

# Managing Caliche in Your Yard

Cooperative Extension Service  
College of Agriculture and  
Home Economics



## Guide A-127

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Many locations in New Mexico have soils with layers of caliche either on or under the surface. Caliche is a layer where soil particles have been cemented together by carbonates of calcium or magnesium.

Caliche is usually light-colored, and can occur as soft thin layers or hard thick beds. There may be more than one layer of caliche in any one location.

### HOW DOES CALICHE AFFECT A PLANT?

- The caliche layer can reduce water penetration, causing inadequate root aeration and salt accumulation in the soil surface. Both conditions reduce the vigor of growing plants.
- The caliche layer can reduce root penetration, restricting normal root development. This restricts the plant's ability to use soil nutrients and water.
- The high pH associated with caliche soils restricts the plant's ability to use many micronutrients. Iron deficiency is the most common problem associated with this condition.

### HOW CAN WE MANAGE CALICHE?

The most desirable way to manage caliche would be to keep plant roots out of the caliche soil. In areas with excessive caliche formations, successful home horticultural plantings can be made by first removing the caliche and replacing it with a soil mixture. These holes for planting

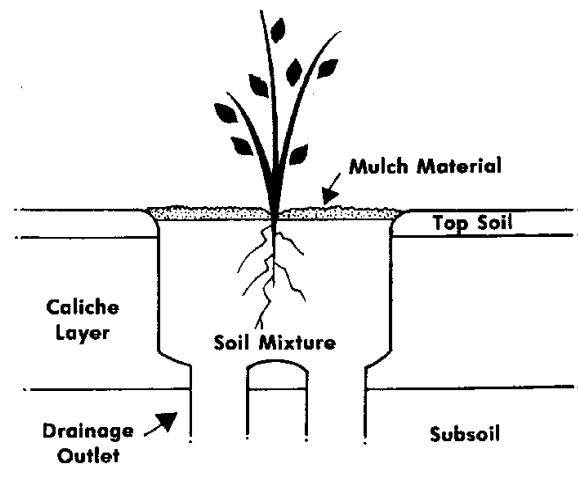
should be large enough to accommodate the particular plant root. Dig the hole through the caliche layer to allow for water penetration and drainage.

In many areas it is not practical to dig through the caliche layer. In these areas, dig one or more small outlets through the remaining caliche, or as deep as possible. This will provide water drainage. Once you have completed the hole, fill it partially with water. The water level should drop at the rate 1" per hour for adequate drainage.

### Suggested hole sizes:

Plant	Hole Size
Flower beds	2 ft deep x 1/2 ft wide
Small shrubs	3 ft deep x 2 ft wide
Large shrubs	3 ft deep x 3 ft wide
Small trees	5 ft deep x 6 ft wide
Large trees	6 ft deep x 8 ft wide

The hole can be back filled with a mixture of 1/3 plant residues and 2/3 good soil. Keep the consistency of the soil mix the same throughout the planting hole. Do not use uncomposted ma-



nure. Discard caliche that has been removed. To help assure water penetration, apply 1/4 lb gypsum per square foot of surface area annually.

### **SUMMARY**

It is possible to grow plants in areas with caliche soils but it requires some effort.

- Caliche soils cause plant growth problems:
  - Restricted water movement
  - Restricted root growth
  - Restricted nutrient availability
- Remove caliche if possible before planting.
- Make sure planting hole is large enough for mature plant root development.
- Make sure water drains from hole.
- Use a good soil mixture when planting.