NUTRITION

Vitamins A and C Low In Average U. S. Diets

THE AVERAGE DIET is most often low in vitamins A and C, calcium and iron, Dr. Agnes Fay Morgan, professor emeritus of the University of California, Berkeley, told delegates to the American Home Economics Association meeting in Denver, Colo.

She said increased consumption of certain fruits, vegetables and nonfat milk solids might remedy the lack.

The California Agricultural Experiment Station scientist studied the eating habits of more than 12,000 persons in four parts of the United States from 1947 to 1959. The nutritional status of the American people was found to be generally good.

Science News Letter, July 9, 1960

MEDICINE

Monkeys' Mosquitoes Transmit Malaria to Man

THE FIRST evidence that monkey malaria can be transmitted to man by the bite of an infected mosquito was reported by Public Health Service scientists at the National Institutes of Health, Bethesda, Md.

The success of the experiments directly challenges the general concept that malaria cannot be transmitted from animal to man by the mosquito.

The study originated from accidental infections involving a doctor and an assistant at the Institutes' Memphis, Tenn., laboratory. Dr. Don E. Eyles was working on large-scale inoculations of monkeys with primate malaria when he and his assistant developed illness with fever.

Neither had been in contact with human malaria, but malaria parasites were demonstrated to be in their blood.

The two accidental infections were followed by two planned infections with volunteers from the staff. Both came down with malaria from which they recovered.

The experiments are reported in Science, 131:1812, 1960, by Drs. Eyles, G. Robert Coatney and Morton E. Getz, all of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases.

Science News Letter, July 9, 1960

AGRICULTURE

Sowing Wild Oats Improves Breed

SOWING WILD OATS is highly approved by the U. S. Department of Agriculture, if the wild oats are the Saia variety. These are oats that offer life-long resistance to crown rusts, stem rust, smut and other fungus diseases of oats that have plagued oat growers in the major producing areas of the world, including the United States.

Experiments to transfer Saia's resistance to the more cultivated, domesticated varieties have been conducted with promising success by Drs. K. Sadanaga and Marr D. Simons of USDA's Agricultural Research Service working with the Iowa Agricultural Experiment Station.

The wild oat's desirable resistant qualities were successfully transferred to an intermediate species, Aberdeen 101. Aberdeen 101, the "genetic lucky break" that resulted some years back from crossing wild oat Saia and an intermediate oat, has Saia's gene resistance as well as the characteristics of the semi-cultivted variety.

In 1957, when rare crown rusts broke out, Saia's resistance to them was discovered. Aberdeen 101 was happily available for crossing with fully cultivated oats. The results, after crossing and backcrossing, resulted in progeny that display the good characteristics of the cultivated parents with Saia's resistance.

Science News Letter, July 9, 1960

PUBLIC HEALTH

Polio Cases Increase, Called Class Disease

A SHARP INCREASE in the number of polio cases has been reported by the Public Health Service, where a PHS official said the cases indicate polio has become a kind of class disease.

He said the lower socio-economic classes are not being reached by the Salk vaccine. "The only way to get the unvaccinated groups to protect themselves is through the visiting nurse associations and similar group guidance," he added.

In certain parts of the country polio has been rising since May. Thirty-seven polio cases, 30 of them paralytic, were reported in the United States during the last week on which figures are available, that ending June 18. The week before only 19 were reported, with 16 of them paralytic.

The 30 paralytic cases are below the number reported in the same week in 1959, but above the comparable 1958 week. Twelve of 13 cases in California were paralytic. Polio is expected to reach its peak in August or September.

Science News Letter, July 9, 1960

HOME ECONOMICS

Predict Irradiated Foods On Sale by 1970

IRRADIATED FOODS will be common in the supermarkets of 1970, it was predicted by the head of the department of home and family life of Teachers College, Columbia University.

Dr. Floride Moore told the American Home Economics Association meeting in Denver, Colo., that those who attend the 1970 AHEA convention will casually discuss the quality of irradiated foods picked up at market. She said the care of ultrasonic dishwashers may be another topic of conversation.

Dr. Moore predicted physicians would learn to treat cardiovascular diseases, cancer and mental illness as well as they have learned to control polio. She said that by 1970 they will also have "gained new understandings of the aging process, and significant advances will have been made in the field of geriatrics."

