

# Soil Texture and Structure

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## ► Part One: Matching

**Instructions:** Match the term with the correct definition.

- |                           |                      |
|---------------------------|----------------------|
| a. water-holding capacity | f. textural triangle |
| b. soil structure         | g. clay              |
| c. peds                   | h. silt              |
| d. permeability           | i. soil workability  |
| e. soil texture           | j. sand              |

- \_\_\_ 1. The fineness or coarseness of soil particles
- \_\_\_ 2. The ease with which air and water may pass through the soil
- \_\_\_ 3. The ability of soil to retain moisture for plants
- \_\_\_ 4. The arrangement of soil particles into clusters or aggregates
- \_\_\_ 5. A chart used to classify soil according to its coarseness or fineness
- \_\_\_ 6. Aggregates that occur naturally in the soil
- \_\_\_ 7. The largest mineral particle
- \_\_\_ 8. The middle-sized mineral particle
- \_\_\_ 9. The smallest mineral particle
- \_\_\_ 10. The ease with which soil may be tilled

## ► Part Two: Multiple Choice

**Instructions:** Write the letter of the correct answer.

- \_\_\_ 1. What term is used for clumps of soil caused by tillage?
  - a. clods
  - b. crumbs
  - c. peds
  - d. prisms
  
- \_\_\_ 2. What is the textural class that contains some of each of the sizes of soil particles?
  - a. loam
  - b. sandy clay
  - c. silt
  - d. silt clay

- \_\_\_\_\_ 3. When the ribbon method of determining soil texture is used, what soil texture produces a long, pliable ribbon?
- coarse textured
  - fine textured
  - medium textured
  - moderately coarse textured
- \_\_\_\_\_ 4. Why is soil structure important?
- It decreases soil tilth.
  - It increases the formation of clods.
  - It increases the crusting.
  - It improves permeability.
- \_\_\_\_\_ 5. What are the two types of soil structure that appear structureless?
- blocky, crumb
  - columnar, granular
  - massive, single grain
  - platy, prismatic

► **Part Three: Short Answer**

**Instructions: Complete the following.**

- Classify the following soil particles as small, medium, or large in comparison to each other:
  - sand—
  - clay—
  - silt—
- How does texture affect the ability of plants like carrots and onions to grow?
- Briefly explain two of the three ways that soil structure is beneficial to plant growth.
- How do bulk density and particle density differ?

# Soil Color

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## ► Part One: Matching

**Instructions:** Match the term with the correct definition.

- |                       |                              |
|-----------------------|------------------------------|
| a. tall prairie grass | f. native vegetation         |
| b. texture            | g. mottled-colored           |
| c. dull-colored       | h. color                     |
| d. structure          | i. bright-colored            |
| e. humus              | j. deciduous hardwood forest |

- \_\_\_\_ 1. A type of organic matter resulting from the partial decay of plants and animals
- \_\_\_\_ 2. The way in which soil particles are held together
- \_\_\_\_ 3. Vegetation that provided a deep, dark plow layer of soil
- \_\_\_\_ 4. Used to describe soils that develop with a gray color
- \_\_\_\_ 5. Term describing the type of plants once grown naturally in a particular area
- \_\_\_\_ 6. The coarseness or fineness of soil particles
- \_\_\_\_ 7. Vegetation that provided a thin, moderately dark top layer
- \_\_\_\_ 8. Refers to the darkness or lightness of the soil
- \_\_\_\_ 9. Clumps of both bright and dull colors mixed together
- \_\_\_\_ 10. Brown, reddish brown, or yellowish brown

## ► Part Two: Multiple Choice

**Instructions:** Write the letter of the correct answer.

- \_\_\_\_ 1. What determines the colors found in the surface layer of soils?
- a. Drainage
  - b. Organic matter
  - c. Oxidation
  - d. Reduction
- \_\_\_\_ 2. Subsoil colors are determined by the degree of \_\_\_\_ present when the soil was forming.
- a. Drainage
  - b. Earthworm activity
  - c. Sandiness
  - d. Organic matter

