

PSYCHOLOGY

Skeet Shooting Aids Aim Of Army Air Fighters

TRYPING to hit a clay pigeon is so much like trying to hit an enemy plane that Army air fighters are being given intensive training at the semi-circular firing line of the skeet field, the War Department has disclosed.

The ability to gage the distance a gun must be aimed ahead of and over a moving target is needed by both pilots who fire stationary guns and non-pilots who fire turret guns.

Army air force training officers point out that skeet shooting gives most students their initial contact with the art of swinging and following through on a target.

Many of the nation's crack skeet marksmen, including several champions, are now assisting with this program, the War Department said.

Science News Letter, May 2, 1942

AERONAUTICS—EDUCATION

New York Public Schools Plan Aviation Courses

PUBLIC schools in New York State will be ready next September with elective courses in aviation beginning with the first grade and continuing through senior high school.

Pupils in grades 1-3 will draw pictures of planes, visit airports, collect aviation pictures and read about aviation, while senior high students will undertake the construction and flight of gliders. Between these two phases, every aspect of aviation consistent with the age and ability of the pupils will be taught. The courses were designed by Roy G. Fales, state supervisor of industrial arts training, and Dr. L. A. Wilson, state deputy commissioner of education.

Purpose of the courses is to build a generation even more interested in and familiar with aviation than the present generation is with the now fading automobile.

Mr. Fales reports that model aircraft building had aroused so much interest in aviation among youngsters that even parents and teachers were asking for information.

He noted, however, that a long-range program for students beneath the college level will require full cooperation of the Army, Navy, Civil Aeronautics Administration and parents and teachers.

Mr. Fales said instructors in industrial

arts can learn the needed skills for aviation instruction in a one-week intensive course. He advocated that such courses should be immediately developed by local industrial arts teachers' clubs if their membership includes a teacher who is prepared.

Plane building can be done on any bench or light table, and as a rule students may be expected to purchase model kits. He said expenses to individual schools can usually be held to a small figure for the cost of housing facilities.

(Robert H. Hinckley, Assistant Secretary of Commerce for Air, recently supported introduction of aviation courses in elementary and secondary schools throughout the country by September.)

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WILDLIFE

Beaver's Summer Food Mainly Grass, Not Bark

BEAVERS, we were all taught in our first nature-study lessons, feed on the bark of trees which they cleverly fell with their chisel-like teeth. That's true enough for their winter food habits, but it now develops that they become grazing animals to a very large extent during the summer.

Their preference for grass in summer has not been noted before, apparently because nobody bothered to watch beaver very closely in summer, David B. Cook, of the New York State Conservation Department, told the meeting of the American Society of Mammalogists in New York. He watched a colony of beaver in eastern New York for eight seasons, and found that they preferred to get their meals in the thick sward of grass that grows around the margins of their muddy ponds.

They did not entirely abandon their wintertime diet of tree food, however. Next to grass, they liked to nibble aspen and other hardwoods. They also fed to some extent on roots and tubers dredged from pond bottoms, with a light garnish of seed-heads and flowers.

A crop of food—potatoes, wheat, rice—for human beings can be grown every year. It takes much longer for a crop of beaver food to grow. Prof. Albert R. Shadle and Edward Gese of the University of Buffalo reported on studies on aspen reforestation in Allegany State Park, which indicate that 20 to 25 years is required for replacement of these food trees once beaver have cleaned them out of a given area.

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IN SCIENCE

CHEMISTRY

Vitamin A Supply Doubled By Find of New Chemical

DISCOVERY of a new parent chemical for vitamin A which will double the amount of the vitamin that can be obtained from whale and probably other fish liver oils was announced by Dr. Norris D. Embree and Edgar M. Shantz of the laboratories of Distillation Products, Inc., at the meeting of the American Chemical Society in Memphis.

Whale liver oil, the chemists discovered, contains a chemical, named kitol, which can be turned into vitamin A in the laboratory by simply heating the oil to 500 degrees Fahrenheit. The kitol of whale liver oil has hitherto been discarded as an impurity when vitamin A was extracted from the oil. Its ability to become vitamin A was not suspected because animals cannot convert kitol into vitamin A as they convert the green and yellow coloring matter of plants into the vitamin. Scientists, on the other hand, have never been able to convert carotene or the other vitamin A parent chemicals into the vitamin in the laboratory.

Kitol occurs most plentifully in whale liver oil but is also found in most other liver oils.

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ENGINEERING

Tin and Electric Power Saved By New Process

HALF the tin that goes into a tin can, as well as electric power and labor, are saved by a new electro-plating process announced by E. I. du Pont de Nemours and Company.

The new process employs a neutral instead of an alkaline solution, and is said to eliminate sludge and the consequent waste of tin. It also plates twice as fast and with less electric power. It is being tried at several tinning plants.

