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# SCIENTIFIC CAREERS IN ENTOMOLOGY RESEARCH



**Miscellaneous Publication No. 855**  
**Agricultural Research Service**  
**U.S. Department of Agriculture**

## SCIENTIFIC CAREERS in Entomology Research

Are you qualified to perform research that would aid in developing better ways to control insects that are harmful to man, livestock, and crops? Are you qualified to perform research on the utilization of beneficial insects? Are you taking college courses that will qualify you?

If so, you may be interested in employment in the Agricultural Research Service (ARS) of the U.S. Department of Agriculture. In ARS, the Entomology Research Division uses well-trained entomologists, chemists, insect pathologists, and insect physiologists.

This leaflet names the fields of research in which the Entomology Research Division is active. It also lists salaries and job benefits, summarizes qualification requirements, and tells how to get additional information.



BN-14404X

Application of insecticide granules to experimental corn plot.



N-24337

Chemist conducts research on insecticides.

## Research Is Conducted in These Fields:

● **INSECTS AFFECTING CROPS.** Role of insects as vectors of diseases affecting vegetable, fruit, and field crops; evaluation of insect-resistant plant varieties; development of chemical, mechanical and biological controls.

● **INSECTS AFFECTING MAN AND ANIMALS.** Biology, ecology and prevalence of insects affecting man and animals, including pests in homes and industrial establishments; role of insects as vectors of diseases affecting man and animals; development of chemical and biological controls.

● **INSECT IDENTIFICATION.** Description, enumeration, classification and geographical distribution of insects and mites.

● **PESTICIDES.** Development of new insecticides, repellents and attractants; evaluation of new insecticidal compounds and formulations; determination of amount of chemical residues in plant and animal products and in soil.

● **BIOLOGICAL CONTROL.** Investigation of insect parasites, predators, and diseases for control of insect pests; investigation of phytophagous insects as a means of controlling noxious weeds; explorations in foreign areas.

● **APICULTURE.** Biology, ecology, genetics and management of honey bees for honey production and plant pollination; bee diseases; biology, ecology and utilization of wild bees for plant pollination.

## Nature of the Work

● **ENTOMOLOGIST.** Performs research on insects affecting crops, man and animals;

abundance, distribution and identification of insects; insect transmission of plant diseases; plant resistance to insect attack; cultural, mechanical, biological and chemical controls; beneficial insects.

● **INSECT PATHOLOGIST.** Performs research on bacteria, viruses, fungi and other micro-organisms affecting insect pests of crops and livestock; identification, pathology, host range, and propagation techniques.

● **INSECT PHYSIOLOGIST.** Performs basic research on the normal physiological and biochemical processes of insects and on the mode of action of insecticidal compounds on these processes.

● **CHEMIST.** Performs research on synthesis and screening of organic compounds such as attractants or insect repellents; insecticidal plant constituents; development of improved pesticide dust, spray and aerosol formulations; mode of action of insecticides.

## EMPLOYMENT INFORMATION

Most of these positions are in the Federal competitive civil service. Appointments are made from lists of persons who qualify through appropriate civil service examinations. Some examinations require written tests; others require an evaluation of your education, training and experience.

You may obtain announcements of civil service examinations, and application forms, from your college placement officer or from the Personnel Division, Agricultural Research Service, U.S. Department of Agriculture, Washington 25, D.C. The announcements will give detailed information on employment requirements.

## Qualifications and Salaries

The following summary applies to requirements for filling most of the professional research positions.

Grade	Minimum entrance salary	Minimum requirements
GS-5	\$4,345	Bachelor's degree in appropriate field, with specific courses as described in the examination announcement and pass a written test.
GS-7	\$5,355	Bachelor's degree plus 1 year of appropriate graduate work (30 semester hours), or Bachelor's degree plus 1 year of progressive research experience, or Bachelor's degree with college average of "B" or better, or standing in upper 25 percent of class.
GS-9	\$6,435	Bachelor's degree plus (a) 2 years of appropriate graduate work (60 semester hours), or (b) 2 years of progressive research experience, or Completion of all requirements for the master's degree in an appropriate field within the past 2 years, and demonstrated superior ability in graduate studies.
GS-11	\$7,560	Completion of all requirements for the Ph. D. degree; or 3 years of progres-

sively responsible research experience (or appropriate combination of experience and education) beyond the bachelor's degree level.

**GS-12...\$8,955**.....Completion of all requirements for the Ph. D. degree in an appropriate field within the last 2 years, and demonstrated superior ability in graduate studies; or 3 years of progressively responsible, highly specialized research experience (or appropriate combination of experience and education) beyond the bachelor's degree level.

Some undergraduates are employed by ARS as student assistants for full-time summer work and for part-time work during the school year. High school graduates who have been accepted by or enrolled in an accredited college or university in an appropriate curriculum may be eligible for appointment at the rate of \$3,500 a year; students with 1 full academic year of col-

### ENTOMOLOGY RESEARCH DIVISION



lege, at \$3,760 a year; students with 2½ full academic years of college, at \$4,040 a year.

**Work locations:** The Entomology Research Division has its headquarters at Beltsville, Md. It employs scientists in over 100 other locations throughout the United States and in 4 foreign countries. Most of the field positions are at State or Federal research institutions.

## **Professional Growth and Recognition**

**Promotion based on achievement.**

**Regular salary increases.**

**5-day, 40-hour workweek.**

**Liberal vacation and sick leave with pay.**

**Excellent retirement system.**

**Low-cost life and health insurance.**

## **Job Benefits**

**Creative research environment.**

**Modern research facilities.**

**Association with outstanding scientists.**

**Interdisciplinary associations.**

**Individual professional recognition.**

**Authorship for original research.**

**Advanced training encouraged.**

## **RESEARCH SCIENTISTS UTILIZED:**

*Entomologists*

*Chemists*

*Insect Pathologists*

*Insect Physiologists*



Growth Through Agricultural Progress

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