WHAT CAN I DO WITH A MAJOR IN:

PLANT BIOLOGY

**Activities Plant Biology Majors Do**

Plant biologists (botanists) research and study plants and the environment. They study the behavior, internal and external structure, mechanics, and biochemistry of plant or fungi cells. They also study the development, life processes, and economic value of plants and fungi for application in various fields.

Botanists may compare healthy and diseased plants to determine agents responsible for diseased conditions. Along these lines, they study the rates of spread and intensity of plant diseases under different environmental conditions and predict disease outbreaks. Botanists can investigate the effect of rainfall, deforestation, pollution, acid rain, temperature, climate, soil, and elevation on plant or fungi growth. Some botanists study all areas of plant life, including algae, fungi, lichens, mosses, ferns, conifers, and flowering plants while others specialize in areas such as identification and classification of plants, the structure and function of plant parts, and the interaction of plants with other organisms in the environment.

A PhD is usually required for independent research and always to teach at the college level. A master’s degree is sufficient for some jobs in applied research and jobs in management. A bachelor’s degree is required for some positions in applied research or product development, but mostly non-research jobs. A bachelor’s degree in plant biology provides a solid foundation for advanced professional degrees.

**Industries Plant Biology Majors Work In (Sample Listing)**

<table>
<thead>
<tr>
<th>Horticulture</th>
<th>Wholesale Growers</th>
<th>Government Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>Pharmacology</td>
<td>Crop Engineering</td>
</tr>
<tr>
<td>Pest Management Companies</td>
<td>Laboratories</td>
<td></td>
</tr>
</tbody>
</table>

**Employers Who Hire Plant Biology Majors (Sample Listing)**

<table>
<thead>
<tr>
<th>US Department of Ag.</th>
<th>Arnold Arboretum</th>
<th>MN Dept. of Agriculture</th>
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<tbody>
<tr>
<td>Alliant Energy</td>
<td>BASF The Chemical Company</td>
<td>Genesis 10</td>
</tr>
<tr>
<td>Dow ArgoSciences</td>
<td>Como Park Zoo and Conservatory</td>
<td>ATK</td>
</tr>
<tr>
<td>Science Museum of Minnesota</td>
<td>Natural Shores Technologies, Inc.</td>
<td>National Park Service</td>
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<tr>
<td>US Fish and Wildlife Service</td>
<td>Wichmann Gardening Services</td>
<td>3M Company</td>
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**Types of Positions for Plant Biology Majors (Sample Listing)**

**Forester**: Manages vegetation, timber, reforestation, and fuels for the government and companies involved with wood product production.

**Agronomist**: Experts in soil management and field crop production who conduct research to develop new crop hybrids and varieties.

**Botanist**: Studies plants and their environment, such as algae, fungi, lichens, mosses, ferns, and flowering plants, may specialize in identification and classification of plants.

**Ecologist**: Collects, studies, and reports data on the quality of air, food, soil, and water.

**Environmental Scientist**: Conducts research to identify and abate or eliminate sources of pollutants that affect people, wildlife, and their environments.

**Research Assistant**: Conducts research for food, pharmaceutical, and pest management organizations.

**Science Teacher**: Develops and teaches science curriculum which includes scientific experiments.

**Naturalist**: Researches and develops educational programming for national and state parks.

Information on this page was compiled from the Occupational Outlook Handbook, the Encyclopedia of Careers and Vocational Guidance, University of Minnesota departmental websites, What Can You Do With a Major in Biology?, and student-reported data.
**Plant Geneticist:** Scientists that isolate genes to develop certain plant traits.

**Conservationist:** Manages the use and development of forests and other natural resources.

*Examples from: What Can You Do With a Major in Biology?*

**Some of these positions may require an advanced degree**

**Useful Websites for Plant Biology Majors**

- Science Careers: [sciencecareers.sciencemag.org/](http://sciencecareers.sciencemag.org/)
- Environmental Protection Agency: [www.earthworks-jobs.com/](http://www.earthworks-jobs.com/)
- Biology Jobs: [www.biologyjobs.com](http://www.biologyjobs.com)
- Life Science Alley: [www.lifesciencealley.org/](http://www.lifesciencealley.org/) (contact the CCSE for login info.)
- BioCareers: [www.biocareers.com](http://www.biocareers.com)
- Hire Bio: [www.hirebio.com](http://www.hirebio.com)
- Lab Support: [www.oalabsupport.com](http://www.oalabsupport.com)

**Professional Organizations:**

- American Society of Plant Biologists: [www.aspb.org/](http://www.aspb.org/)
- American Institute of Biological Sciences: [www.aibs.org/](http://www.aibs.org/)
- American Society of Agronomy: [www.agronomy.org/](http://www.agronomy.org/)
- American Society for Horticultural Science: [www.ashs.org](http://www.ashs.org)
- Botanical Society of America: [www.botany.org/](http://www.botany.org/)
- Society for Economic Botany: [econbot.org](http://econbot.org)
- National Science Foundation: [www.nsf.gov](http://www.nsf.gov)
- Society of Experiential Biology and Medicine: [www.sebm.org](http://www.sebm.org)
- Association for Women in Science: [www.awis.org](http://www.awis.org)

*additional job/internship search websites and resources at: ccse.umn.edu*

See the Major Binders available in the CCSE’s Resource Center for more information about this major and career.