Investigate the relationship between past, current and emerging applications of biotechnology in agriculture.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Analyze the relationship and implications of bioethics, laws and public perceptions on applications of biotechnology in agriculture.
- Research the biggest challenges producers face when adopting new technology.
- Research the adoption of technology by agriculture producers in your area.

Future Careers (visit AgExplorer.FFA.org):

Biological Technician | Plant Biologist | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Evaluate the scope and implications of regulatory agencies on biotechnology applications in agriculture.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Design a study to examine public perceptions of scientifically based arguments regarding biotechnology in agriculture.
- Analyze the impact major regulatory issues have on public acceptance of biotechnology in agriculture.
- Work as an intern for the local agriculture department.

Future Careers (visit AgExplorer.FFA.org):

Advisor: Government/ Stakeholder Relations | Regulatory Scientist | Biological Technician

BIOTECHNOLOGY SYSTEMS

Analyze the impact major regulatory issues have on public acceptance of biotechnology in agriculture.

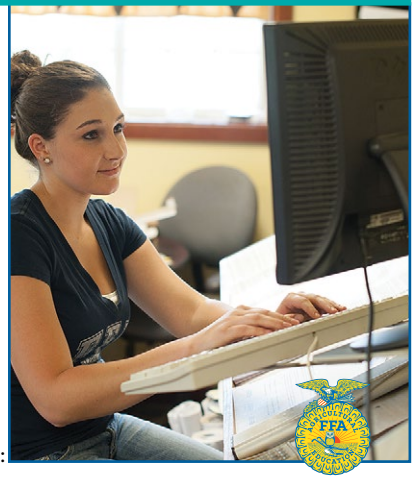
RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Work as an intern for the local agriculture department.
- Create podcasts about agricultural issues.
- Evaluate the scope and implications of regulatory agencies on applications of biotechnology in agriculture and the protection of public interests.



Future Careers (visit AgExplorer.FFA.org):

Advisor: Government/ Stakeholder Relations | Agricultural Lobbyist | Regulatory Scientist

BIOTECHNOLOGY SYSTEMS

Research factors and data regulatory agencies use to evaluate the risks new biotechnology applications pose.

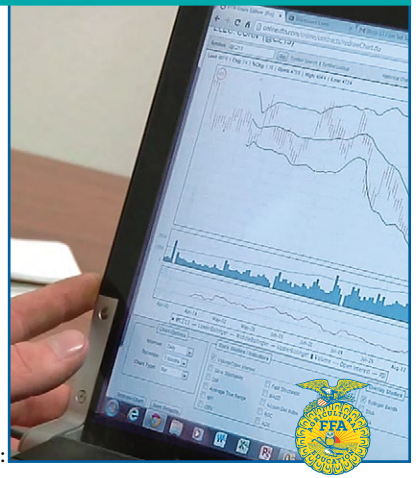
RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Evaluate the scope and implications of regulatory agencies on applications of biotechnology in agriculture and the protection of public interests.
- Work as an intern for the local agriculture department.
- Work for the natural resources and conservation district.



Future Careers (visit AgExplorer.FFA.org):

Reproductive and Nutritional Specialist | Plant Biologist | Regulatory Scientist

BIOTECHNOLOGY SYSTEMS

Analyze the implications of bioethics, laws and public perceptions on biotechnology applications in agriculture.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Work as an intern for the local agriculture department.
- Design a study to examine public perceptions of scientifically based arguments regarding biotechnology in agriculture.
- Research the biggest challenges producers face when adopting new technology.

Future Careers (visit AgExplorer.FFA.org):

Advisor: Government/ Stakeholder Relations | Agricultural Lobbyist | Agricultural Legal Assistant

BIOTECHNOLOGY SYSTEMS

Perform ongoing maintenance of laboratory equipment according to standard operating procedures.

PLACEMENT/INTERNSHIP

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform sterilization techniques for equipment in a laboratory using standard operating procedures.
- Operate advanced laboratory equipment and measurement devices.
- Create hands-on classroom curriculum activities.

