The use of gelatine as a medium to contain the silver halide was a more obvious idea. But it was not so easy to foresee that the sensitivity of silver salts would be much further increased when they were held in this medium. For long this remained unexplained, until it was noticed that some specimens of gelatine were much more active than others. This was ultimately traced by S. E. Sheppard to the presence of traces of mustard oil, a sulfur compound, in the more active specimens. This, in turn, depends in all probability on the pasturage on which the animals that afford the gelatine have been fed. The quantity present is incredibly small, comparable in quantity with the radium in pitchblende.

(To be concluded)

SCIENTIFIC EVENTS

AGRICULTURAL RESEARCH AT ROTHAMSTED

LORD FEVERSHAM, parliamentary secretary to the British Minister of Agriculture, announced recently that the Rothamsted Experimental Station at Harpenden, the oldest agricultural research institution in the world, had been granted £14,500 by the British government to meet half the cost of building extensions. The station hopes to celebrate its centenary in 1943 with a comprehensive building scheme.

According to the London *Times*, the investigations in progress at the experimental field plots and laboratories include research into the "take-all" infective disease, found in all places where there is an alkali light soil, which attacks wheat. In other parts of the world it is a serious disease, and Australia can lose 80 to 90 per cent. of a crop. With the development of mechanized farming the disease has appeared in Great Britain. The fungus persists in the soil, but it has been found that ground rye meal will halve its persistence.

The Department of Entomology is studying the migration of insects and their relation to climatic conditions. Ingenious traps have been arranged, some like glass lobster pots, which have been out in the fields for four years. The catch one night was 70,000 insects. With the data collected the station can get a measure of the total abundance of insects and so issue forecasts. Some of the experimental field plots have been under surveillance for 100 years.

At a luncheon given by the Lawes Agricultural Trust Committee, Lord Radnor, who presided, referred to the importance of Rothamsted. Since 1919 the loss of agricultural land was very nearly 20,000,000 acres, and while only 20 per cent. of this was due to town expansion, there was a considerable area of rough grazing and unproductive land. Many countries, on which Great Britain relied, were finding that the stored fertility of the land was coming to an end and that they would have to find other methods of agricultural production to maintain fertility.

RESEARCH LABORATORIES AUTHORIZED BY THE AGRICULTURAL ADJUSTMENT ACT

SECRETARY WALLACE has announced that research laboratories authorized by the Agricultural Adjustment Act of 1938 will be established in four major farm-producing areas. He also named the surplus farm commodities on which the work will be done during the initial program. Section 202 of the Agricultural Adjustment Act of 1938 instructs the Secretary of Agriculture to establish four regional research laboratories for research on new uses and market outlets for agricultural products. According to the law, funds available for the laboratories and their work must be divided equally among the four.

The areas are to be known as the Southern, Eastern, Northern and Western major farm producing areas. The states included in these areas are:

Southern Area: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina and Texas.

Eastern Area: Connecticut, Delaware, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia and West Virginia.

Northern Area: Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin and Michigan.

Western Area: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

In deciding on this grouping of states the distribution and type of agriculture production, farm population, farm income, value of farm property, total population and other facts were taken into account. Secretary Wallace pointed out that it is of first importance that the research load among the four laboratories should be equalized and coordinated for the efficient performance of the task specified by the Congress. This is especially necessary because the total funds available for these laboratories, $4,000,000, must be equally divided among them. He stated that the department had given full consideration to questions bearing on regional interest and unity in each area. They had realized from the beginning that the four major farm producing areas must be so defined and the work so organized that it would be possible ultimately to include in the program, so far as resources permitted, the major surplus commodities of interest to any area. The central idea throughout had been to secure results efficiently. These results

would know no boundaries of state or area, but would benefit agriculture throughout the country."

Work in the initial stages of the program will be concentrated on the following farm commodities and their by-products: In the southern laboratory, cotton, sweet potatoes and peanuts; in the eastern laboratory, tobacco, apples, Irish potatoes, milk products and vegetables; in the northern laboratory, corn, wheat and agricultural waste products; in the western laboratory, fruits (other than apples) and vegetables, Irish potatoes, wheat and alfalfa.

