



# CAREERS IN HORTICULTURE AND PLANT SCIENCES

#LIFEWITHPLANTS

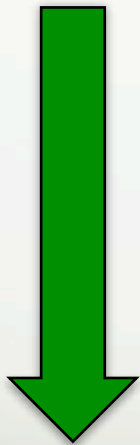
# Horticulture and Plant Science Career Exploration



# When considering a profession...

Would you prefer to be...

Working outdoors?



Plant Science and  
Horticulture career  
opportunities for you!



Working indoors?



Plant Science and  
Horticulture career  
opportunities for you!



# Introduction

What is Horticulture?  
Botany? Agronomy?



Careers in horticulture and  
related plant science fields.



Why consider horticulture?





# Learning Objectives

Students will:

be able to define horticulture, botany, and agronomy

understand some of the concerns or misconceptions of horticulture and related plant science careers

be acquainted with careers available in horticulture and related plant science fields

be knowledgeable of salaries related to careers available in horticulture and related plant science fields

# What is Horticulture...

The word *horticulture* is derived from a Latin word meaning “garden cultivation”

*hortus* [garden] + *culture* [cultivate]

One of many Plant Science Disciplines



Plant science with a purpose!

# Horticulture

Horticulture is ... a science

- Horticulture is ... an art
- Horticulture is...diverse and rich with many opportunities



*Not all* directly related to plant or flower production

# Horticulture vs. Botany

# Horticulture vs. Agronomy

Two common questions.

What are the differences?





# Agronomy is...

A segment of agriculture that focuses on field-crop production and soil management.



# Botany is...

A branch of biology that focuses on the scientific study of plants.



# Plant Science Related Disciplines

- **Horticulture**
- **Agronomy**
- **Botany**
  - Paleobotany
  - Ethnobotany
  - Economic Botany
- **Forestry**
- **Mycology**
- Plant Anatomy
- Plant Ecology
- Plant Biotechnology
- Plant Genetics
- Plant Morphology
- Plant Pathology
- Plant Physiology
- Plant Systematics



# Horticulture is...

The word *horticulture* is derived from a Latin word meaning “garden cultivation”

*hortus* [garden] + *culture* [cultivate]

Horticulture is: the cultivation, processing, and sale of fruits, nuts, vegetables, ornamental plants, and flowers



# Why Consider Horticulture?

Jobs!

High Demand!

Employers are seeking highly qualified employees.

Challenge in meeting a scientific and professional workforce!





# Horticulture Misconceptions

**Low pay.**

**False!**

Certainly can depend on where you locate/take a career.



- Grounds Maintenance Workers: \$32,220
- Forest and Conservation Workers: \$30,640
- Agriculture and Food Science Technicians: \$41,970
- Farmers, Ranchers, and other Agriculture Managers: \$68,090
- Median annual wage: \$50,000  
(2018 data)

# Horticulture Misconceptions

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Examples from Seed Your Future Profiles

- ~125 Professions Listed
- includes direct horticulture and allied industry professions

Mycologist: \$117,959

Plant Scientist: \$79,848

Greenhouse Engineer: \$68,650

Arborist: \$48,033

Plant Propagator: \$27,377

(Salary data are based on PayScale.com 2020)