Future Careers (visit AgExplorer.FFA.org):

Biostatistician | Laboratory Technician | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Design a study to examine public perceptions of scientific arguments regarding biotechnology in agriculture.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Evaluate the scope and implications of regulatory agencies on applications of biotechnology in agriculture and the protection of public interests.
- Produce a weekly column about agricultural issues for a newspaper.
- Interview a naturalist.

Future Careers (visit AgExplorer.FFA.org):

Agricultural Literacy and Advocacy Specialist | Bioinformatics Scientist | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Operate advanced laboratory equipment and measurement devices.

PLACEMENT/INTERNSHIP

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform ongoing maintenance of laboratory equipment according to standard operating procedures.
- Work for a local university in the area of robotics in agriculture.
- Work for a testing laboratory.

Future Careers (visit AgExplorer.FFA.org):

Biostatistician | Laboratory Technician | Game Warden

BIOTECHNOLOGY SYSTEMS

Perform sterilization techniques for equipment in a laboratory using standard operating procedures.

PLACEMENT/INTERNSHIP

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform ongoing maintenance of laboratory equipment according to standard operating procedures.
- Implement standard operating procedures for the safe handling and/or disposal of biological and chemical materials in a laboratory.
- Work for a testing laboratory.

Future Careers (visit AgExplorer.FFA.org):

Biostatistician | Laboratory Technician | Biosecurity Monitor

BIOTECHNOLOGY SYSTEMS

Examine and perform scientific procedures using microbes, DNA, RNA and proteins in a laboratory.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Transform plant or animal cells by performing a cellular transformation.
- Evaluate factors that influence gene expression.
- Create hands-on classroom curriculum activities.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Laboratory Technician | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Implement standard operating procedures for safe handling of biological and chemical materials in a lab.

PLACEMENT/INTERNSHIP

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform sterilization techniques for equipment in a laboratory using standard operating procedures.
- Work on plumbing waste systems and air and water systems in agricultural settings.
- Start a service to collect used pesticide containers.

Future Careers (visit AgExplorer.FFA.org):

Biostatistician | Laboratory Technician | Biosecurity Monitor

BIOTECHNOLOGY SYSTEMS

Evaluate factors that influence gene expression.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Examine and perform scientific procedures using microbes, DNA, RNA and proteins in a laboratory.
- Conduct studies to track the movement of transgenes in the environment.
- Design and conduct experiments to evaluate an existing transgenic eukaryote.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Molecular Biologist | Plant Geneticist

BIOTECHNOLOGY SYSTEMS

Evaluate the biochemical properties of proteins to explain their function and predict potential uses.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Examine and perform scientific procedures using microbes, DNA, RNA and proteins in a laboratory.
- Evaluate factors that influence gene expression.
- Perform ongoing maintenance of laboratory equipment according to standard operating procedures.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Molecular Biologist | Analytical Chemist

BIOTECHNOLOGY SYSTEMS

Use antibodies to detect and quantify antigens by conducting an Enzyme-Linked Immunosorbent Assay (ELISA).

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Design and conduct experiments to evaluate an existing transgenic eukaryote.
- Transform plant or animal cells by performing a cellular transformation.
- Perform sterilization techniques for equipment in a laboratory using standard operating procedures. .

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Laboratory Technician | Plant Geneticist

BIOTECHNOLOGY SYSTEMS

Design and conduct experiments to evaluate an existing transgenic eukaryote.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Use antibodies to detect and quantify antigens by conducting an Enzyme-Linked Immunosorbent Assay (ELISA).
- Perform sterilization techniques for equipment in a laboratory using standard operating procedures.
- Plan plant-related activities and laboratories for your class.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Plant Geneticist | Laboratory Technician

BIOTECHNOLOGY SYSTEMS

Transform plant or animal cells by performing a cellular transformation.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Conduct studies to track the movement of transgenes in the environment.
- Examine and perform scientific procedures using microbes, DNA, RNA and proteins in a laboratory.
- Apply biotechnology principles, techniques and processes to enhance the production of food through the use of microorganisms and enzymes.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Plant Geneticist | Laboratory Technician

