### 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**


**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

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>7.1.1</td>
<td>Identify and properly use personal protection equipment</td>
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<tr>
<td>7.1.2</td>
<td>Read, understand and follow label directions and SDS (safety data sheet)</td>
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