

## MEDICINE

**Warn of Food Poisoning Danger from Pesticides**

► NEW worry for the New Year: the danger of accidental poisoning through eating, along with your food, some of the new pesticides, DDT, benzene hexachloride and even the terrifically violent poison, 1080, for which there is no known antidote.

A warning of this danger was issued by Dr. James R. Wilson of Chicago, secretary of the American Medical Association's Council on foods and nutrition.

The U. S. Food and Drug Administration agrees that "it is a serious situation which calls for extreme vigilance on the part of all who put out food products and use pesticides in their establishments."

Urgently needed are: 1. Great care in use of pesticides to avoid getting them into food; 2. More knowledge of the effects of small amounts of them on human beings over long periods of time.

The danger from DDT sprayed on fruits and vegetables is not too great, Food and Drug officials say, because the fruits and vegetables are exposed to the sun. The action of the sun will decompose the DDT.

Science News Letter, January 15, 1949

## CHEMISTRY

**Enamel for Metal Alloys Ready for Extensive Tests**

► A NEW enamel for some alloys of aluminum, which increases the metal's durability, utility and beauty, is now ready for large-scale evaluation tests after six years of development and trial by the Du Pont Company in Wilmington, Del.

The new enamel is vitreous. Satisfactory enamels have been developed for two alloys of aluminum known as 61-S wrought alloy and 43 casting alloy. Enamels for other aluminum alloys are promised for the future. The present new ones contain a high percentage of lead, making them unsatisfactory for coating articles that may come in contact with food.

The enamel is fired on sheets, strips and castings of the metal in furnaces like those used to apply porcelain to steel. The equipment used is substantially the same, but the temperature used with the aluminum-enameling is several hundred degrees below that employed in enameling steel.

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## VETERINARY MEDICINE

**Hope Vaccine Can Check Foot-And-Mouth Disease**

► HOPES for eradication of foot-and-mouth disease of cattle in Mexico, expressed in a Senate subcommittee report, are based primarily on the effectiveness

of a vaccine now being injected into thousands of animals in the area of infection, Dr. H. W. Schoening of the U. S. Department of Agriculture stated.

Livestock owners who bitterly resisted the program of slaughter and burial first attempted in combating the plague are cooperating willingly in the task of wholesale vaccination, Dr. Schoening announced.

The vaccine is being produced in Mexico under the joint supervision of Mexican and U. S. scientists. It is a modified form of a European preparation known as the Schmidt-Waldmann vaccine. Large-scale production and use have been under way since last autumn.

The projected research laboratory for the investigation of foot-and-mouth disease and other infectious livestock maladies will be built even if the hoped-for total elimination of foot-and-mouth disease in Mexico is realized, Dr. Schoening added—provided, of course, the new Congress appropriates the necessary funds and designates a site.

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## MEDICINE

**Recovery in Mentally Ill More Lasting if Slower**

► SLOWER recovery of mental patients after prefrontal lobotomy operation is likely to be more lasting than dramatically swift improvement.

Evidence for this, based on experiences of 11 patients at Elgin, Ill., State Hospital, is reported by Dr. Jack Coheen in the ILLINOIS MEDICAL JOURNAL.

The patients reached a certain stage of improvement after the operation and rehabilitation and remained at that level. Then, six months to two and a half years later, when further improvement was considered highly questionable, they began to make further progress. In many cases this phase of renewed progress is still continuing.

This contrasts with other patients who rapidly reached a good level of adjustment after the operation and were discharged from the hospital within a few weeks with everyone very hopeful that the patients would remain well. But these rapid recoveries were unfortunately followed by rapid relapses into mental illness requiring periods of hospitalization.

The operation consists in cutting nerve connections in the front of the brain. After it some patients recover to the extent of knowing where they are and of being well enough to return to their homes. But they may also be exaggeratedly cheerful, silly, self-satisfied, careless in dress, easily tired, and unconcerned. It was after a period at this stage that the patients Dr. Coheen observed began to show further progress toward normal attitudes.

