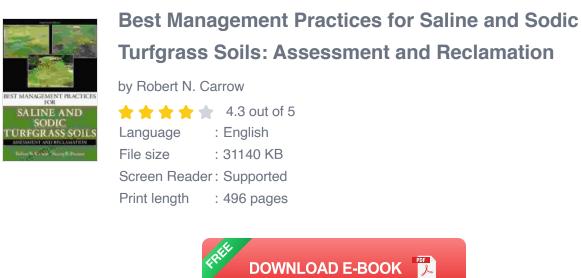
# Best Management Practices for Saline and Sodic Turfgrass Soils

Saline and sodic soils are a major challenge for turfgrass managers. These soils can cause a variety of problems, including poor water infiltration, nutrient deficiencies, and reduced turfgrass growth. However, with proper management, it is possible to grow healthy turfgrass on saline and sodic soils.



#### **Understanding Saline and Sodic Soils**

Saline soils are soils that contain high levels of soluble salts. These salts can come from a variety of sources, including seawater, irrigation water, and fertilizers. Sodic soils are soils that contain high levels of sodium ions. Sodium ions can cause soil particles to disperse, which can lead to poor water infiltration and drainage.

#### Symptoms of Saline and Sodic Soils

The symptoms of saline and sodic soils can include:

- Poor water infiltration
- Nutrient deficiencies
- Reduced turfgrass growth
- Yellowing of turfgrass leaves
- Brown spots on turfgrass leaves

### Managing Saline and Sodic Soils

The best way to manage saline and sodic soils is to prevent them from becoming saline or sodic in the first place. This can be done by using proper irrigation practices and by avoiding the use of fertilizers that contain high levels of sodium.

If your soil is already saline or sodic, there are a number of management practices that you can use to improve the soil conditions and promote turfgrass growth. These practices include:

- Soil testing
- Irrigation management
- Fertilization
- Thatch management
- Cultural practices

### Soil Testing

Soil testing is the first step to managing saline and sodic soils. Soil testing can help you to determine the levels of salts and sodium in your soil, as

well as the pH of your soil. This information can help you to develop a management plan that is tailored to your specific soil conditions.

#### **Irrigation Management**

Irrigation is an important part of managing saline and sodic soils. Irrigation can help to leach salts out of the soil and improve water infiltration. When irrigating saline or sodic soils, it is important to use a slow and deep watering schedule. This will help to prevent the salts from accumulating in the root zone of the turfgrass.

#### Fertilization

Fertilization is another important part of managing saline and sodic soils. Fertilizers can help to provide the nutrients that turfgrass needs to grow healthy. When fertilizing saline or sodic soils, it is important to use a fertilizer that is low in sodium.

#### **Thatch Management**

Thatch is a layer of organic matter that accumulates on the surface of the soil. Thatch can help to insulate the soil and reduce water evaporation. However, too much thatch can also lead to poor water infiltration and drainage. When managing saline or sodic soils, it is important to remove excess thatch.

### **Cultural Practices**

Cultural practices can also help to improve the condition of saline and sodic soils. These practices include:

Aerification

- Topdressing
- Overseeding

Aerification is the process of creating holes in the soil to improve water infiltration and drainage. Topdressing is the process of applying a layer of new soil to the surface of the soil. Overseeding is the process of planting new turfgrass seed into the existing turfgrass stand.

Saline and sodic soils can be a challenge to manage, but with proper management, it is possible to grow healthy turfgrass on these soils. By following the best management practices outlined in this article, you can improve the soil conditions and promote turfgrass growth.



### Best Management Practices for Saline and Sodic Turfgrass Soils: Assessment and Reclamation

by Robert N. Carrow

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