A Century of Entomology

ENTOMOLOGISTS in the United States are celebrating their first centennial year. This was established on the premise that a scientific pursuit emerges into a profession when someone is gainfully employed to devote his full time professionally to that branch of science. After surveying the early history of entomology in this century, the closest students of the subject agree that the inception of the profession here revolves around two official appointments. On 4 May 1854, Asa Fitch was appointed an official insect investigator for the state of New York. A few weeks later, on 14 June of the same year, Townend Glover was appointed by the Commissioner of Patents of the United States to collect statistics and other information on seeds, fruits, and insects in this country. Glover worked in a Division of Agriculture in the Patent Office.

Economic entomology in Europe antedated its establishment here by many years. According to L. O. Howard, however, insect-control measures suggested in practically all general books and papers on economic entomology in Europe prior to 1870 were ineffective and comparatively unimportant.

Before the turn of the century public attention was focused on entomologic problems because of the discovery of the gypsy moth in New England in 1889; the spectacular control of the cottony-cushion scale in California by *Vedalia,* a lady-bird beetle, imported from Australia also in 1889; the finding of the San Jose scale in the East in 1893; the spread of the boll weevil from Mexico to Texas in 1894; and the revolutionary discovery in 1898 by Ronald Ross in India that malaria is transmitted by mosquitoes.

A few of the major contributions of those working in the field of entomology in the past half-century are

Successful campaigns in the early 1900's to arouse the public to the menace of disease-carrying insects, particularly the common housefly.

Intensive antimosquito campaigns started about 1900.

Passage of the Plant Quarantine Act in 1912 to prevent entry of foreign plant pests and to prevent dissemination through the states of those accidentally imported.

Adaptation of airplanes for dusting agricultural crops, following World War I, and for spraying, following World War II.

Eradication of the Mediterranean fruitfly in Florida in 1929 and of *Parlatoria* date scale in California and Arizona by 1936.

Introduction of rotenone as a contact insecticide in 1930.

Invention in 1941 of the liquefied-gas-propelled method of dispersing an insecticidal aerosol, an invention that has developed within the last 9 years into a new $250-million industry.

Rediscovery of DDT in 1942, its use in stopping a typhus epidemic in Naples in 1943, and its subsequent adaptation to a wide range of insect control.

Development by the booming insecticide industry, starting in 1946, of a wide range of chlorinated hydrocarbon and organic phosphate insecticides, each with specific effectiveness against certain injurious insects.

Adaptation of ground- and air-spray equipment for dispensing concentrated sprays as mists or fogs at small per-acre dosages.

Large-scale control campaigns against the pink bollworm of cotton in the Southwest, the oriental fruitfly in Hawaii, and the citrus blackfly and Mexican fruitfly in northern Mexico.

Observation in 1948 that DDT-resistant strains of houseflies were developing in nature and later observance of similar resistance in mosquitoes.

Use of radioactive tracers in insect investigation, starting in 1949.

Investigation, beginning in 1950, of the possible uses of systemic insecticides—those that are absorbed by the plant and translocated internally.

Synthesis of pyrethrum; development of allethrin and its commercial production in 1949.

From these rapid advances, many made in the past decade, it is safe to conclude that "the first 100 years of professional entomology were the hardest."

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