BIOTECHNOLOGY SYSTEMS

Conduct studies to track the movement of transgenes in the environment.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Apply biotechnology principles, techniques, and processes to enhance plant and animal care and production.
- Evaluate factors that influence gene expression.
- Design and conduct experiments to evaluate an existing transgenic eukaryote.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Biostatistician | Laboratory Technician

BIOTECHNOLOGY SYSTEMS

Evaluate the impact of modified organisms on the natural environment.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Investigate the relationship between past, current and emerging applications of biotechnology in agriculture.
- Create podcasts about agricultural issues.
- Interview a naturalist.

Future Careers (visit AgExplorer.FFA.org):

Plant Biologist | Agronomist | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Apply biotechnology techniques to enhance the production of food by using microorganisms and enzymes.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform sterilization techniques for equipment in a laboratory using standard operating procedures.
- Research why new food fails to sell.
- Develop a plan to manage school food waste.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Biostatistician | Food Technologist

BIOTECHNOLOGY SYSTEMS

Monitor and evaluate processes used in the synthesis of a molecule.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Perform ongoing maintenance of laboratory equipment according to standard operating procedures.
- Conduct studies to track the movement of transgenes in the environment.
- Apply biotechnology principles, techniques, and processes to enhance plant and animal care and production.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Molecular Biologist | Laboratory Technician

BIOTECHNOLOGY SYSTEMS

Apply biotechnology principles, techniques, and processes to enhance plant and animal care and production.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Design animal-care protocols to ethically monitor and promote animal systems associated with biotechnology.
- Perform plant-breeding techniques (e.g., plant tissue culture, etc.).
- Analyze the impact major regulatory issues have on public acceptance of biotechnology in agriculture.

Future Careers (visit AgExplorer.FFA.org):

Bioinformatics Scientist | Plant Biologist | Animal Biotechnologist

BIOTECHNOLOGY SYSTEMS

Perform plant-breeding techniques (e.g., plant tissue culture, etc.).

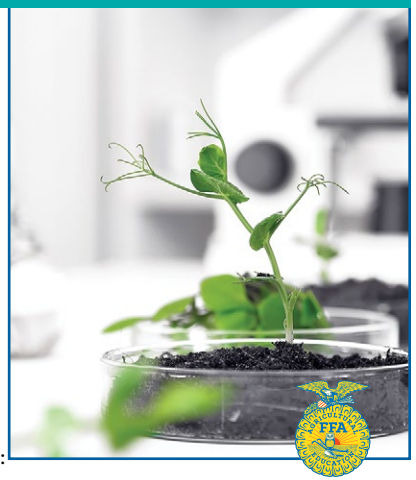
RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Examine and perform scientific procedures using microbes, DNA, RNA and proteins in a laboratory.
- Research plant propagation techniques.
- Plan plant-related activities and laboratories for your class.



Future Careers (visit AgExplorer.FFA.org):

Plant Breeder | Agronomist | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Design animal-care protocols to ethically monitor and promote animal systems associated with biotechnology.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Research and categorize the types of pharmaceuticals developed for animals and humans through biotechnology.
- Work as a veterinary assistant.
- Work on a dairy farm or heifer-raising farm.

Future Careers (visit AgExplorer.FFA.org):

Animal Geneticist | Reproductive and Nutritional Specialist | Animal Caretaker/ Operations Manager

BIOTECHNOLOGY SYSTEMS

Research and categorize the types of pharmaceuticals developed for animals and humans through biotechnology.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Design animal-care protocols to ethically monitor and promote animal systems associated with biotechnology.
- Work as a veterinary assistant.
- Research the biggest challenges producers face when adopting new technology.

Future Careers (visit AgExplorer.FFA.org):

Animal Geneticist | Reproductive and Nutritional Specialist | Analytical Chemist

BIOTECHNOLOGY SYSTEMS

Examine and synthesize the need for biofuels (e.g., cellulosic bioenergy, etc.).

