilizing drugs as well as older sedative ones are good for the inebriated, the "dead drunk" is in more serious condition and requires different treatment, Dr. Koppanyi said. It is for these "poor medical risks" that he advises the salt or artificial kidney.

Science News Letter, January 7, 1956

DENDROLOGY

Atomic Radiation May Bring Back the Chestnut

➤ ATOMIC RADIATION may be the means of bringing back the once-magnificent stands of American chestnut trees, now almost absent from our forests, Dr. W. Ralph Singleton, University of Virginia geneticist, told the American Association for the Advancement of Science meeting in Atlanta.

Near the turn of the century, the chestnut blight fungus, *Endothia parasitica,* appeared in New York state and spread rapidly with devastating results. By the 1930's, nearly all commercial chestnut stands in the East had succumbed to the disease.

There are no large trees now growing, said Dr. Singleton, although in several localities young chestnuts flourish long enough to bear a few nuts before being killed by the fungus. "Since it is possible to obtain seeds on these young trees . . . we believe it will be possible to produce resistant types by radiation, and establish a resistant type that could be used in reforestation of wide areas that were once the home of the chestnut," he predicted.

"It has been amply demonstrated working with other crops that radiation can produce disease resistance. The principles are the same for chestnut breeding as for smaller crops."

A start has already been made on this project at the University of Virginia's Blandy Experimental Farm. Seeds collected from a small chestnut grove in Virginia have been planted at the farm, and pollen will be treated with radiation and applied to chestnut flowers in the old grove, Dr. Singleton reported.

Science News Letter, January 7, 1956

AGRICULTURE

Rust-Resistant Wheat Brings Medal Award

➤ TAKING A PLACE beside discoverers of pencillin and radium and the inventors of the airplane and the radio, Edgar S. McFadden, agronomist of Texas A & M College, has been awarded the John Scott Medal for his origination and development of the first rust-resistant bread wheat.

According to the American Association for the Advancement of Science, an estimated 25,000,000 people are eating today who otherwise would be dead or dying of starvation, thanks to Mr. McFadden's discovery.

Mr. McFadden's rust-resistant wheat was presented in 1915, when both stem and leaf rust had become a serious threat to the nation's wheat supply. Land that could have produced 40 bushels to the acre commonly gave only five bushels, due to rust attack.

The John Scott Medal, which has been awarded to Orville Wright, Thomas Edison, Madame Curie, Dr. Vannevar Bush, Guglielmo Marconi, Sir Alexander Fleming, and Vincent du Vigneaud was presented to Mr. McFadden at the American Association for the Advancement of Science meeting in Atlanta.

The medal is named for John Scott, a chemist of Edinburgh, Scotland, whose will in 1816 established the award, to be administered by the City of Philadelphia.

Science News Letter, January 7, 1956