Science News Letter, July 9, 1960

IN SCIEN

INVENTION

Machine Harvests Irish Moss

SEAWEEDS are difficult to harvest and Irish moss particularly so. The alga grows to about three to five inches in length and normally attaches itself to rocky, uneven sea bottoms. Up to now, these plants had to be harvested by hand. Earl C. Jertson of Fairhaven, Mass., has now invented a machine capable of detaching large quantities of Irish moss from the sea floor and bringing it to the surface. It was awarded patent No. 2,941,344.

In essence, the device consists of an endless chain, similar to a rope ladder in shape. Rakes are attached to each of the "rungs" so they point along the chain. The ladder arrangement is fed out from one end of a boat and in at the other. The flexible rake-ladder follows the contours of the sea floor and catches the plants to be harvested.

The Irish moss is torn off the rocks and carried up to the boat where it is removed while the rakes are protected from all but the smallest rocks by the sides of the chain. Mr. Jertson assigned his patent to Marine Colloid, Inc., of Delaware.

Science News Letter, July 9, 1960

AGRICULTURE

Blood Spots in Eggs May Be Due to Chemicals

AN INCREASE in eggs with blood spots may be due to hens' picking up chemicals intended for rodents, Paul E. Sanford, poultry chemist at the Kansas State University, Manhattan, Kans., has reported.

He said another cause of the spots may be rations low in vitamin K. On a candled basis a one percent to two percent loss should be expected from blood spots, the scientist says, but if the grading loss runs much higher than two percent, a poultryman must become concerned.

Science News Letter, July 9, 1960

MEDICINE

Miscarriages, Mongolism Linked in British Study

MISCARRIAGES and mongolism are linked in a study. Drs. Alec Coppen and Valerie Cowie, both of Maudsley Hospital, London, studied 55 mothers of mongols (children malformed at birth and often imbeciles) and found "an extremely high rate of miscarriage."

Fifteen of the mothers had had one miscarriage, seven had had two, and three had had three or more.

Drs. Coppen and Cowie reported their study in the British Medical Journal, June 18, 1960.

Science News Letter, July 9, 1960

CE FIELDS

AGRICULTURE

Control Foreseen for Wheat Smut Fungus

WHEAT SMUT, a fungus disease that could cost United States wheat growers many millions of dollars a year, is expected to be brought under chemical control.

Dr. Vernon H. Cheldelin of Oregon State College told an American Chemical Society meeting in Richland, Wash., that a substance believed responsible for the dwarfing of wheat, one of the first symptoms of the disease, has been identified. The substance is a natural product of a smut fungus called *Tilletia contraversa.*

The material, oxalic acid, is capable of removing from wheat tissue nutrients that are essential to growth, Dr. Cheldelin said.

Research on the life process of smut fungi is expected to reveal information on the nature of the parasites and on the resistance of wheat to them. This insight may lead to logical control methods, Dr. Cheldelin reported.

The only defense against wheat smut at present is to breed resistant strains of wheat. However, smut fungi can, by interbreeding or mutation, produce new races capable of attacking the "resistant" wheat.

Wheat smut, which seriously limits the wheat crop in the northwestern states and threatens to spread to every wheat center in the world, shows up as black spores that replace the wheat kernels.

Dr. Cheldelin said that it is still necessary to prove that oxalic acid is toxic to the wheat plant. He suggested that the plant possesses a mechanism for detoxifying the acid, or that only smut-resistant plants have this capacity.

E. J. Vaisey and Dr. R. W. Newburgh, also of Oregon State College, were co-authors of the report.

Science News Letter, July 9, 1960

GEOLOGY

"Star Dust" Contains Rare Material, Coesite

THE "STAR DUST" sold in souvenir bottles at the meteor crater near Canyon Diablo in Arizona contains a rare material, coesite.

Previously, coesite was made only in small quantities in laboratories, by squeezing silicon dioxide, common quartz, under extremely high pressures. The discovery that coesite occurs naturally under high pressures was made by Edward Chao of the U. S. Geological Survey.

If the moon's craters were also made by the impact of meteors, as many scientists believe, then chances are good there are diamonds on the moon. The diamonds would be produced under the extremely high pressures generated when meteors smashed into the lunar surface. The high pressures cause crystalline changes, such as occur when graphite is changed to diamond or quartz to coesite.

