

Landscape Design

Investigate the importance of plant identification in choosing and using landscape plants. [AFNR.HS.21.1](#)

- a** Identify the importance of scientific nomenclature when identifying and selecting landscape plants, using cultivars or varieties in a scientific name and the corresponding common name. [AFNR.HS.21.1.A](#)

- b** Identify plants by their purpose (e.g., floral plants, landscape plants, house plants). [AFNR.HS.21.1.B](#)

- c** Distinguish between various types of turf grasses and compare how they are used in different landscape situations. [AFNR.HS.21.1.C](#)

- d** Develop knowledge of landscape characteristics and environmental requirements for landscape plants. [AFNR.HS.21.1.D](#)

- e** Describe the differences between annual, perennial, woody and herbaceous plants and how they are used in landscape design. [AFNR.HS.21.1.E](#)

Summarize methods of propagation and production for landscape needs. [AFNR.HS.21.2](#)

- a** Explain the methods of asexual propagation and their importance in producing landscape plants. [AFNR.HS.21.2.A](#)

- b** Identify which species and of landscape plant varieties are best propagated asexually. [AFNR.HS.21.2.B](#)

- c** Describe methods of producing turf grass, including seed, asexual propagation, plugs, and sod. [AFNR.HS.21.2.C](#)

- d** Develop a schedule for propagation and production to meet seasonal landscape needs. [AFNR.HS.21.2.D](#)

- e** Describe how plants that do not meet ANSI Standards for Nursery Stock influence immediate and long-term landscape management processes. [AFNR.HS.21.2.E](#)

Implement a landscape management plan that addresses the influence of environmental factors, nutrients, and soil on plant growth. [AFNR.HS.21.3](#) I

- a** Summarize the environmental factors involved in managing landscapes including soils, water, pests and human actions. [AFNR.HS.21.3.A](#)

- b** Explain the techniques of soil sampling and relate this process to testing the soil and interpreting the results to recommend fertilizer applications and pH treatment. [AFNR.HS.21.3.B](#)

- c** Develop a water management plan for a landscape that includes turf grass, woody, and herbaceous plants. [AFNR.HS.21.3.C](#)

d Analyze the deficiency symptoms of the major plant nutrients and investigate the economic impacts of those deficiencies. AFNR.HS.21.3.D

Develop a landscape plan to include hardscapes and plants. AFNR.HS.21.4

a Assess client needs to communicate effectively with clients throughout the design process. AFNR.HS.21.4.A

b Differentiate between design styles by interpreting the use of design principles (e.g., order, unity and rhythm) in a landscape plan. AFNR.HS.21.4.B

c Evaluate the use of design elements (e.g., scale, proportion, balance) in a landscape plan. AFNR.HS.21.4.C

d Analyze environmental conditions and human factors that will influence design decisions. AFNR.HS.21.4.D

e Determine if an irrigation system is needed and choose the appropriate type and components for optimal coverage. AFNR.HS.21.4.E

f Demonstrate how various plant types (e.g., conifers, deciduous shrubs) are combined as part of the landscape system for function, management, and aesthetics. AFNR.HS.21.4.F

g Determine plant materials and hardscape elements appropriate for the site and client, applying principles of sustainability. AFNR.HS.21.4.G

Describe the seasonal differences for managing a landscape for a year. AFNR.HS.21.5

a Describe, in the correct order, the steps utilized in Integrated Pest Management (IPM). AFNR.HS.21.5.A

b Identify common plant pests (insects and diseases). AFNR.HS.21.5.B

c Describe the damage inflicted to the plants. AFNR.HS.21.5.C

d Explain the types of pest control methods and classification of herbicides and discuss the appropriate uses and safety measures for each type. AFNR.HS.21.5.D

e Compare situations where different soil amendments, fertilizers, and pesticides are used to determine best management practices (BMP). AFNR.HS.21.4.E

f Analyze how an irrigation plan provides optimal coverage for all plant types, including turf grass. AFNR.HS.21.4.F

g Interpret the reasons, methods, and timing for pruning woody and herbaceous plants for optimal plant growth in landscapes. AFNR.HS.21.4.G

Recommend materials and methods appropriate for landscape needs. AFNR.HS.21.6

a Demonstrate knowledge of drawing tools and/or software to calculate area and volume with necessary conversions to figure accurate quantities of materials. AFNR.HS.21.6.A

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- b Use common calculations to compare prices for landscape plants and hardscape materials and their installation to recommend the most cost-effective approach.** AFNR.HS.21.6.B
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- c Investigate equipment types and availability to recommend the appropriate equipment for installation and management.** AFNR.HS.21.6.C
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- d Describe the process needed to construct and manage a landscape and create a cost analysis for the project.** AFNR.HS.21.6.D