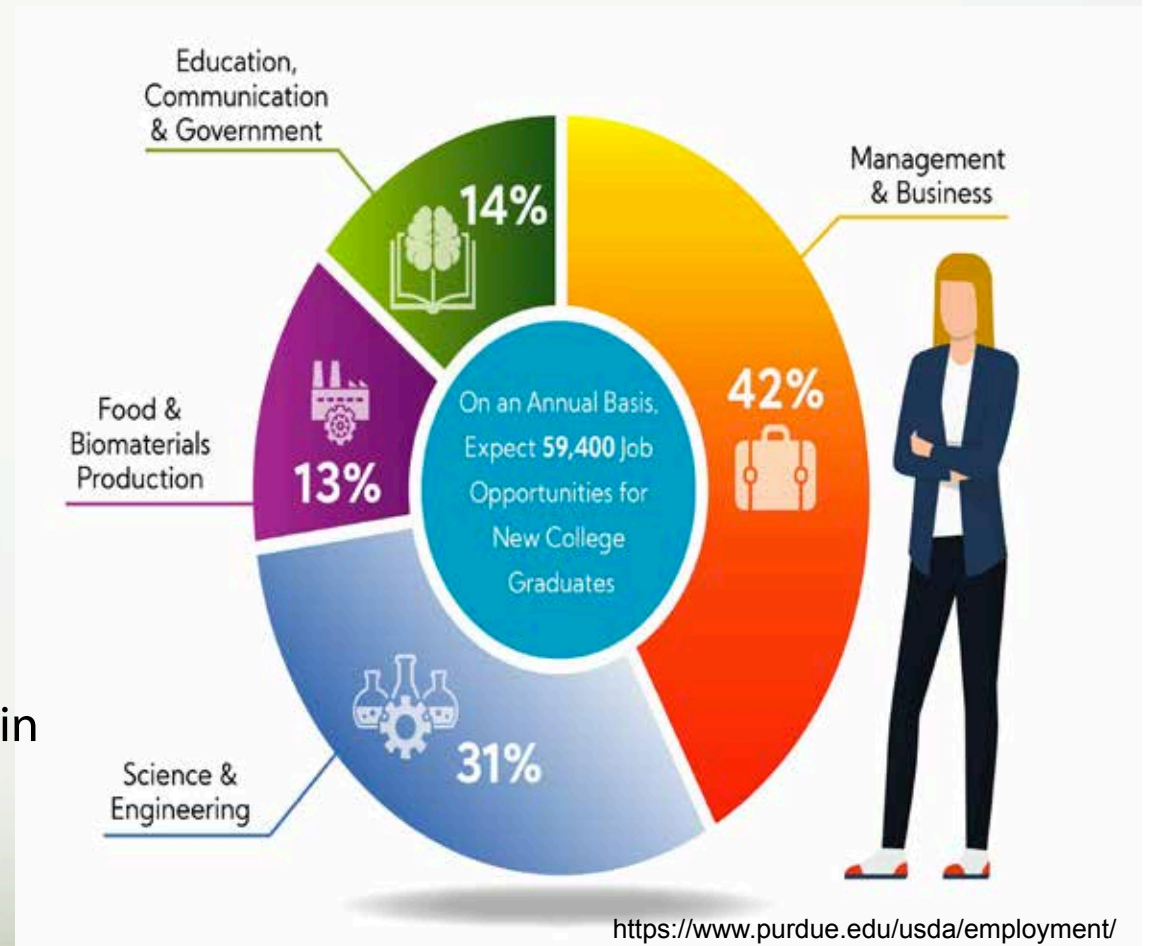
# Horticulture Misconceptions

## Few jobs available

False!

Thousands of jobs await!

USDA Study estimated: 59,400 new college graduates needed to enter the workforce YEARLY (2020-2025) in FARNRE degrees



