GENETICS

## British Sweet Corn Seed Finds Refuge in America

WAR refugees from bomb-battered England will presently include selected strains of inbred sweet corn, parents of some of the better hybrid varieties, according to plans of Dr. W. R. Singleton of the Connecticut Agricultural Experiment Station.

Dr. Singleton has been in correspondence with a leading English plant breeder, C. D. R. Dawson of London, and has asked him to send small quantities of his inbred seed corn, so that the strains may be kept going until after the war. Sweet corn is a luxury crop in England, and there will be neither land nor time to spare for it this spring.

Mr. Dawson has tried out American sweet corn hybrids which he has received from Dr. Singleton, and pronounces them quite good, under English conditions. He has also developed a successful English-American hybrid sweet corn, of which he has sent seed to Dr. Singleton.

*Science News Letter, April 12, 1941*

HERPETOLOGY

## Rattlesnakes Detect Kingsnakes by Their Odor

RATTLESNAKES detect their deadly enemy, the kingsnake, by odor rather than by sight, it is strongly indicated by evidence presented by C. M. Bogert of the American Museum of Natural History, to the American Society of Ichthyologists and Herpetologists. Kingsnakes, which average larger and stronger than rattlers, overcome and devour the latter whenever opportunity offers.

Mr. Bogert experimented with a considerable number of rattlesnakes of several different species, and also used one or two species of cannibalistic snakes other than the kingsnakes. In general, however, the results obtained were the same for all species, of both attacker and attacked.

Rattlesnakes, even those from regions where kingsnakes are unknown, always indicate recognition of their enemy by a peculiar defensive posture. The frightened rattler holds its head close to the ground, and throws a part of its body into a standing loop. With this it strikes against the kingsnake when the latter approaches, as a man might try to ward off an attacker with his elbow. To raise the head and defy the foe with bared fangs, as the rattlesnake does against any other enemy, would only expose it the more to a grab for the neck, which is the kingsnake's favorite hold. Another peculiarity of behavior is the rattlesnake's failure to sound its rattle when menaced by a kingsnake, although this threatening buzz is also an invariable part of its behavior in the face of any other enemy.

Rattlesnakes dropped into empty glass vessels in which kingsnakes had previously been confined immediately went into this defensive attitude. They did the same when exposed to the odor of a kingsnake, scraped off its back with a freshly whittled, clean pine stick. They showed the defense reaction when they were first blindfolded with adhesive tape and then introduced into the presence of the enemy species. But when they were deprived of the ability to detect scent by removing their tongues (which are necessary parts of the smelling apparatus in snakes) they were indifferent to the presence of kingsnakes, although the latter were in plain view.

*Science News Letter, April 12, 1941*

PHYSICS

## Paper Clips and Nails Magnetized With Sun Lamp

WITH ultraviolet rays from a common type of sun-lamp, concentrated by quartz lenses, it is possible to magnetize small iron objects like paper clips and nails.

Such experiments, made by Dr. Felix Ehrenhaft and Leo Banet in New York, have just been reported in a communication to the British scientific weekly, *Nature*. Before the Nazi conquest of Austria, Dr. Ehrenhaft was director of the Physical Institute of the University of Vienna.

They explain that their experiments were carried out in a private apartment with simple apparatus, since a dime store compass needle was used to detect the magnetization.

The iron objects were placed at right angles to the magnetic field of the earth (approximately east and west) and were exposed to the ultraviolet radiations for periods ranging from a few minutes to several hours. Magnetic poles were induced in them, and in some cases were present after several days. With short exposure, they state, the effect was local and on the surface, but after long exposure saturation values were obtained. Evidence was also obtained that the characteristic of a coil of wire around an iron core was altered by the rays.

Further experiments are being made.

*Science News Letter, April 12, 1941*

# IN SCIEN

PHYSICS

## You're Safe in Quicksand If You Keep Still

IF YOU ever have the misfortune to fall into quicksand, don't get panicky and thrash around. If you keep quiet, allow yourself to go down feet first and keep your arms outstretched, you will soon find yourself resting at a depth just below your armpits.

This is the advice given by Lawrence Perez, director of the Soil Mechanics Laboratory at Cooper Union. You stop sinking, he says, when your weight equals that of the quicksand you displace. As a matter of fact, he states, quicksand will support you twice as easily as water.

Mr. Perez says that quicksand is no particular type of material. Instead, it is a condition possible in granular soils where flowing water exists. The weight of the solid particles is balanced by the water pressure.

*Science News Letter, April 12, 1941*

CHEMISTRY

## High Cost of Mercury Affects Golf Green Care

GOLFERS are feeling the pinch of war, as the price of mercury, necessary in both munitions and medicine, goes rocketing. Mercury compounds are generally used in controlling two troublesome diseases of the grasses used on golf greens, known as brown patch and dollar spot.

Experiments conducted at the great experimental farm of the U. S. Department of Agriculture at Arlington, just across the Potomac from Washington, and at two nearby golf courses have given encouraging results with compounds of thiuram sulfide, one of which had already proved its value as an insecticide and for controlling one fungus disease of apples. Light treatment of this applied to golf greens have kept the brown patch and dollar spot fungi under control without noticeable injury to the grass.

First announcement of results of the experiments is made by George E. Harrington of the U. S. Golf Association. (*Science*, March 28.)

