

Directions:	Evaluate the trainee using the rating scale below and check the appropriate number to indicate the degree of competency achieved. The numerical ratings of 3, 2, 1, and 0 are not intended to represent the traditional school grading system of A, B, C, D, and F. The descriptions associated with each of the numbers focus on level of student performance for each of the tasks listed below.
Rating Scale:	<p>0 - No Exposure - no information nor practice provided during training program, complete training required.</p> <p>1 - Exposure Only - general information provided with no practice time, close supervision needed and additional training required.</p> <p>2 - Moderately Skilled - has performed independently during training program, limited additional training may be required.</p> <p>3 - Skilled - can perform independently with no additional training.</p>

1. Number of Competencies Evaluated	_____
2. Number of Competencies Rated 2 or 3	_____
3. Percent of Competencies Attained (2/1)	_____
Grade	_____
Instructor Signature	Date

01.0 Elementary Study of Soils

The student will be able to:

- | | |
|---|---|
| 0 1 2 3 | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.01 Identify reasons why soils are important |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.02 Discuss the function of soil as related to plant growth, development, and maintenance |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.03 Select factors that affect soil formation |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.04 List the four physical properties of soil |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.05 Identify soil particles according to size, and discuss methods used to determine soil texture |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.06 Identify five kinds of soil structure |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.07 Match terms indicating soil color and depth with their correct descriptions |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.08 Label an illustration showing the different layers of a soil profile |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 01.09 Discuss acidity and alkalinity and methods of correcting problems associated with each |

02.0 Soil Fertility

The student will be able to:

- | | |
|---|--|
| 0 1 2 3 | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.01 Match primary and secondary nutrients with their correct function for plant growth |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.02 Match nutrients with correct deficiency symptoms |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.03 Select factors that influence the use of fertilizers |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.04 List four sources of nutrients |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.05 Match dry, liquid, and gaseous fertilizers with their correct description and use |

- | | |
|---|---|
| 0 1 2 3 | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.06 Calculate problems comparing fertilizer cost by comparing cost per pound of nutrients |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.07 Discuss methods and procedures involved in collecting a representative soil sample |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.08 Complete a soils test report form, and make fertilizer recommendations |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 02.09 Identify and discuss methods of fertilizer application |

03.0 Irrigation

The student will be able to:

- | | |
|---|---|
| 0 1 2 3 | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.01 List reasons for irrigating |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.02 Select from a list factors that affect water intake rates |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.03 Calculate the water holding capacity of a soil |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.04 List methods of estimating soil moisture in crop root zone |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.05 Calculate irrigation frequency |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.06 Name and properly convert units of water measurement |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.07 Name four types of irrigation systems |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.08 Select factors that affect the selection of irrigation systems |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.09 Match the basic parts of a surface irrigation system with the correct description |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.10 Match the basic parts of a sprinkler irrigation system with the correct description |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.11 Identify resource management practices with the appropriate water law |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | 03.12 Calculate costs associated with irrigation |

04.0 Land Preparation

The student will be able to:

0 1 2 3

- 04.01 Identify reasons for tillage
- 04.02 List characteristics of a good seedbed
- 04.03 Discuss cultural practices involved in seedbed preparation
- 04.04 Select from a list factors that determine the time to plow
- 04.05 List advantages of fall plowing and spring plowing
- 04.06 Discuss advantages of turning under crop residue
- 04.07 List reasons for stubble mulching
- 04.08 Discuss summer following
- 04.09 List reasons to use minimum tillage
- 04.10 Identify equipment used in land preparation
- 04.11 Describe herbicides used for sterilization, clean-up, and weed control

05.0 Soil Conservation

The student will be able to:

0 1 2 3

- 05.01 List four types of erosion
- 05.02 List factors that influence soil erosion
- 05.03 Describe the four categories of water erosion
- 05.04 List conservation practices for reducing erosion
- 05.05 List mechanical and cropping practices used to reduce water erosion
- 05.06 List factors that determine cropping systems
- 05.07 List three organizations involved with soil conservation

06.0 Land Evaluation and Use Classification

The student will be able to:

0 1 2 3

- 06.01 List reasons for evaluating land
- 06.02 List factors used in determining land capability class
- 06.03 Select, when given land factors, the best land class possible for the specified field
- 06.04 Discuss methods of determining soil texture
- 06.05 Match the different variations of permeability, depth, slope, erosion, surface runoff, drainage and climate with the identifying characteristics of each
- 06.06 Select the recommended vegetative and mechanical land treatments when given the land capability class

0 1 2 3

- 06.07 Name the proper fertilizer and soil amendments needed from soil test information provided
- 06.08 List factors considered in homesite evaluation
- 06.09 Match the variations of permeability, slope, erosion, runoff, shrink-swell, water table, and flooding with the identifying characteristics of each for homesite evaluation
- 06.10 Select, when given land factor the degree of limitation for foundation without basement; lawns, shrubs, and gardens; septic systems, and lagoon sewage systems
- 06.11 Demonstrate ability to complete land judging and homesite evaluation score card when given the characteristics of the site

07.0 Introduction to Crop Science

The student will be able to:

0 1 2 3

- 07.01 List the necessities for animal life that are furnished by plants
- 07.02 List major crops grown in the U.S.
- 07.03 List the major crops of Idaho by rank in production in the U.S.
- 07.04 Classify plants as cereal, root crop, tree crop, pulse oil seed, or forage crop
- 07.05 Match the common crops of Idaho with their average yields
- 07.06 List the limiting factors relating to crop production
- 07.07 Discuss the purpose of the Crop Reporting Service and the Idaho Crop Improvement Association

08.0 Basic Plant Processes

The student will be able to:

0 1 2 3

- 08.01 List the important plant processes in food manufacture and growth
- 08.02 Explain why photosynthesis is an important process
- 08.03 Explain the chemical process of photosynthesis
- 08.04 List factors that affect photosynthetic rate
- 08.05 Explain the chemical process of respiration
- 08.06 Distinguish between characteristics of photosynthesis and respiration
- 08.07 Explain transpiration and list factors that affect transpiration rate
- 08.08 Explain osmosis and the process of absorption by plant roots
- 08.09 Label the parts of a common plant cell

09.0 Plant Growth and Development

The student will be able to:

0 1 2 3

- 09.01 List the stages of plant growth and development
- 09.02 List requirements for good seed germination
- 09.03 List factors that cause poor seed germination
- 09.04 List the primary parts and functions of a plant
- 09.05 Identify two types of root systems
- 09.06 Correctly label a drawing showing the parts of a plant stem
- 09.07 Match stem modifications with the correct descriptive term
- 09.08 List conditions affecting the vegetative growth of crop plant's
- 09.09 Discuss asexual and sexual reproduction in plants
- 09.10 Label a drawing showing the parts of a complete flower
- 09.11 Match types of flowers to the correct description
- 09.12 List methods of pollination

10.0 Crop and Weed Identification

The student will be able to:

0 1 2 3

- 10.01 Discuss the system of plant classification
- 10.02 Identify the parts of simple and compound leaves
- 10.03 Name the types of leaf arrangement, venetian and margins
- 10.04 Identify the types of leaf attachment to the stem
- 10.05 Identify the parts of a stem
- 10.06 Match stem modifications with their correct description
- 10.07 Identify the parts of a perfect flower
- 10.08 Identify the types of inflorescence
- 10.09 Identify weed plants and common crop plants of economic impact to Idaho
- 10.10 Discuss weed competition and losses caused by weeds
- 10.11 Discuss how weeds spread
- 10.12 Discuss methods of cultural, mechanical, chemical and biological weed control

11.0 Insect Pests of Crops

The student will be able to:

0 1 2 3

- 11.01 List ways that insects cause losses in plants
- 11.02 List beneficial effects of insects
- 11.03 Identify the three regions of an insect body

0 1 2 3

- 11.04 Match the way an insect feeds on plants with the correct description
- 11.05 Label a drawing showing the life cycle of an insect
- 11.06 Discuss the importance of economics in relation to plant insect control
- 11.07 List cultural, biological and chemical control practices for insects
- 11.08 Match classifications of insecticides to their correct description
- 11.09 Identify the insects having an economic impact on Idaho agriculture

12.0 Plant Disease Identification and Control

The student will be able to:

0 1 2 3

- 12.01 Identify symptoms, names of diseases and causal agents of diseases of common economic impact to Idaho crops
- 12.02 Describe the life cycles of diseases
- 12.03 Describe ways and means diseases are spread
- 12.04 Describe growing conditions and cultural practices favorable to common diseases
- 12.05 Describe preventative measures for diseases
- 12.06 Describe cultural and chemical control measures for diseases

13.0 Crop Chemicals

The student will be able to:

0 1 2 3

- 13.01 Discuss the economic importance of pesticide use
- 13.02 List ways improper use of pesticides can harm the environment
- 13.03 List information contained on a pesticide label
- 13.04 Discuss advantages, disadvantage and principal uses of various types of formulations
- 13.05 List in proper sequence procedure for mixing wettable powders and emulsifiable concentrates
- 13.06 Calculate problems determining amounts of wettable powder or emulsifiable concentrate to U.%C
- 13.07 Identify the parts of a field sprayer
- 13.08 Discuss the climatic and other factors affecting pesticide application
- 13.09 Discuss the types of protective clothing and equipment needed for pesticide applications
- 13.10 Name the steps to follow in case of pesticide poisoning

0 1 2 3

- 13.11 Discuss regulations/laws governing the use and disposal of pesticides
- 13.12 List reasons for keeping records of pesticide use
- 13.13 Describe the purpose of pesticides
- 13.14 Demonstrate safe application and storage of pesticides
- 13.15 Discuss classification of herbicides by selectivity, mode of action, and time of application

14.0 Seed Selection

The student will be able to:

0 1 2 3

- 14.01 List factors to consider for selecting high quality seed
- 14.02 Discuss conditions that may exist when good seed is not selected
- 14.03 List and describe the certifiable seed classes
- 14.04 List information required on certified seed tags
- 14.05 Discuss types and purposes of seed treatments
- 14.06 Discuss procedures to follow in handling and storing seed
- 14.07 Calculate the value of pure live seed