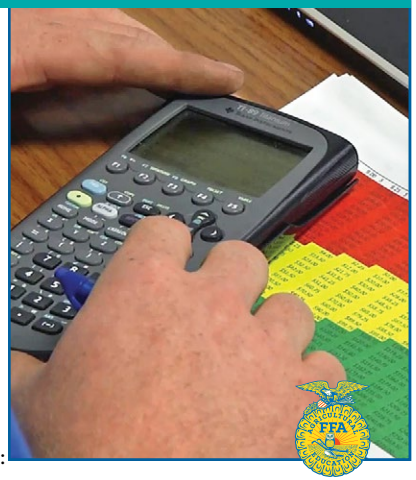
RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Produce alcohol/biodiesel/methane and co-products from biomass.
- Conduct a review of the technologies used to create biofuels from biomass and weigh the pros and cons of each method.
- Work as a diesel mechanic assistant.



Future Careers (visit AgExplorer.FFA.org):

Biorefining Manager | Ethanol Engineer | Agriculture Science Teacher

BIOTECHNOLOGY SYSTEMS

Study the technologies used to create biofuels from biomass and weigh the pros and cons of each method.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Examine and synthesize the need for biofuels (e.g., cellulosic bioenergy, etc.).
- Research the biggest challenges producers face when adopting new technology.
- Produce alcohol/biodiesel/methane and co-products from biomass.

Future Careers (visit AgExplorer.FFA.org):

Biorefining Manager | Ethanol Engineer | Environmental Engineer

BIOTECHNOLOGY SYSTEMS

Produce alcohol/biodiesel/methane and co-products from biomass.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Examine and synthesize the need for biofuels (e.g., cellulosic bioenergy, etc.).
- Research the biggest challenges producers face when adopting new technology.
- Conduct a review of the technologies used to create biofuels from biomass and weigh the pros and cons of each method.

Future Careers (visit AgExplorer.FFA.org):

Biorefining Manager | Environmental Engineer | Ethanol Engineer

BIOTECHNOLOGY SYSTEMS

Conduct studies to evaluate the treatment of a waste product using a genetically engineered organism.

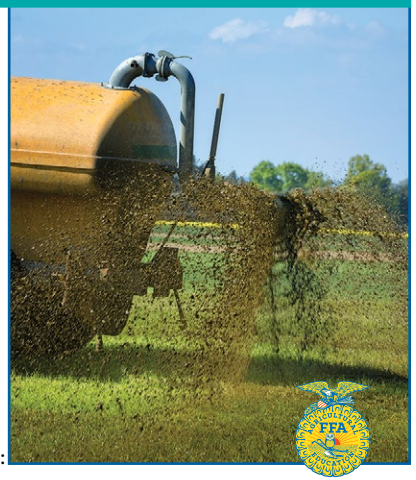
RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Design a bioremediation project including plans to evaluate the effectiveness of the effort.
- Work on plumbing waste systems and air and water systems in agricultural settings.
- Research area pollution concerns.



Future Careers (visit AgExplorer.FFA.org):

Biorefining Manager | Biosecurity Monitor | Environmental Compliance Officer

BIOTECHNOLOGY SYSTEMS

Design a bioremediation project including plans to evaluate the effectiveness of the effort.

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

- Conduct studies to evaluate the treatment of a waste product using a genetically engineered organism.
- Research the effectiveness of habitat restoration projects in your community.
- Research area pollution concerns.

Future Careers (visit AgExplorer.FFA.org):

Biorefining Manager | Biosecurity Monitor | Environmental Engineer

BIOTECHNOLOGY SYSTEMS

PLACEMENT/INTERNSHIP

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

Future Careers (visit AgExplorer.FFA.org):

BIOTECHNOLOGY SYSTEMS

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

Future Careers (visit AgExplorer.FFA.org):

BIOTECHNOLOGY SYSTEMS

RESEARCH

Is this right for me?

- Would I enjoy working with this project?
- Do I currently have, or have access to, needed resources for this project?

Where could I take this project?

Future Careers (visit AgExplorer.FFA.org):

BIOTECHNOLOGY SYSTEMS