

## METEOROLOGY

**Good Moisture Conditions Promise Good Wheat Crop**

➤ BREAD for our own needs next year, with some to spare for hungry peoples yet to be liberated from the oppression of invaders, is promised by good soil moisture in most of the areas where winter wheat is a major crop, the U. S. Weather Bureau's regular weekly survey of crop-weather conditions indicates.

Recent generous rains in the South and Southeast have improved prospects considerably. The great wheatfields of Texas, Oklahoma and Kansas are in especially encouraging shape, with good snow cover in the latter state. The reports from Nebraska and Iowa were not so optimistic; more moisture was needed there. There are also some dry spots in Ohio valley wheatfields, but for the most part conditions there are normal.

Improved moisture conditions have been helping prospects for fresh vegetables from the South, and in the West persistent green on winter pasture has helped greatly in saving feed.

*Science News Letter, January 15, 1944*

## SOCIOLOGY

**Statistics Show Increase In Juvenile Delinquency**

➤ JUVENILE delinquency increased 16% between 1940 and 1942, the Office of War Information states in a report of information from the U. S. Children's Bureau, the Federal Bureau of Investigation and a score of other agencies, both public and private.

Newcomers to the ranks of juvenile delinquency since the war are the commando gangs and the teen-age pick-up girls. Numerically, these 14- and 15-year-old amateur prostitutes are more important, it appears from the figures showing a 38% increase in juvenile delinquency among girls, compared to an 11.3% increase for boys.

Figures do not tell the whole story and may give an erroneous picture in some cases, the OWI report points out. Juvenile delinquents are children caught violating the law and brought into the juvenile court. In some localities, however, children who are caught breaking the law may be dealt with by police or social agencies, without being brought to juvenile court. This lowers the delinquency figures for that community. In other communities, the figures may be equally misleading on the other side. In a New

England town, for example, the delinquency rolls were increased by a 12-year-old boy brought to the court because he tried to wriggle a penny out of a slot machine.

The picture is not all dark, however.

"Many of the authorities who furnish authentic data about the rise of juvenile delinquency in certain areas," OWI reports, "likewise furnish equally reliable data to indicate that the great majority of American children are measuring up well to the demands of the war emergency."

Crowded homes and schools, absence of parents, lack of religious or recreational facilities, the spell of the uniform and the lure of the pay check are among the causes given by various authorities for the war rise in juvenile delinquency.

Remedies tried vary from curfew laws to dry night clubs for teen-agers. Careful study of the problem locally, followed promptly by action to remedy the causes found in a community, seems to offer most promise of effective control of the situation.

*Science News Letter, January 15, 1944*

## WILDLIFE

**Wartime Rations For Pheasant Chicks Mapped**

➤PHEASANT CHICKS adapt themselves to wartime diets in which the customary dried milk products, meat scraps and fish meals are replaced by less expensive and more plentiful soybean oil, dried whey and dried brewers' yeast to a far greater extent than generally anticipated, W. J. Stadelman, R. R. Murphy, E. W. Callenbach and R. V. Boucher of Pennsylvania State College report. (*Journal of Wildlife Management*, January)

In an experiment carried out by the Pennsylvania State College scientists, eight groups of 125 ring-necked pheasant chicks were reared to six weeks of age with eight varieties of these substitute product rations. All the rations tested were found highly satisfactory.

A factor of considerable importance in diet choice, the scientists point out, is the resulting quantity and quality of feather development and maintenance. The birds in all eight groups were sufficiently feathered for release at the end of the six-week period.

Selection of any of the rations in this report should be based primarily on availability and relative cost of the ingredients specified, the scientists recommend.

*Science News Letter, January 15, 1944*

**IN SCIEN**

## AGRICULTURE

**Crop Insect Pests May Be Combated by Heat Method**

➤ TO ASSIST harried South American farmers who are losing as much as 50% of their corn crop because of insects, but are unable to obtain fumigants to combat them, a new method of attacking by heat is under investigation by the Institute of Inter-American Affairs at Iowa State College.

Now being developed by Paul Douglas, associate engineer of the food supply division of the Institute, the solution to this South American farm problem calls for the construction of a brick storage building, 14 feet high and six feet wide, in which can be stored 160 bushels of shelled corn, the harvest from about ten acres.

Through the center of this building, a wood furnace and flue are built to furnish the temperature of 120 degrees Fahrenheit which is needed to kill the pests.

Detailed plans for the structure, method of operation, handling of the corn at harvest, preliminary drying for storage and determination of moisture content are expected by Mr. Douglas to be available for the South American farmers upon completion of the present research project.

*Science News Letter, January 15, 1944*

## ORDNANCE

**Cooling Method for Machine Guns Uses Compressed Air**

➤ A METHOD of cooling machine guns by means of compressed air instead of the more familiar water or atmospheric air is the subject of patent No. 2,337,840, issued to Hubert Scott-Paine and R. W. Jaggard of Hythe, England.

Escape of air from the flask, in which it is provided at a pressure of 300 pounds per square inch or over, is controlled by a valve, which in turn is thermostatically governed by the degree of the gun's heating. The weapon is said to weigh much less than a water-jacketed machine gun, and not to require the frequent change of barrels necessary in the conventional air-cooled type.