**F**ood, **A**griculture, **R**enewable **N**atural **R**esources and the **E**nvironment

**Allied:** examples: Biology, mechanical engineering, accounting, journalism, etc.

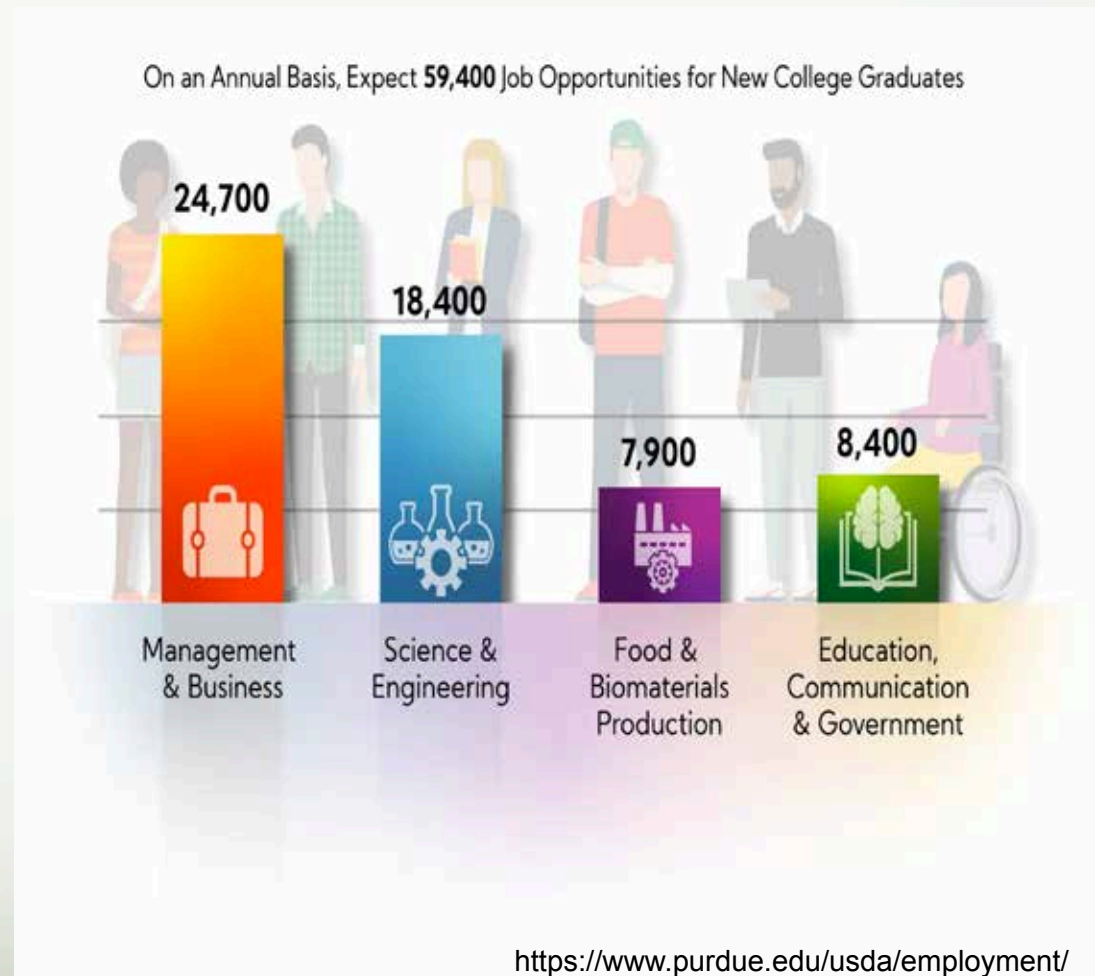
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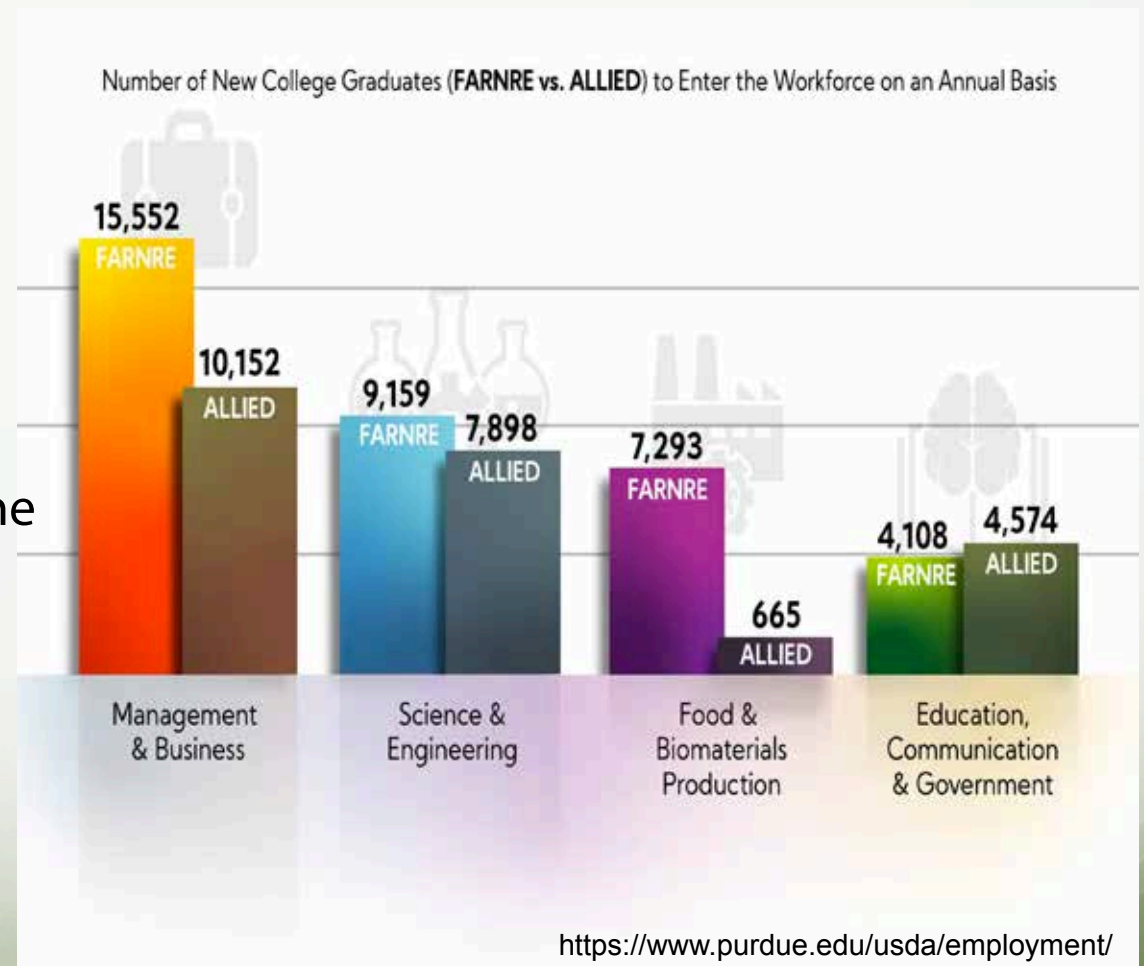
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Allied jobs: Those that work closely with and integrate with the FARNRE degrees.

