



## Snow & Ice Chemical Scatter Test Research

**Slurry System:** Uses two large tanks that together hold about 800 gallons of brine. Salt mixes with the brine to create a mushy blend that sticks to the roads.

Research studies show that the salt slurry technology saves approximately 100 pounds of salt per lane mile. The salt sticks to the road when it hits the pavement rather than bouncing around, so this system is especially effective on roads with high traffic volumes



**Conventional with chute**



**Conventional Spinner**

## The Test

The purpose of today's snow and ice chemical scatter testing is not only test the reduction of bounce and scatter of chemicals, but confirm the best delivery equipment to use to deliver product from the truck-to-road.

The conducted research will utilize four different chemical additives and five delivery methods.

Chemicals:

- Road Guard Plus +8
- Geomelt
- Ice Ban
- Thawrox

Delivery methods:

- Slurry System from District 6
- Chutes from District 3
- Salt skirts from District 4
- Zero velocity from District 2
- Conventional spinner from District 3

Bounce-and-scatte testing is intended to demonstrate how much chemical drifts from the centerline in the target area. The test lane is 100 ft long, 24 ft wide, and divided into six sections. The chemical agents will be applied at a rate of 500 lbs/lane-mile, then swept and weighted to measure the drift away from the centerline. Individual bounce-and-scatte runs will be video recorded. Subsequent analyses and conclusions will be distributed statewide.



## Benefits

With dwindling budgets and growing environmental concern's this conducted research will offer key information to making best management practice decisions for districts. The goal is to reduce environmental impacts, chemical waste, improve delivery methods, and reduce snow and ice costs.



**Zero Velocity Sander:** Accurately places material while allowing maintenance vehicles to operate at faster speeds (35 mph to 40 mph). The sander leaves more material in the target area and loses little to no material to the shoulder of the road.



**Salt Skirt:** Enables vehicles to place salt on or near the centerline. This practice reduces material bouncing and scatter, retaining more salt on the road near the centerline and reducing the per lane mile salt usage.

## MAINTENANCE DEMO DAY

Mn/DOT District 3  
May 4, 2010  
Baxter