

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Understanding the Effectiveness of Non-Chloride Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations*

**OBJECTIVES:** • Determine and document the effectiveness and impacts of non-chloride liquid agricultural by-products and solid complex chloride/mineral products used in snow and ice control operations; and  
• Unravel the mechanisms (if any) by which these products contribute to anti-icing, deicing, corrosion inhibition, etc.

**PERIOD COVERED:**

Jan. 1, 2015 – March 31, 2015

**PARTICIPATING AGENCIES:**

Western Transportation Institute, Montana State University – Prime  
Monte Vista Associates LLC, Arizona - Subcontractor  
MLT Group LLC, Minnesota - Subcontractor

**PROJECT MANAGER:** Tom Peters

**SP&R PROJECT NO:**

**PROJECT IS:**

**LEAD AGENCY:** Mn/DOT

TPF-5(218)  
Contract#99006

Planning  
 Research & Development

**PRINCIPAL INVESTIGATOR:**

Laura Fay

**ANNUAL BUDGET:**

\$191,238

**PROJECT EXPENDITURES TO DATE:**

\$154,702.41

**WORK COMPLETED:**

*Project Management*

We worked with the project panel and the subcontractor the MLT group to modify the contract to allow for additional footage to be captured for use in Task 7.

Task 1. Literature Review (100% completed)

The draft literature review was submitted and some minor comments were received from the panel. These comments (along with more recent literature) have been addressed and will be incorporated into the Task 5 manual and Task 6 final report.

Task 2. Identify Products (100% completed)

The team has identified the 10 products commonly for further investigation.

Task 3. Survey (100% completed)

The team surveyed experts at state and local agencies to gather their experience with the use and performance of such alternative deicing products. After approval by the Clear Roads panel, the survey questionnaire was distributed to the Clear Roads member State DOTs and APWA Subcommittee on Winter Maintenance. A total of 31 responses were received from 16 different states. The survey results have been summarized.

Task 4. Laboratory Testing (100% completed)

The laboratory testing has been completed for ten selected products, and deicer mechanism testing for the four selected products. The laboratory testing results have been summarized.

Task 5. Development of a Best Practices Manual (25% completed)

Based on findings from Task, 1, 3, and 4, the Best Practices Manual is being outlined and content developed. Efforts on this task will continue into the next quarter.

Task 6. Final Report and Presentation (30% completed)

Content for the final report has been developed for the tasks completed. Efforts on this task will continue into the next quarter.

Task 7. Video (50% completed)

The MLT Group has conducted one onsite video shoot to capture ag-based products being applied and stored by maintenance agencies. The MLT Group has worked to coordinate a second video shoot. WTI has captured video of the laboratory testing and sent it to the MLT Group for editing. Efforts on this task will continue into the next quarter.

**SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:**

Work in the coming quarter will focus on the Task 5 Best Practices Manual, developing content for the Task 6 Final Report with new information, and working with the subcontractor the MLT group in the development of the Task 7 Video. In the last quarter a contract amendment was approved to increase the budget for the MLT Group for additional filming for Task 7.

**STATUS AND COMPLETION DATE:**

The project is on schedule and on budget. Completion date – Sept. 31, 2015