

# Soil Moisture Evaporation Rate Experiment

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## Question

Does a standard application of Liquid Soil Aerator reduce the rate of soil water evaporation?

## Purpose

Water conservation is an important factor when scheduling irrigation events for lawns, sports complexes, gardens, and flowerbeds. Actual users of Liquid Soil Aerator consistently report significant reduction in water usage within 60 days of application. Reports range from 33-67% reduction.

## Materials and Methods

Oklahoma Chandler Clay and Bixby Sandy Loam were treated with water (Control) and Liquid Soil Aerator, the moisture content of each sample adjusted to 25%, and 2 kilograms of soil were placed in two-liter beakers. These beakers were kept in a greenhouse and were weighed everyday to document the rate of water evaporation from each sample. Ten replications of each test were performed to achieve an average result.

**Table 1: Soil Water Evaporation in a 15-Day Period – Oklahoma Chandler Clay**

Treatment	% Polymer	% Water Evaporation	% Water Evaporation Reduction
Control	None	43.6	N/A
Liquid Soil Aerator	2.0	25.8	41.8

**Table 2: Soil Water Evaporation in a 15-Day Period - Bixby Sandy Loam**

Treatment	% Polymer	% Water Evaporation	% Water Evaporation Reduction
Control	None	57.8	N/A
Liquid Soil Aerator	2.0	35.2	39.1

## Conclusion

This test supports a significant reduction of water evaporation in both Oklahoma Chandler Clay and Bixby Sandy Loam. Liquid Soil Aerator aids in conditioning clay soils with a no-till soil preparation method that helps reduce water evaporation. This study supports the claim that Liquid Soil Aerator contributes to water conservation in clay and sandy soils. Commercial and individual users of Liquid Soil Aerator consistently report a noticeable reduction in water usage. Arrowhead Sports Complex in Broken Arrow Oklahoma realized a 67% reduction in water evaporation within 60 days of Liquid Soil Aerator application.