HORTICULTURE

Paint Weed Patches With 2,4-D, Is Advice

➤ PATCHES of weeds too close to flower beds or shrubbery to risk spraying with 2,4-D, for fear of harm to desirable plants, can still be killed with the toxic compound, L. W. Kephart of the U. S. Department of Agriculture suggests. Just spread the solution exactly where you want it with a paintbrush—being sure to clean the brush afterwards, and soak it for a day in a weak ammonia solution, before you touch any other plants with it.

Similarly, if you find a poison-ivy vine growing into your shrubbery, swab 2,4-D solution on its leaves with a brush, or a wad of cotton on the end of a stick, taking care not to get any on the leaves of your valuable bushes. You do not need to wet all the poison-ivy leaves; half-a-dozen of them will absorb enough 2,4-D to put the whole vine out of business.

Science News Letter, May 29, 1948

GENERAL SCIENCE

American Scientists Careful To Keep Military Secrets

➤ DECLARING that American scientists have done a good job keeping secrets, Dr. Edward U. Condon, director of the National Bureau of Standards, told the Washington Academy of Sciences that restriction of information requires a "delicate balance" between leaking military secrets and saving the benefits of a free exchange of scientific information.

Dr. Condon, who was called "one of the weakest links in our atomic security" in the report of a subcommittee of the House Committee on Un-American Activities, said that American scientists "have shown themselves singularly conscientious and discreet."

Pointing out that classification and security measures are needed now, the scientist warned against "unnecessary or needless regulations to hamper our progress."

Scientists, he urged, should not be treated either better or more suspiciously than any other group in personal investigations for loyalty or discretion.

"My own position has always been that I have nothing to conceal and if I have omitted to tell anything about myself it was either because I thought it was irrelevant or because I could not find anybody willing to listen," he said.

"A lot of the investigating that is going on today is in extremely incompetent hands and for that reason a waste of the taxpayers' money," Dr. Condon charged.

Stealing atomic secrets, he pointed out, would not be a simple spy job. The mere principles of modern science are complicated, while the valuable working secrets would be even more difficult to give away.

"I feel sorry indeed for any modern Mata Hari who might be assigned to get the secret of the atomic bomb by working her wiles on a young Army sergeant," Dr. Condon declared.

Science News Letter, May 29, 1948

ASTRONOMY-CARTOGRAPHY

Movies of Sun's Eclipse Aid in Improving Maps

➤ HOPES for better maps of the world through movies of the sun taken during the annular eclipse May 8 and 9 were raised high by receipt of good word from the project commander of two B-29's assigned to study the eclipse above the clouds.

Radio blackouts experienced over that week-end did not disturb receipt of the all-important time signals originating from the National Bureau of Standard's radio station in Washington. But they did keep from getting through the reports of "mission successful in every sense of the word."

If careful study of the eclipse photos confirms the complete success of the B-29 mission, it may make it possible for the first time to tie in the U. S.-Canadian geodetic survey networks directly with Asiatic systems. This is the judgment of Dr. Lyman J. Briggs, chairman of the National Geographic Society's Committe on Research. Differences in the times of second and third contact as observed from various points of observation is used to check on the longitude of the respective sites.

Unfavorable weather defeated observations at three of the five sites located on the Asiatic side of the Pacific to study the eclipse. Only the parties at Bangkok, Siam, and Rebun Jima, Japan, were successful.

Until the B-29's reported, the eclipse study had produced data for only a single map tie-in, that of Siam-Japan. Success of the Superforts may multiply that by three, for now the potential tie-ins promise to be Siam-Japan; Siam-Aleutians, and Japan-Aleutians.

Science News Letter, May 29, 1948

IN SCIENCE

PHOTOGRAPHY

Slow-Burning Film Developed for Movies

➤ A NEW slow-burning type of motion picture film base, developed by the Eastman Kodak Company, is claimed to be safer than the so-called safety film now used in home movies. It is described as a "high acetyl" acetate type, and it is intended to replace the cellulose acetate propionate base film.

It may also replace the cellulose nitrate film which is now widely used for professional motion pictures. It has proven satisfactory under tests of special prints of several feature pictures that were circulated through film exchanges in different parts of the country.

Nitrate film burns rapidly. Safety film generally is a slow-burning type. The low shrinkage of the new safetv base will also keep the film free from buckle and the resulting in-and-out of focus images on the motion-picture screen. The new film has tensile strength comparable with the nitrate type and equal projection quality.

Science News Letter, May 29, 1948

WILDLIFE

Pellets From Shotgun Shells Kill Ducks They Miss

➤ LEAD SHOT that never hit any ducks may nevertheless be partly responsible for the present alarming decline in the duck population, suggests Vincent H. Reid of the Minnesota Division of Game and Fish, *(Journal of Wildlife Management, April)*.

Gizzards of 1,084 wild ducks which were analyzed in his study contained lead shot in slightly over nine percent of all cases. The ducks had picked up the pellets along with their food from the shallow bottom mud. It is known that such gizzard pellets can cause more or less severe lead poisoning, which may affect the ducks' ability to reproduce if it does not kill them outright.

The problem of lead poisoning from spent shot is becoming more acute, Mr. Reid remarks, because increasing numbers of hunters are now shooting over Canadian and western waters where the main breeding grounds are.