Flexibility: Go to the job!



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**Allied:** examples: Biology, mechanical engineering, accounting, journalism, etc.



# Horticulture Misconceptions

## **Horticulture is hard labor.**

True and False!

Like any other agriculture segment of the agriculture industry (and other non-agriculture industries) there are professions that can require significant labor.

But, there are professions within horticulture that do not require such significant labor tasks.



# Why Consider Horticulture?





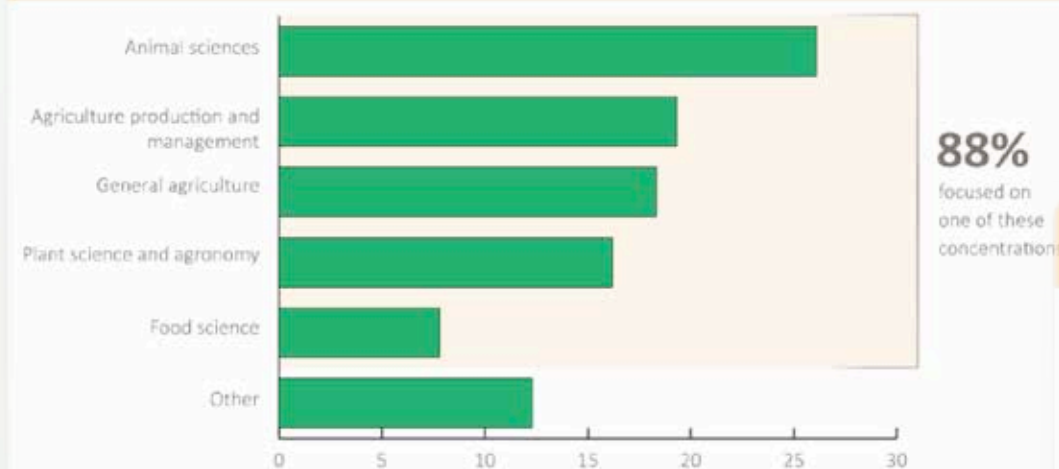
# Careers available in Horticulture...



## Types of majors

Within a degree field, students may choose to major in a specific concentration.

Chart 1. Types of agriculture majors, 2018



88%  
focused on  
one of these  
concentrations

Note: The sum of percents by major may not total 100 due to rounding.  
Source: U.S. Census Bureau, American Community Survey.

Table 1. Agriculture degree, 2018

A glimpse of workers in this degree field.

		Agriculture	All fields
Employment		610,070	55,381,020
Median wage		\$50,000	\$59,000
Percent employed part time		13	15
Percent employed in occupations requiring at least a bachelor's degree		41	59
Percent with an advanced degree		29	37

Source: U.S. Census Bureau, American Community Survey.

Data from the U.S. Census Bureau

Provides insight into Agriculture degree holders

<https://www.bls.gov/ooh/field-of-degree/agriculture/agriculture-field-of-degree.htm#emp>

# Careers available in Horticulture...

Table 2. Top-employing occupations for workers with an agriculture degree



**For more information**

Click on the occupations below to see the occupational profile in the Occupational Outlook Handbook (OOH).

The U.S. Bureau of Labor Statistics (BLS) projects employment and designates education typical for entry in about 800 detailed occupations. Table 2 shows projections data and typical education for occupations in which people with this degree were employed. It also shows the percentage of bachelor's degree holders in this field who were employed in the occupation and the percentage of workers in the occupation with an advanced degree in any field.

