

Research Summary

Compost Blankets for Erosion Control and Vegetation Establishment

Research Need

MassDOT seeks to evaluate performance of completed projects and learn best practices for applying compost blankets to stabilize slopes and aid in establishing native grasses and forbs on roadside slopes.

Goals/Objectives

To summarize the state of knowledge of compost blanket composition and application, and associate native grass and forb seeding and establishment from published literature.

To learn the best practices used by regional, and national DOT's and landscape professionals for compost blanket applications and native species establishment for roadside slopes.

Based on the above goals, to recommend best practices for MassDOT to stabilize roadside slopes and to aid in the establishment of roadside native grasses and wildflowers.

To recommend best practices for long-term management of roadside slopes stabilized with compost blankets and native grasses and forbs.



Methodology

1. Literature Review on Compost Blanket Composition and application, Native grass and Native forb establishment - associated with Compost Blanket Applications.
2. General Practice Interview Survey of Regional and National DOT staff with expertise/experience in compost blanket applications for erosion control and to aid vegetation establishment.
3. Case Study Site Visits and Evaluations. Five Case study sites were MassDOT roadside projects where compost blankets had been applied and seeded with native grasses and forbs within the past three years. The sites were visited two times during the 2019 season to observe soil and erosion conditions and vegetation establishment results.
4. Final presentation of methods and findings.

Key Findings

1. Compost blanket particle size distribution is important for erosion control effectiveness.
2. Compost blanket application is best performed with pneumatic blowers to assure even coverage.
Native grass/forb seed is best applied as a separate layer, mixed with 1/2" compost top of compost base layer.
3. The timing of native species seeding is key to establishment success.

Use of Findings

The specific findings of this research are expected to be used by MassDOT in several areas:

1. To revise standard specifications regarding compost composition and application methods.
2. To revise standard specifications regarding the application of native grass and forb seeds in coordination with compost blanket applications.
3. To revise contract terms to include a period in which vegetation establishment of native grasses and forbs can be effectively monitored and verified as meeting contract terms.
4. To revise monitoring and maintenance practices of sites treated with compost blankets and native vegetation seeding to achieve slope stabilization and native vegetation establishment goals.

Project Information

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