The electro-plating process gives a thinner and more uniform coat of tin than the method of running a strip of steel through a bath of molten tin. The savings in tin are from 40% to 65%.

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CE FIELDS

PHYSIOLOGY

Vitamin A Discovered in Fish by Invisible Light

MUCH-NEEDED vitamin A, the good-eyesight factor, can be traced in fish tissue by means of ultraviolet light, the annual report of the Canadian Fisheries Research Board reveals.

Because vitamin A is fluorescent it picks up the invisible ultraviolet light and translates the rays into visible light. The problem of discovering which of various tissues is richest in A, and its extraction and concentration, is greatly aided by this technique, the report states.

Both Canada and the United States are anxious to discover and extract every possible unit of this vitamin needed for good vision at night and for general health and resistance to infections. The United States exports about ten trillion units annually to Great Britain under lend-lease terms.

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MEDICINE

New Sulfa Drug Announced; Expected to Help Win War

THE preparation of a new sulfa drug that is expected to do its share toward winning the war was announced by Dr. P. S. Winnek and associates, at the meeting of the American Chemical Society in Memphis.

One of the most troublesome diseases any cantonment has to deal with is bacillary dysentery—so common a nuisance that it is sometimes called “camp dysentery.” It may lay up most of the soldiers in a camp for several weeks, seriously interfering with training.

Standard treatment for this malady now is sulfaguanidine. This sulfa drug, reported to be relatively unabsorbable, stays in the intestine and kills the germs there.

Dr. Winnek and his associates of the American Cyanamid Company have made the molecules of this sulfa drug larger by tucking in another group of carbon, hydrogen, oxygen and nitrogen atoms, so that the new compound ap-

pears under the longer name sulfanylaminoguanidine. This is reported to be as unabsorbable as its relative now in use, and even more effective. Further tests are contemplated, however, before its large-scale clinical use in army camps and civilian life is undertaken.

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PSYCHOLOGY

Rats Do Not Learn Better With Extra Brain Cells

SCIENTISTS can increase the number of brain cells in baby rats, but the artificially produced cells do not help the animals later to learn to run through a maze, it is reported by Drs. C. J. Warden and Sherman Ross of the Animal Laboratory of Columbia University's Psychology Department and Dr. Stephen Zamenhof of New York City. Their work is described in *Science* (April 17).

The additional brain cells were produced by injecting the mothers with pituitary growth hormone before the baby animals were born. The resulting increase in number of brain cells in the young was 38.4% for the males and 40.6% for the females.

It may still be possible, despite lack of better performance on the maze problems, that this artificial increase of brain cells can lead to higher intelligence. Learning to run a maze, after all, does not require a very high level of intelligence. Perhaps in a task of greater complexity, the super-brained animals might display an advantage.

No indication was given by the scientists that the brain-power of humans can be increased in this way.

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ICHTHYOLOGY

Drought Killed Fish In Great Plains Region

THE terrible five-year drought of 1934-39 is only a bitter memory in the Great Plains region now, but its deadly effects have persisted. During the past half-century, 19% of the fish species once known from Nebraska have become extinct in that state, and the great drought is presumably responsible for a major share of the mischief, Dr. Raymond E. Johnson of the University of Michigan Museums stated before a meeting of the American Society of Ichthyologists and Herpetologists.

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MEDICINE

Hospitals Need Women For Technical Positions

HOSPITALS other than Federal Government institutions need immediately 20,000 professional and technically trained persons to fill current vacancies and have under way additions to present facilities that will require 20,000 more.

Most, if not all these positions could be filled by women, Dr. G. St. John Perrott, of the National Institute of Health, told the Conference on War Demands for Trained Personnel.

Of the 40,000 persons needed, about 36,000 are trained nurses or other persons giving nursing care. Others needed are: dietitians, technicians, medical social workers, medical record librarians and dental hygienists.

If the armed forces later find it necessary to call civilian hospital employees to fill military needs, the demand for trained women will be stepped up accordingly, he indicated.

Public health departments need 3,600 women at the present time. There are also openings for about 2,700 men and in some cases these men could be replaced by women.

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WILDLIFE

Marshes Help Indians Make a Better Living

MANAGEMENT of Canada's vast marshlands for the production of fur, especially muskrat and beaver, was pointed out as a genuine social-improvement program also, by D. J. Allan of the Canadian Department of Mines and Resources. Beneficiaries are the Indians of the regions, who are enabled to make a better living at an occupation which they understand.

“The Indian,” Mr. Allan stated, “sees how he can become a good Indian, capable of taking his place as a good and honored member of our Canadian family instead of a third rate imitation of a white man forced to compete in fields traditionally repugnant to his nature.”

“There is room in this field, if it is wisely developed and skillfully exploited, to provide a living, and a good living, according to his standards, for every one of our 120,000 Indians . . . And it can be done, and I hope it will be done, within the next ten short years.”

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