Nebraska CTE

Crop Management & Agronomy

Summarize principles of taxonomic systems to classify plants. AFNR.HS.12.1	**a** Compare, contrast, and classify plants in a variety of areas (e.g., taxonomy, life cycle, plant use, structure). AFNR.HS.12.1.A
	b Describe how classification is used globally in plant identification. AFNR.HS.12.1.B
	c Describe the importance of scientific nomenclature when identifying plants and give an example of a scientific name in association with its common name. AFNR.HS.12.1.C
Evaluate soil nutrients and soil management for healthy plant growth. AFNR.HS.12.2	**a** Identify the essential nutrients and their functions necessary for plant growth and development. AFNR.HS.12.2.A
	b Analyze the effects and recognize environmental causes of nutrient deficiencies and toxicities. AFNR.HS.12.2.B
	c Describe the influence of pH on the availability of nutrients in plant health. AFNR.HS.12.2.C
	d Identify fertilizer sources of essential nutrients; explain and calculate fertilizer formulations and describe different methods of fertilizer application. AFNR.HS.12.2.D
	e Summarize production methods focused on soil management (e.g., crop rotation, companion planting, cover crops). AFNR.HS.12.2.E
	f Summarize the impact of environmental factors on nutrient availability. AFNR.HS.12.2.F
Develop pest control measures to minimize the impact on agronomic and horticultural crops. AFNR.HS.12.3	**a** Identify and categorize abiotic and biotic plant pests, diseases, and disorders. AFNR.HS.12.3.A
	b Identify and assess local major weeds, insect pests, and infectious and noninfectious plant diseases. AFNR.HS.12.3.B
	c Examine the life cycle of major plant pests and diseases. AFNR.HS.12.3.C
	d Predict pest and disease problems based on environmental conditions and life cycles. AFNR.HS.12.3.D

Skip to main content

	e Identify and summarize pest control strategies associated with integrated pest management and the importance of determining economic threshold. AFNR.HS.12.3.E
	f Distinguish between risks and benefits associated with the materials and methods used in plant pest management. AFNR.HS.12.3.F
Summarize concepts of plant development through the selection, planting, and growing of seeds and plants, based on global demand, economic importance, and growing conditions. AFNR.HS.12.4	a Summarize the purity of plant production material (virus index, invasive species, seed banks). AFNR.HS.12.4.A
	b Analyze how mechanical planting equipment performs soil preparation and seed placement. AFNR.HS.12.4.B
	c Determine desired seeding rate and/or numbers of vegetative materials needed for specified plant population or desired quantity of finished plants. AFNR.HS.12.4.C
	d Observe environmental conditions during the germination, growth, and development of a crop. AFNR.HS.12.4.D
	e Demonstrate proper techniques to control and manage plant growth through mechanical, cultural, or chemical means. AFNR.HS.12.4.E
	f Compare and contrast the technologies used in plant production. AFNR.HS.12.4.F
Summarize the processes in harvesting, transporting, and storing crops according to current industry standards. AFNR.HS.12.5	a Identify and analyze processes used by mechanical harvesting methods, including ensuring safety measures. AFNR.HS.12.5.A
	b Evaluate crop yield and loss data and make recommendations to reduce crop loss. AFNR.HS.12.5.B
	c Demonstrate techniques for grading, handling. and packaging plants and plant products for distribution. AFNR.HS.12.5.C
	d Analyze practices used to maintain a safe product through harvest, processing, storage, and shipment (e.g., Food Safety Modernization Act, Good Agricultural Practices). AFNR.HS.12.5.D
Evaluate principles and practices of sustainable cropping systems to plant production to recommend the ideal system for their local community. AFNR.HS.12.6	a Identify the current topics in crop production and the role those topics play in management and production of agronomic crops. AFNR.HS.12.6.A
	b Assess the importance of long-term impacts on sustainable agriculture systems in relation to global food security. AFNR.HS.12.6.B
	c Analyze the alignment of modern technologies used in production systems (e.g., precision agriculture, gene editing technologies). AFNR.HS.12.6.C

Skip to main content

d **Describe sustainable agricultural practices and how they relate to conventional agricultural practices.** AFNR.HS.12.6.D

e **Compare and contrast differing research conclusions related to environmental factors on sustainable systems.** AFNR.HS.12.6.E