

# Soils and Fertilizers

1. Define soil.
2. Explain why good soil structure is important to gardeners.
3. Mark each of the following statements as True (T) or False (F). \*  
 Clay loam soil is unable to hold enough water for good plant growth.  
 Clay loam soil remains cool and wet late into the spring.  
 Clay loam soil stays warm late into the fall.  
 Clay loam soil needs drainage improvement.  
 Clay loam soil takes more lime to correct an acidity problem than would a sandy loam.
4. What is the function of soil in relationship with plants?
5. The three soil textures are clay, silt and sand. Fill in the blanks.  
 is gritty and will not form a ribbon.  
 has the highest CEC and forms long ribbons.  
 is smooth and crusts readily.
6. A house was built on a parcel of land that previously was covered with brush. The land was cleared, and the debris and much of the topsoil were removed from the site. List two soil problems the homeowner is likely to have in this situation. \*

What could you recommend to help with these problems? \*

7. Soil abounds with life. Why is this life important in a practical way to gardeners?
  - a.
  - b.
  - c.
  - d.
  - e.

\* You may need to use other chapters, additional reference materials, or your own experience to answer this question fully.

8. Why should you add organic matter to your garden soil?
9. Mark each of the following statements as True (T) or False (F). For true statements, indicate whether the statement identifies an advantage or a disadvantage of using an organic fertilizer.
- Nutrients in most organic fertilizers are quickly available to plants.
  - Most organic fertilizers improve the long-term nutrient-holding capacity of soils.
  - Using organic fertilizers usually involves recycling materials that otherwise would be discarded.
  - Using organic fertilizers increases the risk of nitrogen leaching into the groundwater.
  - Organic fertilizers usually have a low soluble nutrient content.
10. A fertilizer label reads 6-10-8. What does this mean?
11. What are peds and why are they important in soil structure?
12. Elements in soil suspension are (pick one):
- attached to soil particles
  - somewhat immobile
  - readily available to the plants
13. What precautions would you take when using manure?
14. List three ways that soil pH affects plants.
15. What is a perched water table and why do we care?

16. Describe the interaction of soil, plant and soil life.
17. How can a gardener increase soil pH? How can he/she decrease it?
18. What is the effect of rototilling garden soil when it is too wet? (Mark the one best answer.)  
\_\_\_\_\_ (a) It destroys soil structure.  
\_\_\_\_\_ (b) It causes soil to warm up slowly.  
\_\_\_\_\_ (c) It adds organic matter to the soil.  
\_\_\_\_\_ (d) All of the above.
19. What is a good temperature range for most soil organisms to be active?
20. What exactly is this “Web of Life” we talk about in the soil?
21. What is the difference between raw organic matter, partially decomposed organic matter and humus in how the soil organisms react to it?