Secretary Wallace is planning for a conference within the next two months in each of the areas to consult with research institutions and representatives of producers and of industries.

SYLVATIC PLAGUE LABORATORY OF THE UNIVERSITY OF CALIFORNIA

THE University of California proposes to establish in connection with the Medical School in San Francisco a sylvatic plague laboratory to control sylvatic plague, which is now wide-spread in the rodent population of the western states. The plague, according to observations and studies thus far made, appears, however, to lack the virulence of other contagions, such as bubonic plague, that have appeared in the West in the past.

The establishment of the laboratory has been made possible by a gift of $24,000 from the Rosenberg Foundation of San Francisco. Of this amount $14,000 is to be used for the construction of a building and the balance for research and personnel. It is expected that the building will be ready by October 1. It will include a two-story section 12 feet wide by 36 feet long, and a one-story section 10 feet wide by 18½ feet long. The laboratory will be staffed and administered by the Hooper Foundation. The work of the laboratory will be concentrated on the rodent fleas, the principal carriers. Both the state and the university have been active in the campaign against sylvatic plague for some years past. All interested agencies have formed a Sylvatic Plague Committee, which has devoted itself to the collection of evidence of this plague everywhere on the American Continent and is taking measures to combat it. Anti-plague serum is being kept constantly on hand at the Hooper Foundation.

Four non-fatal human cases of the plague have been bacteriologically proved thus far, and there is said to be strong evidence that a fifth case was infected with the plague bacillus. The plague has taken a considerable toll among the rodent populations of the state, the infected fleas being found on squirrels, chipmunks, chickarees and other forms. The Hooper Foundation has counted thirteen rodents and rodent varieties that suffer from spontaneous plague, the list including squirrels, marmots, chipmunks, prairie dogs, mice and rats.

It is generally believed that the West Coast became infected in the course of the pandemic of 1894, which originated in Hongkong. It is assumed that rats conveyed the seed to the shores of California and spread it to the squirrels. It has now reached Montana and appears to be working eastward.

THE SQUIBB INSTITUTION FOR MEDICAL RESEARCH

E. R. SQUIBB AND SONS have announced the establishment of the Squibb Institution for Medical Research, for which a laboratory building in New Brunswick, N. J., has been erected at a cost of $750,000. It is planned to dedicate the laboratory in October. It is stated in the official announcement that research activity, already underway, has been organized in four main divisions—experimental medicine, pharmacology, bacteriology and virus diseases, and organic chemistry. In addition, the institute will conduct a biochemical laboratory and a medicinal chemistry laboratory.

To provide clinical facilities for the research staff, a plan of hospital affiliation is being worked out by the Division of Experimental Medicine. A free ward of fifteen or twenty beds will be maintained for the observation of patients in connection with various problems being studied at the institute.

Dr. Geo. A. Harrop, since last year director of research at New Brunswick, who was previously associate professor of medicine at the Johns Hopkins University and associate physician of the Johns Hopkins Hospital, has been appointed director of research in charge of the institute. Dr. Harrop will also be at the head of the Division of Experimental Medicine.

Other appointments are:

Dr. Harry B. van Dyke, professor and head of the department of pharmacology of the Peiping Union Medical College in China, has been made head of the Division of Pharmacology. He was formerly associate professor of pharmacology at the University of Chicago.

Dr. Geoffrey W. Rake, chief of the Division of Bacteriology, formerly research associate in the Connaught Laboratories of the University of Toronto, has been placed at the head of the Division of Bacteriology and Virus Diseases. Dr. Rake was previously an associate in the Rockefeller Institute for Medical Research.

The head of the Division of Organic Chemistry will be Dr. Erhard Fernholz, formerly of the University of Göttingen and Princeton University, and more recently with the research laboratory of Merck and Company.

Dr. Hans Jensen will be associate in charge of the biochemical laboratory. He was formerly associate in pharmacology at the Johns Hopkins University, where he cooperated with the late Professor John Jacob Abel, since 1932 in the laboratory for endocrine research.

William A. Lott, now of the research laboratory of E.