Alkaline Soil Guide

The Conservation Seedling Nursery

What is Alkaline Soil?

Alkaline soil is characterized by elevated levels of minerals such as calcium carbonate, sodium, and magnesium. Soil is considered alkaline when its pH level is above 7 and is low in organic matter.

Why is Alkaline Soil Difficult for Plant Growth?

Alkaline soil presents several challenges to successful plant growth:

1. **High pH Levels**: high pH levels in alkaline soil can hinder plant growth and seed germination.
2. **Sodium Content:** Sodium in the soil binds tightly to water molecules, making it difficult for plants to absorb available moisture and can even extract water from the plant itself.
3. **Calcium Carbonate: C**alcium carbonate in alkaline soil prevents plants from absorbing essential nutrients they needs to thrive.

Planting in Alkaline Soil

Option 1: Amend the Soil

- **Test Soil:** Test your soil to determine its pH level to decide how much amending is needed.
- **Amend with Organic Matter:** Do your research and apply organic matter, such as compost or well-rotted manure, to improve soil structure and nutrient content
- **Use Acidifying Fertilizers**: Use acidifying fertilizers to lower the pH of the soil gradually.

Option 2: Plant Species Suitable for Alkaline Soil

We offer a variety of plant species, listed on the back of this resource, that grow naturally or have a high tolerance for alkaline environments.

Think Your Soil is Alkaline? Test it!

Your local Conservation District can help you find a facility where your soil can be tested.

Plant Species for Alkaline Soil

This is a list of species we currently offer for Spring 2024

Eastern Red Cedar
Rocky Mountain Juniper
Austrian Pine

Green Ash
Midwest Siberian Crabapple
Amur Maple
Bur Oak
Prairie Sky Poplar

Buffaloberry
Caragana
Lilac

Basin Wildrye