

CONTENT STANDARD 1.0: PLANT ANATOMY AND IDENTIFICATION

Performance Standard 1.1: PLANT ANATOMY

- 1.1.1. Identify and describe the primary parts of a plant and their function
- 1.1.2. Identify the parts of a cell and describe their functions
- 1.1.3. Identify the basic types of tissues found in a plant and their functions

Performance Standard 1.2: PLANT IDENTIFICATION

- 1.2.1. Discuss the systems of plant classification
- 1.2.2. Differentiate between plant parts and modifications (roots, stems, leaves, flowers, fruits, seeds)
- 1.2.3. Determine plant identification by using a key

CONTENT STANDARD 2.0: PLANT PROCESSES AND GROWTH AND DEVELOPMENT

Performance Standard 2.1: BASIC PLANT PROCESSES

- 2.1.1. Explain the process and purpose of photosynthesis, respiration, transpiration and absorption
- 2.1.2. List factors that affect the rate of photosynthesis, respiration, transpiration and absorption
- 2.1.3. Distinguish between the characteristics of photosynthesis and respiration

Performance Standard 2.2: PLANT GROWTH AND DEVELOPMENT

- 2.2.1. List the stages of plant growth and development including germination, vegetative growth and reproductive growth
- 2.2.2. List conditions affecting the vegetative growth of plants
- 2.2.3. Demonstrate asexual and sexual reproduction in plants

Performance Standard 2.3: PLANT BREEDING

- 2.3.1. List methods and strategies of pollination
- 2.3.2. Describe the selective plant breeding process
- 2.3.3. Demonstrate how to calculate heritability
- 2.3.4. Interpret test plot data

CONTENT STANDARD 3.0: SOIL AND WATER

Performance Standard 3.1: ELEMENTARY STUDY OF SOILS

- 3.1.1. Discuss the function of soil as it relates to plant growth, development, and maintenance
- 3.1.2. Determine soil texture
- 3.1.3. Identify five kinds of soil structure
- 3.1.4. Determine how acidity and alkalinity effect the soil and methods of correcting pH problems
- 3.1.5. Compare and contrast biotic and abiotic components of soil

- 3.1.6. Identify soil conservation strategies.

Performance Standard 3.2: SOIL MOISTURE MANAGEMENT

- 3.2.1. Identify reasons for irrigation including water holding capacity and soil moisture
- 3.2.2. Recognize tillage practices associated with different soil structures and their effects on water infiltration
- 3.2.3. Recognize water sources, delivery systems
- 3.2.4. Describe Idaho's water doctrine and its significance in today's agriculture

CONTENT STANDARD 4.0: PLANT NUTRITION

Performance Standard 4.1: IDENTIFY SOURCES AND ROLES OF PLANT NUTRIENTS

Performance Standard 4.2: RECOGNIZE PLANT NUTRIENT DEFICIENCIES

Performance Standard 4.3: ANALYSIS OF SOIL AND PLANT NUTRIENTS

- 4.3.1. Calculate nutrient removal rate
- 4.3.2. Interpret soil analysis
- 4.3.3. Calculate fertilizer application and cost

CONTENT STANDARD 5.0: INTEGRATED PEST MANAGEMENT

Performance Standard 5.1: RECOGNIZE CONCEPTS AND PRINCIPALS OF AN INTEGRATED PEST MANAGEMENT PLAN

- 5.1.1. Recognize elements of the disease triangle
- 5.1.2. Analyze economic thresholds of crop damage

Performance Standard 5.2: PEST IDENTIFICATION

- 5.2.1. Discuss competition and economic losses caused by pests
- 5.2.2. Recognize common Idaho weeds, insects, diseases
- 5.2.3. Recognize common Idaho crops

CONTENT STANDARD 6.0: CAREERS AND TECHNOLOGY

Performance Standard 6.1: INTRODUCTION TO TECHNOLOGY

- 6.1.1. Discuss the improvements made through genetic engineering
- 6.1.2. Describe the tools and techniques used for genetic modification
- 6.1.3. Explore precision agriculture technology
- 6.1.4. Recognize advancements in plant science

Performance Standard 6.2: MARKETING AND DATA ANALYSIS

- 6.2.1. Interpret agricultural data (1. Test plots, 2. Soil and tissue analysis, 3. Market trends, 4. Cultivar/variety/hybrid selection)

Performance Standard 6.3: CAREER EXPLORATION

- 6.3.1. Explore the careers that are available in plant science
- 6.3.2. List the requirements of gaining and keeping employment in the field of plant science

Performance Standard 6.4: SUPERVISED AGRICULTURAL EXPERIENCE

- 6.4.1. Accurately maintain SAE record books
- 6.4.2. Investigate the proficiency award areas related to SAE program area
- 6.4.3. Actively pursue necessary steps to receive high degrees in FFA

CONTENT STANDARD 7.0: SAFETY

Performance Standard 7.1: GENERAL SAFETY

- 7.1.1 Identify and properly use personal protection equipment
- 7.1.2. Read, understand and follow label directions and SDS (safety data sheet)