

# Agriculture, Food, and Natural Resources: Fundamentals of Agriculture, Food, and Natural Resource Systems (8021300)

Summarize the evolution of production agriculture. The student will be able to: 01.0

- 1 Describe the importance of agriculture on a world, national, state and community scale. 01.01
- 2 Distinguish the major agricultural production areas of the United States. 01.02
- 3 Distinguish agriculture products produced in Florida. 01.03
- 4 Interpret how changes in production practices, population, and land use have influenced the agriculture economy. 01.04
- 5 Demonstrate how development of new technology has affected agriculture production. 01.05
- 6 Examine the changes in agriculture careers that reflect the changes in production methods. 01.06

Differentiate between animal welfare and ethical treatment of animals. The student will be able to: 02.0

- 1 Describe the proper handling of production animals. 02.01
- 2 Compare animal welfare and animal rights. 02.02
- 3 Explain how animal welfare and animal rights advocate groups impact production agriculture. 02.03
- 4 Summarize animal cruelty and the consequences of cruel treatment of animals. 02.04

Explain skills and principles used in dairy production. The student will be able to: 03.0

- 1 Explain the difference between breeds of dairy cattle. 03.01
- 2 Demonstrate knowledge of proper health and nutrition for dairy animals. 03.02
- 3 Explain the safety procedures used for dairy products. 03.03
- 4 Compare different styles of dairies and milking parlors. 03.04

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**5 Identify the varieties of dairy products and the methods of processing.** 03.05

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**6 Create a dairy product.** 03.06

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**Explain skills and principles used in livestock production. The student will be able to:** 04.0

**1 Compare the different breeds of livestock.** 04.01

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**2 Differentiate the different cuts and grading of meat.** 04.02

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**3 Evaluate proper health and nutrition for livestock animals.** 04.03

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**4 Demonstrate knowledge of terminology for animals based on species and condition (eg. age, sex, bred, etc...)** 04.04

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**5 Determine different reproduction methods, and the process of selective breeding.** 04.05

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**6 Explain how the use of biotechnology has impacted the livestock industry.** 04.06

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**Explain skills and principles used in poultry production. The student will be able to:** 05.0

**1 Compare different types of poultry and their uses in production agriculture.** 05.01

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**2 Differentiate proper techniques for classification and grading of poultry and poultry products.** 05.02

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**3 Describe proper safe handling techniques for poultry products.** 05.03

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**4 Evaluate knowledge of health and nutrition for poultry.** 05.04

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**5 Explain how the use of biotechnology has impacted the poultry industry.** 05.05

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**Explain skills and principles used in aquaculture production. The student will be able to:** 06.0

**1 Compare the different breeds of aquatic species.** 06.01

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**2 Evaluate proper health and nutrition for aquatic species.** 06.02

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**3 Demonstrate knowledge of terminology for aquatic species.** 06.03

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**4 Determine different reproduction methods.** 06.04

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**5 Explain how the use of biotechnology has impacted the aquatic species industry.** 06.05

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**Explain skills and principles used in vegetable production. The student will be able to:** 07.0

**1 Produce a vegetable crop.** 07.01

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**2 Compare the components of soil.** 07.02

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**3 Perform a soil test.** 07.03

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**4 Describe how climate can affect crop production.** 07.04

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**5 Compile knowledge of growing seasons for a geographic region.** 07.05

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**6 Explain the use of Best Management Practices in crop production.** 07.06

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**7 Investigate the impact of pests on crop yields.** 07.07

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**8 Model the safety precautions on a pesticide and fertilizer label.** 07.07

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**9 Assess proper irrigation methods for crops.** 07.09

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**10 Analyze knowledge of harvesting techniques and equipment** 07.10

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**11 Compare types of storage facilities.** 07.11

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**12 Explain how the use of biotechnology has impacted vegetable crop production.** 07.12

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**Explain skills and principles used in nursery production. The student will be able to:** 08.0

**1 Perform plant propagation.** 08.01

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**2 Develop a growing schedule for nursery plants.** 08.02

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**3 Model methods for Integrated Pest Management.** 08.03

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**4 Compare types of growing media.** 08.04

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**5 Identify nutrients necessary for plant growth from the periodic table and their functions.** 08.05

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**6 Identify plants based on common and scientific names.** 08.06

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**7 Describe principles for plant growth.** 08.07

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**8 Explain different methods of irrigation.** 08.08

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**9 Explain how the use of biotechnology has impacted plant production.** 08.09

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**Apply scientific and technical skills in production agriculture. The student will be able to:** 09.0

**1 Formulate scientifically investigable questions, construct investigations, collect and evaluate data, and develop scientific recommendations based on findings.** 09.01

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**2 Employ technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email, and internet applications** 09.02

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**Manage leadership and communication skills. The student will be able to:** 10.0

**1 Discuss the establishment and history of the FFA organization.** 10.01

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**2 Compare the characteristics and responsibilities of organizational leaders.** 10.02

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**3 Demonstrate parliamentary procedure skills during a meeting.** 10.03

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**4 Participate on a committee which has an assigned task and report to the class.** 10.04

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**5 Demonstrate effective communication skills through delivery of a speech or conducting a demonstration.** 10.05

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**6 Use a computer to assist in the completion of an agricultural project.** 10.06

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**Demonstrate good work habits, and career planning in agriculture production. The student will be able to:** 11.0

**1 Identify attitudes and habits necessary to achieve career success.** 11.01

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**2 Describe personality aspects to consider when choosing a career.** 11.02

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**3 Identify the basic steps in career planning.** 11.03

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**4 Identify and research career opportunities in agriculture and its related fields through a Foundational SAE.** 11.04

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**Integrate the use of science, mathematics, reading, geography, history, writing, and communication in production agriculture. The student will be able to:** 12.0

**1 Apply basic mathematics operations to solve agricultural problems.** 12.01

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**2 Correctly use measuring devices and utilize measurements to solve agricultural problems.** 12.02

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**3 Prepare written and/or oral materials using correct English grammar.** 12.03

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**4 Identify the main idea in oral presentations and/or written materials.** 12.04

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**5 Locates, organizes, and interprets information from a variety of agricultural sources.** 12.05

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**6 Describe the historical evolution of agriculture.** 12.06

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**7 Select and study a problem that can be tested under controlled conditions to establish a hypothesis or to illustrate a known law.** 12.07

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**Identify components of network systems. The student will be able to:** 13.0

**1 Identify structure to access internet, including hardware and software components.** 13.01

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**2 Identify and configure user customization features in web browsers, including preferences, caching, and cookies.** 13.02

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**3 Recognize essential database concepts.** 13.03

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**4 Define and use additional networking and internet services.** 13.04

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**Describe and use communication features of information technology. The student will be able to:** 14.0

**1 Define important internet communications protocols and their roles in delivering basic Internet services.** 14.01

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**2 Identify basic principles of the Domain Name System (DNS).** 14.02

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**3 Identify security issues related to Internet clients.** 14.03