Except for meteor craters and small laboratory quantities, coesite is believed to exist on earth only at depths below 40 miles.

Geologists believe that coesite might be discovered on the earth's surface if a careful search were made. This would mean that the rocks in which coesite was found had been carried from great depths to the surface in times long past.

Scientists at both the Carnegie Institution of Washington and the University of California at Los Angeles, among others, have prepared coesite in the laboratory. They have instruments that duplicate conditions under which rare materials are formed at extreme depths.

Science News Letter, July 9, 1960

INVENTION

New-Type "Parachute" Works Like Autogyro

PERHAPS THE FIRST really new device invented for slowing one's fall from aircraft and high buildings since people started using parachutes won patent No. 2,941,763 for Dimitrij Oleksij of East Orange, N. J.

Mr. Oleksij sees numerous disadvantages in the conventional type of parachute used today. It is difficult, and often impossible, to control the direction of one's fall. Troops are sometimes carried behind enemy lines.

Parachutes also require a considerable time to open and are thus limited to high jumps. In military operations conventional parachutes are visible from a great distance.

The new invention is said to eliminate these disadvantages. It consists of two autogyro-like rotors mounted one above the other on a central cylindrical column. In descent, the rotors will turn in opposite directions. Therefore, there will be no over-all rotation of the device.

Extending from the bottom of the column there is a bar and on the other end of the bar a "T piece" on which the user sits. Attached to the outside of the upper column below the rotors are a safety strap which loops around the user's body and a rigid handle with which the user may tilt the rotor column relative to the seat and thus steer his descent.

When not in use, the seat bar is thrust up inside the upper column and the rotor blades fold down next to the column to make a conveniently sized pack.

Science News Letter, July 9, 1960

ROCKETS AND MISSILES

Largest Hydrogen Rocket Engine Fired

FIRING TESTS of the largest liquid hydrogen-liquid oxygen pump fed rocket engine in the free world have been completed successfully, Aerojet-General Corporation, Azusa, Calif., announced. Designed to produce 200,000 pounds of thrust in space, the experimental device is the first big engine to burn liquid hydrogen.

Science News Letter, July 9, 1960

DENTISTRY

Adults' Crooked Teeth Helped by Headgear

ADULTS' CROOKED TEETH can be straightened by a special headgear appliance worn only at night.

Dr. Sanford N. Kingsly, a Brooklyn, N.Y., orthodontist, reports in the Journal of the American Dental Association, July 1, 1960, that age is no longer the determining factor in teeth-straightening treatment. He has treated adults from 25 to 48 years of age successfully.

Dr. Kingsly says in treating adults special headgear for use at night is often recommended so that the patient will not have to wear noticeable bands during daytime activities.

Appearance is especially important, he emphasizes, in the case of careerists such as television performers

He tells of an actress who had been trying to hide her teeth. After 20 months the headgear treatment of 12 hours out of the 24 proved successful.

"An improved facial appearance had an extremely beneficial effect on the personality of the young lady."

Science News Letter, July 9, 1960

PUBLIC SAFETY

Children's Mimicry Leads to Poisoning

PARENTS SHOULD swallow their pills out of sight of their children, Dr. Alfred J. R. Koumans of Norwalk, Conn., reports in Pediatrics, published by the American Academy of Pediatrics. He said that in a study he made, 67% of the children under five poisoned by taking excessive doses of medicine were mimicking parents. His study showed that the drive to imitate leads children to climb up to reach bottles or packages of pills.

Science News Letter, July 9, 1960

HOME ECONOMICS

Food Specialist Praises Convenient Foods

YOUNG HOMEMAKERS have guilt feelings over buying foods in more convenient forms than those used by their mothers, Mrs. Jeannette Lynch, food marketing specialist with the Colorado Extension Service, told the American Home Economics Association meeting in Denver, Colo. She said a food distributor's survey on motivations and values revealed the feelings.

But she said a comparison of the nutritive value, the quality and the preparation time of convenience foods with ordinary forms of the same foods may help eliminate such guilt feelings.

She reported the research during a panel shared by Virginia Smith, Extension supervisor, Kansas Extension Service, and Mrs. Ella Anderson, home demonstration agent, Virginia Extension Service.

Science News Letter, July 9, 1960