

CROP ECOLOGIST

The health of our crops and ecosystems affects the food we eat—you could be the one to protect it.

WHAT IT IS

Imagine understanding how plants, soil, water, insects, and climate all work together to grow food. Crop ecologists do just that. These scientists study how plants interact with their environment and how ecosystems affect agricultural production. They conduct field research to collect and analyze data on plants, soil, water, pests, and other environmental factors, and use that information to improve crop systems and sustainability. Crop ecologists investigate environmental problems, design sustainable practices, and help farmers and land managers make science based decisions about crop growth and land use. Their work includes surveys, data analysis, interpretation of ecological patterns, and communicating results to other scientists, policymakers, and the public.



A DAY IN THE LIFE

As a Crop Ecologist, your work takes you from the field to the lab, blending hands-on research with data analysis. Your day might include:

- Collecting soil, plant, and water samples to study crop health and environmental conditions
- Monitoring fields for pests, diseases, or environmental stressors that affect growth
- Using data and computer models to predict how crops will respond to climate, soil, and management practices
- Collaborating with farmers, agronomists, and other scientists to apply research in real-world farming
- Writing reports or papers to share findings with the scientific community
- Presenting research at conferences or workshops to connect with other experts
- Staying up to date on the latest ecology and agriculture research

DIG IN. DO GOOD.

READY FOR SUCCESS

Your success in this field starts with a curiosity about how plants and ecosystems work. Take every biology, ecology, and environmental science class you can. Build strong skills in chemistry, math, and data analysis, and get comfortable working outdoors. Practice observing, asking questions, and solving problems—crop ecologists are expert investigators who connect patterns in nature to real-world solutions. Seek mentors—teachers, researchers, or scientists—who challenge you to learn and grow. Volunteer or intern on farms, in research labs, or with environmental organizations to get hands-on experience.

EDUCATION REQUIRED

This career is rooted in understanding plants, ecosystems, and how the environment affects crop growth. **Many crop ecologists earn bachelor's or higher degrees in fields such as:**

- **Ecology**
- **Agronomy**
- **Plant Science**
- **Soil Science**
- **Environmental Science**
- **Agricultural Biology**

Strong skills in biology, chemistry, math, and data analysis are essential, along with courses in statistics, GIS/mapping, and environmental monitoring. Hands-on experience through research internships, fieldwork, or environmental projects is highly recommended.

GETTING STARTED

Take biology, chemistry, environmental science, and math classes. Get hands-on with plants, soil, or school gardens. Join STEM clubs, 4-H, FFA, or volunteer on farms. Explore ecology or agriculture projects, like science fairs or citizen science. Learn basic data and mapping tools, and talk to mentors in the field.



GROW BY
6%
UNTIL 2032

JOB OUTLOOK

The Bureau of Labor Statistics projects 6% employment growth for Environmental Scientists and Specialists through 2032.



EARN UP TO
\$135K

AVERAGE SALARY

The average salary ranges from \$50,090 for entry level to \$134,980 for experienced professionals with higher degrees.