Science News Letter, May 29, 1948

FIELDS

NUTRITION

Food Habits Important In Keeping the Peace

➤ TO HELP solve the problem of keeping the world healthy and peaceful, the World Health Organization needs to find out much more about the food habits of little children.

This is the opinion of Dr. Frank A. Calderone of New York, WHO official, who spoke at the Woods School research clinic conference.

Here are some of the things that Dr. Calderone finds we must know:

Is food something to be fought for? Or is food forced on the infant so that he gets too much of it?

Do children develop habitual hunger, with feelings of dissatisfaction and restlessness, due to supplementary foods being given so late in infancy?

What about weaning the baby—is this ruthless and agressive or gentle and comforting?

Does daddy become a competitor in childish eyes because he is fed first at mealtime?

Are there dangerous stored-up hatreds created in a country where there is food shortage but a powerful and fortunate neighbor has enough to eat?

With such information, Dr. Calderone predicted that the virus of man's hatred for man can be conquered and the world made more peaceful.

Science News Letter, May 29, 1948

GENETICS-PSYCHOLOGY

Family Size Limit May Depend on Father

➤ THE father's ability to have children, rather than the mother's, is the chief factor determining the size of the family.

The discovery pointing to this was made in a study of 801 living pairs of twins 60 years old or more. This and other findings in the study were reported by Drs. F. J. Kallmann and G. Sander of the New York State Psychiatric Institute, Columbia University, at the meeting of the American Psychiatric Association in Washington.

News services, hospitals, welfare agencies and homes helped the scientists locate the twins for study. All the twins are residents of New York State.

The discovery that the father's ability to have children, or reproductivity, governs the size of the family comes from the finding that in males as well as in females, two-egg, same-sexed twins have greater reproductivity than one-egg, same-sexed twins. That this is true of male twins is a new discovery. It needs confirmation by more ample data, it was pointed out, before it can be taken as definitely establishing that the size of the family is chiefly governed by the father's reproductivity.

Celibacy was highest in one-egg female twins, due possibly to the psychological factors of their relationships and personality attitudes toward marriage.

Unexpected was the finding that sterility occurred in one partner of one-egg male twins twice as often as in two-egg male pairs. This, also, the doctors explain on a psychological basis. Marital disharmony, they point out, was found particularly common with one-egg male twins due to the unusually close relationship of the twin brothers.

Life cannot be extended beyond the optimum limit of any person's vital capacity, longevity studies of the twins showed. These studies are based on 58 pairs, both members of which have died of natural causes. The difference in the time one partner outlived the other was almost double between two-egg partners than that of one-egg pairs.

Science News Letter, May 29, 1948

METALLURGY

Low-Grade Iron Ore Up-Graded by Magnetizing

➤ IN ANTICIPATION of a time when it will be necessary to use lower-grade iron ores, a process for improving them by conversion from non-magnetic to magnetic state has been developed by Charles F. Ramseyer of Old Greenwich, Conn. It consists simply of grinding the ore to a fairly fine powder, then heating it for a few minutes in the presence of a reducing gas such as hydrogen or carbon monoxide, at a temperature between 500 and 1,000 degrees Fahrenheit.

About one-fourth of the iron in each particle is thus rendered magnetic, which permits the workable ore to be separated from the worthless mineral or gangue by passage (preferably in a wet condition) over a suitable electromagnetic device.

U. S. Patent 2,441,594 on this process has been assigned to H. A. Brassert and Company, of New York.

Science News Letter, May 29, 1948

AERONAUTICS

Fog-Piercing Lights Aid Blind Landings

➤ TWO COMMERCIAL airports of the United States, one in Washington and the other in Los Angeles, are to be equipped with recently developed and tested high-intensity approach lights, the Civil Aeronautics Administration revealed. They are lights that penetrate fog for considerable distances and permit pilots making instrument landings to make the last part of their approach visually.

The powerful lights include a new type of optical system consisting of ground and polished glass and molded red plastic lenses. Each light is equipped with a five-kilowatt incandescent lamp. The system comprises a row of lights 3,000 feet long, spaced 100 feet apart, which extends out from the approach end of the instrument runway. The intensity of the lights can be regulated from the control tower. Each of the two installations, for which contracts have now been signed, will cost about $100,000.

Science News Letter, May 29, 1948

ENGINEERING

Heat-Conducting Glass De-Ices Windshields

➤ NO ICE will form on automobile windshields the glass of which is heated by electricity passing through an invisible film coating. There is one catch, however. Higher voltage is necessary than found on the average family automobile.

The new windshield is a product of Libbey-Owens-Ford Glass Company and has been thoroughly tested during the past winter on several cars in all sorts of freezing rain and below-zero weather. The glass is heated by a continuous electric current which passes through the coating. The covering film is basically stannic oxide, which can be made from any number of tin compounds. Its slight coloring offers no noticeable decrease in visibility.

The recommended scheme to get sufficient voltage is to replace the conventional generator on the car with an alternating current generator. Its current can be transformed to voltages sufficiently high to perform the heating operation. Generators now used in cars for radio transmission can be used for the de-icing.

Science News Letter, May 29, 1948