

respective neighborhoods for others that may still be bearing the disease.

The scouting and eradication campaign conducted by the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, has now reached impressive proportions. In the infested area, covering parts of Connecticut, New York and New Jersey a total of over 1700 square miles has been scouted to date, and specimens from more than 30,000 suspected trees have been collected and sent in to the laboratories for examination. About a third of these have received positive identification and the trees have been destroyed.

In all this work, the Federal forces are receiving full aid and cooperation from state and local authorities.

*Science News Letter, September 7, 1935*

## CHEMISTRY

## Increase in Research Projects Hints Economic Gains

**I**NCREASING magnitude of chemical research is the latest sign pointing to improved economic conditions, Prof. E. J. Crane of Ohio State University, head of the American Chemical Society's international reporting system, announced that during the first six months of 1935 the number of research projects completed was ten per cent. greater than in the first half of 1934. Abstracts of chemical reports from all parts of the world totalled 20,342 this year, as compared to 18,664 during the first six months last year. A staff of 400 men scattered over the globe is required to keep the abstracts of chemical research up to date.

According to the latest figures available to the Society's committee on unemployment there are some 931 trained chemists without employment at the present time, and an additional 683 who have been driven out of the chemical work into other fields. This situation is not believed to be hopeless, despite the fact that the number of chemists was augmented by 5,800 college graduates during the years 1933 and 1934. It is the committee's belief that the major unemployment difficulty is among chemists over thirty-five years of age whose places are being taken by younger men.

Kansas City, Mo., will be the scene of the Society's ninety-first meeting in the spring of 1936, and Pittsburgh will welcome it for the ninety-second meeting in the fall of 1936. The spring and fall meetings of 1937 will be held in Chapel Hill, N. C., and Rochester, N. Y., respectively.

*Science News Letter, September 7, 1935*

## GENERAL SCIENCE

# Government Aid Demanded For Research in Pure Science

**T**HE UNITED STATES Government, because of its failure to recognize the importance of sponsoring theoretical scientific research, is in danger of losing out in the race for fundamental discoveries upon which the future progress of the nation, industrially and otherwise, must depend.

A warning to this effect was issued recently by Dr. Roger Adams, President of the American Chemical Society in his presidential address before that organization's ninetieth meeting at San Francisco.

Dr. Adams said, in part: "Active participation of industry in the development of a national program of pure science to assure continued industrial progress is demanded, and the government should be a leader in this movement. The federal government, although it spends a staggering amount of money each year for applied research, at no time has shown a proper respect for research in pure science, even in its own bureaus."

To indicate the importance of theoretical research, Dr. Adams said: "The basic and fundamental information for over

ninety-five per cent. of our industrial processes has been originally discovered and described by university investigators in pure science."

Among countless examples he cited the development of the dye and aluminum industries, and the production of ammonia, X-rays, insulin, procaine and other anesthetics, war gases, rare gases such as helium for balloons or dirigibles and neon for illuminated signs, tantalum, an inexpensive substitute for platinum, and other substances such as titanium, tellurium, and gallium.

Among recent discoveries in pure science which are not yet but will some day be of importance to industry, he referred to heavy hydrogen and heavy water, and the many facts now being learned about the structure of atoms.

In conclusion he asked: "Is it not time to recognize the handicaps under which our scientific research in the United States has been accomplished and to seek the factors contributing to the improvement of pure science so it may be on a par with applied science?"

*Science News Letter, September 7, 1935*

## ENGINEERING

## Thin Aluminum Foil Highly Efficient as Heat Insulator

**T**HIN aluminum foil is found to be a highly efficient heat insulator in experiments being conducted in the torrid heat of Egypt, where tests include the metal for use in tropical helmets, the linings of tents and corrugated iron buildings.

Dr. G. P. Crowden of the London School of Hygiene and Tropical Medicine reports his Egyptian tests (*Bulletin of Hygiene*, April).

Laboratory experiments showed that a single such diaphragm of aluminum foil medially placed in an inclosed one-inch air space has the heat-insulating value equivalent to that of one inch of cork. In practical experiments conducted in corrugated iron buildings in Egypt, the temperature on the inner surface of a 3-ply lining was 12 degrees Fahrenheit lower than that on the inner surface of

the corrugated iron; while in a similar building which was provided with metallic insulation of aluminum foil in addition to the 3-ply lining, the temperature of the inner lining surface was 23 degrees Fahrenheit lower than that of the inner surface of the corrugated iron, and the air temperature of the latter building was 3.6 degrees Fahrenheit lower than that of the first.

Interesting results have also been obtained with the use of aluminum foil as a lining for tropical helmets. Laboratory experiments showed that the temperature inside a helmet lined with the foil was as much as 20 degrees Fahrenheit lower than in an otherwise similar helmet but having the usual fabric lining.

Dr. Crowden also emphasizes the value of reinforced aluminum foil for use in lining tents in hot countries. Field ex-