**Percent growth, projected 2019-29**      **Typical entry-level education**      **Percent degree holders in this field, this occupation, 2018**      **Percent of this occupation with an advanced degree, 2018**



Occupation	Percent growth, projected 2019-29	Typical entry-level education	Percent degree holders in this field, this occupation, 2018	Percent of this occupation with an advanced degree, 2018
<a href="#">Health specialties teachers, postsecondary</a>	21	Doctoral or professional degree	2	74
<a href="#">Veterinarians</a>	16	Doctoral or professional degree	4	100
<a href="#">Soil and plant scientists</a>	7	Bachelor's degree	2	38
<a href="#">Elementary school teachers, except special education</a>	4	Bachelor's degree	3	50
<a href="#">Farmworkers and laborers, crop, nursery, and greenhouse</a>	4	No formal educational credential	3	1
<a href="#">Sales representatives, wholesale and manufacturing, except technical and scientific products</a>	1	High school diploma or equivalent	3	8
<a href="#">Retail salespersons</a>	-1	No formal educational credential	2	4
<a href="#">Personal service managers, all other; entertainment and recreation managers, except gambling; and managers, all other</a>	-2	Bachelor's degree	4	21
<a href="#">First-line supervisors of retail sales workers</a>	-5	High school diploma or equivalent	2	5
<a href="#">Farmers, ranchers, and other agricultural managers</a>	-6	High school diploma or equivalent	9	4

Note: Occupational profiles may comprise multiple SOC occupations, which may have differing education categories.

Data from the U.S. Census Bureau

Provides insight into top-employing occupations for workers with an agriculture degree

<https://www.bls.gov/ooH/field-of-degree/agriculture/agriculture-field-of-degree.htm#emp>

# Careers available in Horticulture...

Do you know what a zymurgist is? Or does?...

A scientist who studies the fermentation chemical process associated with brewing and distilling!

Easier said: a brewer!





# Class Activity

List as many horticulture jobs or careers that you are aware of?



How many did you come up with?...

# Careers available in Horticulture...

- Arboretum or Botanical Garden Worker
- Arborist or Urban Forester
- Botanist or Plant Biologist
- Educator or Extension Agent
- Oenologist
- Floriculturist
- Florist or Floral Designer
- Garden Center Owner/Manager
- Grower or Plant Producer
- Horticulture Therapist



# Careers available in Horticulture...

- Interior Landscaper
- Irrigation Specialist
- Landscape Designer
- Landscape Construction
- Landscape Maintenance or Grounds Manager
- Turfgrass or Lawn Care Specialist
- Plant Breeder or Geneticist
- Plant Pathologist or Plant Diagnostician
- Plant Propagator
- Pomologist
- Viticulturist





# Careers Related to Horticulture...

- Agriculture Economist
- Agriculture Engineer
- Agronomist
- Conservationist
- Ecologist
- Entomologist
- Environmental Engineer
- Farm Business Manager
- Forester
- Forest Ranger
- Habitat Restoration Specialist
- Park Manager
- Park Ranger
- Plant Physiologist
- Silviculturist
- Soil Scientist
- Weed Scientist





# Timely Opportunities

Assisting to mitigate and address Climate Changes



# Timely Opportunities

Food Security, Food Safety, and Food Equity





# Career Resources



SEED YOUR  
**FUTURE**®

Seed Your Future

[www.seedyourfuture.org/  
careers](http://www.seedyourfuture.org/careers)

**Over 120!** Careers highlighted, with videos of people in that career!

Careers organized by interests, such as writing, science, art and design.

# Search Careers by interest...

## Seed Your Future

**Lists Over 120 careers that are horticulture and related fields.**

Art and Design

Business and Entrepreneurship

Landscape **stewards** (caring for landscapes, sports fields, public gardens, or parks)

**Creating** beautiful landscapes and bringing them to life

**Growing** flowering plants and designing floral arrangements

**Growing** food plants and feeding people to supply nutrition

**Preserving** native habitats and reducing impacts of climate change

Science

Serving and supporting people

Technology

Writing





# Career Resources



[www.landscapeindustrycareers.org](http://www.landscapeindustrycareers.org)

A comprehensive careers website hosted by the [National Association of Landscape Professionals](#).

Careers organized by areas of career pathways and areas of interest.

LANDSCAPE INDUSTRY  
**CAREERS**.ORG | Discover the Industry | Education | Parents & Students | Women in Landscape | Job Board

## LANDSCAPING CAREER PATHWAYS

Explore the many employment opportunities the landscape industry has to offer. Discover potential career pathways that may interest you, learn about the educational requirements, and see how much you can earn at different types of landscaping jobs.

- Account Manager**  
Keep clients coming back for more
- Administration and Accounting Specialists**  
Provide essential office support
- Arborist**  
Get a view from the top tending to trees
- Business Development**  
Cultivate the business

# Career Resources



American Society for  
Horticultural Science

<https://ashs.org/page/CareerPaths>

The professional U.S. Horticulture  
Organization provides additional  
horticulture career resources

Perspective is more science focused



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