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## NUCLEAR PHYSICS

**No Hollywood Touch in Scintillating Research**

► IF ATOMIC scientists start talking about "scintillating research," don't think that a Hollywood huckster has gotten into nuclear physics. The scintillation counter is one of the newest devices for detecting radioactive radiations.

Plans for attacking atomic mysteries with the scintillation counter were revealed by Dr. George B. Collins of the University of Rochester. Scintillation experiments will be made, using the University's new cyclotron which is nearing completion.

The scintillation counter is not as glamorous as the name indicates. Heart of the radiation detector is a substance such as naphthalene, the stuff from which mothballs are made. When a radioactive atom passes through the mothball chemical, it makes a flash of light. The flashes are counted with a photomultiplier tube.

For detecting certain types of atomic rays, this method is 10 times as sensitive as the famed Geiger counter, Dr. Collins explained.

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## NUTRITION

**Feeding Weeds to Rabbits Will Cost You Calories**

► EFFORTS to get more food for less cost can go too far. The one which called for feeding rabbits on weeds, thus converting waste feedstuffs into valuable human food, stopped even the austerity-driven British.

It costs too much in calories, is the verdict of a British nutritionist, J. C. D. Hutchinson, who tried it out.

Weed-fattening one rabbit costs the rabbit keeper 1,022 calories of energy in gathering the weeds. When he eats the rabbit, all he gets is 549 calories. Result on the red-ink side of the ledger: a loss of 473 calories for the weed collector.

If the rabbit keeper feeds his rabbits on weeds plus potatoes, he comes out a little better. The gain is 556 calories from one weed-plus-potato fattened rabbit.

But to maintain himself on weed-fed rabbit meat alone, the rabbit keeper would have to spend 23 out of 24 hours collecting enough weeds to feed enough rabbits.

"In this case," Mr. Hutchinson points out, "the rabbit keeper is faced with a choice of starvation or sleeplessness."

His calorie-cost-accounting studies on weed-fed rabbits are reported to American nutritionists in NUTRITION REVIEWS (Jan.).

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# CIE FIELDS

## CHEMISTRY

### Man-Made Clouds of Dust May Cleanse Air of Fumes

► MAN-MADE clouds of dust may be weapons against the poisonous fumes that can form death-dealing smog such as struck Donora, Pa., recently.

How clouds of dust can purify air laden with potent droplets of sulfuric acid was described by Drs. H. P. Meissner and H. S. Mickley of the Massachusetts Institute of Technology to a chemical engineering symposium of the American Chemical Society in Cambridge, Mass.

The clouds are made up of porous materials such as clay or silica gel. These materials absorb mist which escapes mechanical anti-pollution devices, the scientists explained.

Cyclone towers, settling chambers and sprays are effective in preventing dangerous dust from getting into the atmosphere, they pointed out. But stable substances such as sulfuric acid mist are not captured.

Using a turbulent cloud of dust particles as a filter, 95% of the sulfuric acid mist was removed from the air in a test reported by the scientists.

Although clouds of dust are one form of atmospheric pollution, the dust used as a filter is coarser and less likely to get into the air. In operation in a factory flue, a small side stream of the dust would be withdrawn as fresh material was added, forming a continuous filter of air bearing hazardous mist.

Because of costs, the new method is not expected to replace older systems except where it has economic advantages.

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## ORNITHOLOGY

### Ten-Year Search Unravels Tale of Russian Goose

► NOT ALL fliers coming out of Russia are aviators escaping (or deserting, depending on the point of view) from behind the iron curtain. One such story, that began 10 years ago and has only now had its final chapter written, is told by J. A. Neff of the U. S. Fish and Wildlife Service, in the Western bird student's journal CONDOR (Nov.).

In November, 1940, J. M. Williams of Gridley, Calif., shot a goose of a kind he had never seen before. On its leg was a metal band with the identifying inscription: "510H-Moskwa-13152B". He sent the band to Mr. Neff, who recognized it as of Russian origin.

