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## **Sustainable Food Systems and Natural Resources End of Program Assessment Blueprint**

Applies to the following programs:

<b>CIP Code</b>	<b>Common Name</b>
01.0302	Animal/Livestock Husbandry & Production
01.0601	Applied Horticulture/Horticulture Applications, General
03.0501	Forestry, General

### **History of Vermont Agriculture 3%**

The student will be able to:

- Discuss the economic importance of the agricultural sector in Vermont
- Discuss major changes in Vermont Agriculture and explain cause for changes
- Identify the major agricultural production areas of Vermont
- List major commodities produced in each of Vermont's agricultural production areas
- Discuss Vermont's *Accepted Agricultural Practices*

### **Soil 11%**

The student will be able to:

- Define soil in terms of its functions and of its economic uses
- Identify soil and its characteristics
- Relate soil characteristics to crops
- Describe the physical (e.g. soil structure, soil air, soil density, soil temperature, soil water, and soil water control) and chemical (colloidal properties, pH and flocculation) properties of soils
- Describe the principles of soil cultivation
- Discuss the importance of a crop rotation plan in soil management
- Read a soils map

### **Pests 7%**

The student will be able to:

- Understand the difference between invasive and noninvasive species.
- Discuss how pests and disease affect quality grades of produce

- C. Distinguish between pest prevention, suppression, and eradication
- D. Describe integrated pest management
- E. Explain the differences between cultural, mechanical, biological, and chemical control

### **Safety**

**15%**

The student will be able to:

- A. List factors that contribute to agricultural accidents
- B. Identify chemical, physical, biological, psychological hazards common to agriculture
- C. Describe unsafe work attitudes and unsafe work conditions and practices
- D. Identify the hazards from a Material Safety Data Sheet
- E. Describe the importance of Personal Protective Equipment.

### **Business**

**7%**

The student will be able to:

- A. Explain the role of supply and demand in the price system
- B. Compare and contrast direct retail, wholesale, and cooperatives markets.
- C. Identify sources of credit.
- D. Identify important factors for positive credit rating
- E. Discuss financial concepts and principles (i.e., cash flow statement, profit and loss statement, bank statement, cost efficiency factors)
- F. Identify agencies assisting and/or regulating businesses
- G. Identify sources of tax documents
- H. Review needs and sources of insurance
- I. Describe major elements of contracts, leases, and other legal documents
- J. Determine equipment, machinery, and labor requirements for the operation.

### **Leadership**

**4%**

- A. Demonstrate working understanding of roles and responsibilities of leaders/senior members in a business environment

### **Plant Science**

**11%**

The student will be able to:

- A. Describe various plant crops common to Vermont
- B. Identify the parts and the function of each part of a flowering plant
- C. Discuss the flower and seed production process.

**Animal Science****6%**

The student will be able to:

- A. Explain carrying capacity of forests or pasture lands as it relates to animals and wild life.
- B. Understand the food chain.
- C. Understand the importance of a diverse genetic pool.

**Water****10%**

The student will be able to:

- A. Describe the impact of agriculture on the water resources of Vermont
- B. Determine sources and uses of water
- C. Identify the major water quality and pollution problems in Vermont.

**Employability****7%**

The student will be able to:

- A. Demonstrate the ability to collect information, explore, and make personal decisions about careers
- B. Prepare a resume and cover letter with proper grammar and format
- C. List uniform, personal hygiene, appearance, and behavior codes set common to the agriculture industry
- D. Demonstrate an understanding of the importance of being reliable and productive on the job (i.e. following instructions, attendance, time management)
- E. Demonstrate teamwork, respect, and tolerance in the agriculture industry
- F. Demonstrate a positive attitude in the workplace, and the acceptance of constructive criticism
- G. Demonstrate problem solving and conflict resolution abilities.
- H. Explain the importance of learning new skills regarding career advancement.
- I. Understands the importance of initiative to the employer and work environment.

**Weights & Measurements****9%**

The student will be able to:

- A. Demonstrate ability to measure area (acres, square feet)
- B. Calculate volume (acres, cubic yards, square feet, board feet).
- C. Calculate perimeter of a given area.
- D. Describe percent slope in terms of rise over run.

Food Production      10%

The student will be able to:

- A. Identify general food safety issues (ecoli, mobile pathogens, )
- B. Describe an acceptable food production facility.
- C. Explain why proper food handling is important
- D. Contrast organic and inorganic food production practice.