

# CROP GENETICIST



**Design the crops that will feed 10 billion people.**

## WHAT IT IS

Imagine enhancing plant genetics to help farmers grow crops in the toughest conditions. Crop geneticists do just that—studying plant DNA, identifying and selecting traits for characteristics that safely solve real-world challenges. This job blends molecular biology with powerful technology like gene editing to create crops that resist disease, survive drought, and thrive despite climate change.

This isn't theoretical. Your work as a crop geneticist determines whether farmers can grow food in harsh conditions and whether people have access to nutritious food.

## A DAY IN THE LIFE

As a Crop Geneticist, your work takes you from the lab to the greenhouse—and sometimes the field. Your day might include:

- Editing plant DNA using CRISPR or other gene technologies
- Monitoring greenhouse trials and collecting tissue samples
- Running molecular assays and analyzing sequencing data for genetic changes
- Collaborating with plant breeders to move new varieties to field trials
- Presenting findings at meetings and troubleshooting experiments
- Tracking long-term experiments across plant generations

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**DIG IN. DO GOOD.**

## READY FOR SUCCESS

Your success begins with a fascination for how genes control traits. Build a strong foundation in genetics, molecular biology, and biochemistry. Get comfortable with lab work and computational analysis. Cultivate attention to detail, problem-solving skills, patience, and long-term thinking—crop development takes years. Seek mentors—teachers, researchers, or scientists—and get hands-on experience in labs. Read current research, practice bioinformatics, and collaborate with others to tackle big challenges. Crop geneticists turn data and experiments into crops that feed the world—the impact is huge.

## EDUCATION REQUIRED

This career is rooted in understanding plant genetics and molecular biology. **Most Crop Geneticists earn a bachelor's degree in:**

- **Genetics**
- **Plant Science**
- **Molecular Biology**
- **Crop Science**

Advanced research roles usually require a master's or Ph.D., often supported by research assistantships. Coursework emphasizes genetics, molecular biology, plant breeding, genomics, and bioinformatics. Research experience is essential for success.

## GETTING STARTED

Take biology, chemistry, genetics, and math courses. Join science clubs, research competitions, or STEM programs. Seek summer research in plant genetics labs or local universities. Learn basic coding and bioinformatics tools. Become familiar with CRISPR, gene editing, and crop improvement.



GROW BY  
**9%**  
UNTIL 2034

### JOB OUTLOOK

Employment of medical scientists is projected to grow 9 percent from 2024 to 2034, much faster than the average for all occupations.



**\$100K**  
AS OF 2024

### AVERAGE SALARY

Crop geneticists are classified as medical scientists by the Bureau of Labor Statistics. The median annual wage for medical scientists was \$100,590 in May 2024.