However, war between Germany and the USSR broke out about then, so that it was 1946 before further pursuit of information about the band became possible. Many months later, Mr. Neff had a letter from A. Tugarinov, ornithologist of the Soviet Academy of Sciences.

The band, Mr. Tugarinov stated, was one of a series issued to a Capt. G. Grinberg in 1938-39. This officer was then on duty on the Chukche peninsula, the north-easternmost point of Siberia. Subsequently he was killed in the war, and all his papers were lost, so that no record of the banding of this goose was recovered. From Mr. Williams' description, however, the bird was recognized as an emperor goose, native to northern Asia but rarely seen in America.

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## POPULATION

### Expert Says World Can't Feed Present Population

► THE WORLD can't support its present population—not even at a minimum level. This is the conclusion of Guy Irving Burch, editor of the POPULATION BULLETIN (Dec.).

And if everybody in the world were to have as high a level of living as the people in the United States, the population of the world would have to be reduced at least two-thirds, he says. Or the means of support would have to be increased at least 200%.

It is estimated that there are about four billion acres of arable land in the world. Not all of this is being cultivated. Not all can be under present conditions. But if every inch were in use, it would support only about 1,600,000,000 people. The earth's population is already 2,250,000,000.

That leaves 650,000,000 mouths without food even if all our dinner tables were stripped of everything but the barest essentials.

And the world's population is growing. The Census Bureau has just announced an estimated increase of 3,000,000 for the United States during the year 1948 and a 12.5% increase in the last decade. The world population is increasing, Mr. Burch says, at the rate of about 200,000,000 each ten years.

If all the people of the world could live as well as do the people of the United States, the earth could not support more than about 750,000,000 people. That is about one-third of the present population.

"If each family in the world had a fair-sized house with its own yard," says Mr. Burch, "had meat to eat at least once a day and an adequate supply of fruits and milk; had proper medical care and lived in a healthful and stimulating climate, it is doubtful whether all these good things of life could be spread over more than 500,000,000 people at the present time."

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## GENERAL SCIENCE

### Foreign Countries To Buy Books with UNESCO Coupons

► BOOKS to replace the ones burned by fascist dictators or otherwise destroyed in World War II will be purchased in this country by persons in dollar-shy nations with coupons furnished by the United Nations Educational, Scientific and Cultural Organization.

Operation of the UNESCO's book coupon scheme in this country was described by Dr. Milton S. Eisenhower, president of Kansas State College and chairman of the U. S. National Commission for UNESCO. Dr. Eisenhower announced that the American Booksellers Association will administer the program in the U. S.

Under the new scheme, coupons are allotted to countries lacking the foreign exchange requirements for purchases in so-called "hard" currency countries, such as the U. S. These coupons are honored for the purchase of books and redeemed in the bookseller's currency by UNESCO.

In this country, publishers will accept the coupons from foreign purchasers and be paid for the coupons by the Association. The Association, probably operating through a special, non-profit body to be established for the purpose, will redeem the coupons at UNESCO headquarters in Paris.

First coupons have already been delivered by UNESCO in Paris, and \$150,000 has been allocated to get the program underway. Of this sum, \$50,000 will be donated by UNESCO to Austria, China, Czechoslovakia, Greece, Hungary, Italy, Indonesia, Iran, the Philippines and Poland. The remaining \$100,000 worth of coupons is slated to be put on sale in China, Czechoslovakia, France, India, Poland and the United Kingdom.

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## ENGINEERING

### U. S. Motors Will Help Tap Italian Underground Water

► UNDERGROUND water, near red-hot lava beds not far from Milan, Italy, is to be tapped with the aid of American machinery to obtain high-pressure steam to operate turbine electric generators.

An order has already been given to the Westinghouse Electric International Company for two 300-horsepower mud pump motors and one 250-horsepower draw-works motor for use on the drilling rigs.

Engineers calculate that they can strike hot water under sufficient pressure to support a one-inch column a mile high. At the surface, owing to reduction in pressure, this water will turn to steam, which will be piped into the turbines. Eight additional drilling rigs are to be purchased soon.

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