*Science News Letter, January 15, 1944*

# CE FIELDS

## CHEMISTRY

## Pest-Killing Chemicals Are Now Being Catalogued

► "CHOOSE your weapons!" will have more efficient significance to fighters against insect and fungus pests, once the general catalog of all known pest-killing chemicals now being compiled has been completed and published. Prof. Donald E. H. Frear of the Pennsylvania State College, who has charge of the task, states that already about 5,000 individual compounds have been listed and their properties described, from more than 500 published sources. (*Science*, Dec. 31, 1943)

Prof. Frear is anxious to add more insecticides and fungicides to his list. He invites fellow-scientists to send in names and descriptions of any they have tried, even those that have not proven successful. It is often worth while reporting negative results, to enable other workers to avoid repeating the experiments, with loss of time and money. Sometimes, too, a later worker can find and remove the "bug" in an earlier experiment, carrying it through to success.

The catalog will be published at the earliest practicable date, Prof. Frear states, adding that every scientific worker who sends in a useful addition to pesticidal knowledge will be assured of a copy.

*Science News Letter, January 15, 1944*

## NUTRITION

## Potato No More Fattening Than Big Juicy Apple

► WHAT WITH a bumper potato crop on hand and many other foods being scarce, we are all probably eating more spuds this winter than ever before. Those who are trying to regain or retain a slim figure are probably rather worried over this prospect.

If you know your calories, you know that one medium-sized baked potato is no more and no less fattening than a big juicy apple, a large orange or a medium-sized baking powder biscuit. Each of these four foods contains about 100 calories.

Of course, not many persons eat more than one big orange or one big apple a day, whereas many eat at least two medium-sized potatoes daily. The pota-

toes, moreover, usually get their calories, and fattening quality, stepped up by the butter or margarine or other fat served with them. These facts doubtless account for the reputation potatoes have acquired for being fattening.

On the other side of the picture, if you are really interested in keeping your weight down, consider the baking powder biscuit. With our present fat ration, you probably will not be getting these very often, but when you do have them, how often do you limit yourself to one medium-sized one per meal?

Potatoes furnish more than the calories which come from its 11 to 21% starch content. There are vitamins and minerals in potatoes, too. U. S. Department of Agriculture home economists point out that, weight for weight, potatoes have one-fourth as much anti-scurvy vitamin C as oranges or lemons. This is something to remember during the season when oranges are scarce and expensive.

Potatoes also supply some vitamin A (sweet potatoes are particularly good in this respect), and two B vitamins, thiamin and riboflavin. Finally, they are a good source of iron and phosphorus.

*Science News Letter, January 15, 1944*

## HORTICULTURE

## Expert Victory Gardeners Asked to Assist Amateurs

► DID YOUR last year's Victory Garden crop set the production pace in your area? If so, you should lend a hand in the gardening problems of your less experienced neighbors, whose crops of radishes and weeds looked a bit sickly in comparison with your flourishing homegrown supply of edibles, the U. S. Department of Agriculture urges.

In many a neighborhood last year, it is reported, seasonal gardeners raised from two to five times as much food as the man next door who tried just as hard but couldn't get results. Although many of the old-time gardeners are glad to help, they hesitate to offer advice unless asked. And the Victory Garden headquarters of the Department of Agriculture strongly recommends that local Victory Garden committees everywhere assist in the asking.

The burden on transportation and food production last year was substantially eased by the output of 20 million Victory Gardens. Cooperation this year to boost the output would go a long way in lessening the pinch of the current manpower shortage on the home front.

*Science News Letter, January 15, 1944*

## ZOOLOGY

## Rat Damage Last Year Estimated at \$200,000,000

► RATS are saboteurs of the most destructive sort, it appears from figures compiled by U. S. Fish and Wildlife Service biologists. The damage they caused last year is estimated at more than \$200,000,000—easily enough to pay for two new battleships of the Iowa class, or three aircraft carriers like the Essex.

Rat damage went up during 1943 not so much because there were more rats as because the cost of commodities in general had increased. Higher cost of living means higher cost of keeping rats on the premises.

Men experienced in rat control estimate the over-all rat population of American farms at around 60,000,000. The farm is the rat's great stronghold today; there he can find plenty of hideouts and plenty of food he can steal. Cities harbor fewer of the impudent vermin nowadays; improved rat-proof construction, better clean-up of garbage and the vanishing of the city horse are cited as factors in the rats' back-to-the-farm movement.

In addition to their role of thieves, rats are incendiaries. They steal matches, gnaw wire insulation, cause leakage of chemicals. Worse still, these vermin harbor smaller vermin (fleas) which in turn are carriers of two much-feared diseases: the American form of typhus fever, and bubonic plague.

*Science News Letter, January 15, 1944*

## CHEMISTRY

## Iron Salts Satisfactory For Leather Tanning

► IRON SALTS may be used in leather tanning while the scarcity of the standard chromium solutions continues, but the resulting leather will probably show less resistance to aging.

This conclusion has been reached in the National Bureau of Standards where Dr. Joseph A. Kanagy and Ruth A. Kronstadt have been studying the possible replacement of chromium salts with those of iron in tanning goat and calf skins. The work is continuing.

Ferric sulfate may be used satisfactorily, they find, if organic acids are added to the tanning solutions to stabilize them. Lactic, citric, gluconic and hydroxyacetic acids were found suitable. Considerably more iron than chrome is required to tan a piece of leather, the amount being about double.

*Science News Letter, January 15, 1944*