*Science News Letter, April 12, 1941*

# CE FIELDS

GENERAL SCIENCE

## Scientific Society Here Aids Oldest in Britain

TO AID British scientists in publishing results of their researches, the American Philosophical Society has made a contribution of $10,000 to the Royal Society of London. A statement accompanying the gift expressed the hope that it would be used where it might be of most service in aid of science and learning in Britain.

"We make this gift," it concluded, "in filial regard for the Royal Society which was the model upon which Benjamin Franklin in 1743 founded the American Philosophical Society for Promoting Useful Knowledge Among the British Plantations in America and as evidence of the spirit of friendship and good will among men of science in both countries."

The Royal Society, chartered in 1662, is the oldest scientific society in Great Britain, while the American Philosophical Society is the oldest in this country.

*Science News Letter, April 12, 1941*

MILITARY SCIENCE

## Fire Control Device Aims Tossing Ship Guns

DIVE bombers, as well as enemy planes flying horizontally, are taken care of with a new automatic fire control system devised by Earl W. Chafee, of the Sperry Gyroscope Company. It is designed to operate even from a moving ship, pitching and tossing in a rough sea.

Details of the invention, as disclosed in U. S. Patent 2,235,826, just issued to Mr. Chafee, include an intricate electrical and mechanical system, connected with the range finder and automatically moving the guns. When the plane is sighted the mechanism calculates its exact distance and direction. To devices previously invented which do this for a fixed position, Mr. Chafee has added a second converter. First is figured the plane's position relative to fixed axes, then these are converted, with the aid of a gyro-compass, to a position relative to the ship. Since the guns are on the ship, they are then properly aimed.

Another part automatically figures out where the plane will be going, even if it starts diving, and keeps the guns aimed at the target.

*Science News Letter, April 12, 1941*

GENETICS

## Human Heredity Clinic To Study Defects, Diseases

STUDY of the inheritance of physical defects and tendency to diseases in human beings will be undertaken at the University of Michigan, as the result of the establishment of a department of human heredity in the University's laboratory of vertebrate genetics, and of a heredity clinic to be housed in the University of Michigan hospital. The new department and clinic will be closely associated with the University's medical school.

Although one or two clinics of this kind have operated in Europe, none has hitherto been established in this country. Among the subjects selected for special attention are hereditary dental abnormalities, body proportions and growth, speech defects, and deafness.

*Science News Letter, April 12, 1941*

MEDICINE

## Renin From Hog Kidneys Reduces Blood Pressure

RENIN, a substance extracted from kidneys, was so successful in reducing high blood pressure in dogs that, if it continues to live up to its present promise, it will be given a trial as a high blood pressure remedy for man, Dr. G. E. Wakerlin and associates at the University of Illinois report. (*Science*, April 4.)

Working with Dr. Wakerlin were Dr. C. A. Johnson, Dr. B. Gomberg and Dr. M. L. Goldberg.

The mechanism by which the high blood pressures were reduced, the scientists believe, probably involves development of immunity or perhaps of an antihormone. They have previously produced an antiserum for renin and the present experiments were undertaken with the idea of determining the value of "antirenin" actively produced in the treatment of experimental high blood pressure.

The anti-high blood pressure effect of the hog renin was not, in their opinion, due to the coincidental presence of an anti-high blood pressure substance from kidneys which two other groups of scientists have recently reported.

*Science News Letter, April 12, 1941*

MEDICINE

## Fever Treatment For Sick Bacteria

A NEW method of controlling virus-caused sickness in man, such as influenza, colds and infantile paralysis, may result from a discovery announced by Dr. A. P. Krueger, University of California bacteriologist who is commander of a laboratory research unit of the United States Navy working at the University in Berkeley.

A fever treatment for bacteria protected them from a virus that is as dangerous to them as the viruses of smallpox and yellow fever are to man, Dr. Krueger discovered. The bacteria-destroying virus is bacteriophage.

Bacteriophage, Dr. Krueger explained, holds a unique place among viruses. Instead of being harmful to an organism, it is beneficial, for it attacks disease-causing bacteria. Bacteriophage has been called a virus disease of bacteria.

As bacteria grow in an organism, each germ develops a substance, called a precursor, on which bacteriophage thrive. As the bacterium grows, the precursor increases and more phage develops. Soon the bacterial cell literally explodes with the accumulation of its parasite.

By keeping the bacteria at a constant temperature, Dr. Krueger discovered that the production of precursor and the growth of phage was halted. A mixture of growing staphylococci, a phage-producing bacteria, was kept at a temperature of 42.3 degrees centigrade. The bacteria continued to grow at this temperature, but no bacteriophage was formed.

*Science News Letter, April 12, 1941*

PUBLIC HEALTH

## Hospital Census Shows 1,226,245 Beds Available

PATIENTS entered hospitals in the United States at the rate of one for every three and one-tenth seconds during the year 1940, it is revealed by the latest annual hospital census, taken by the American Medical Association. (*Journal, American Medical Association*, March 15.)

Babies entered hospitals, not by the front door but by the way of the obstetrical department, to the number of 1,214,492 during 1940.

The total number of beds now available in registered hospitals throughout the nation is 1,226,245.

*Science News Letter, April 12, 1941*