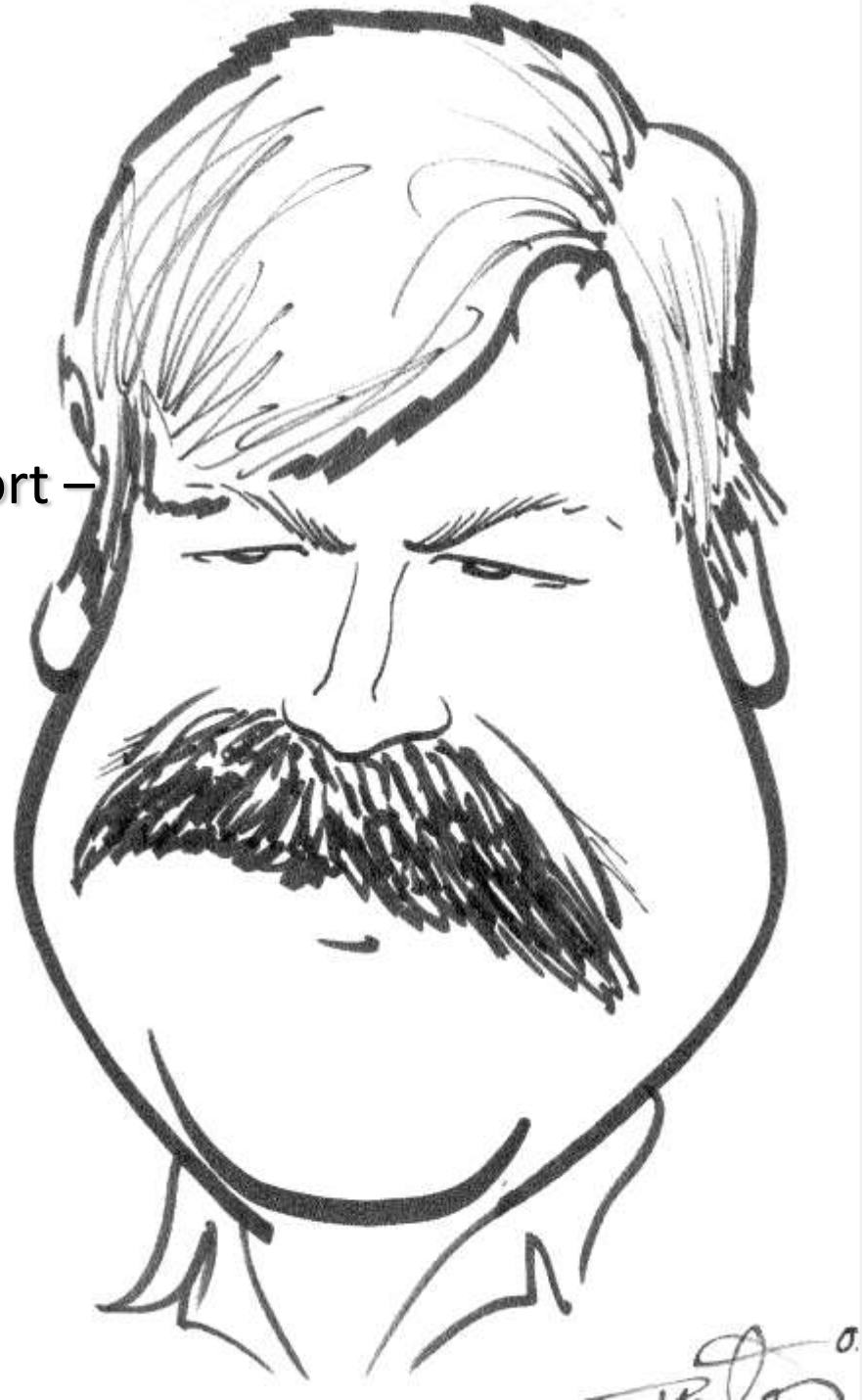
Tim Nelson

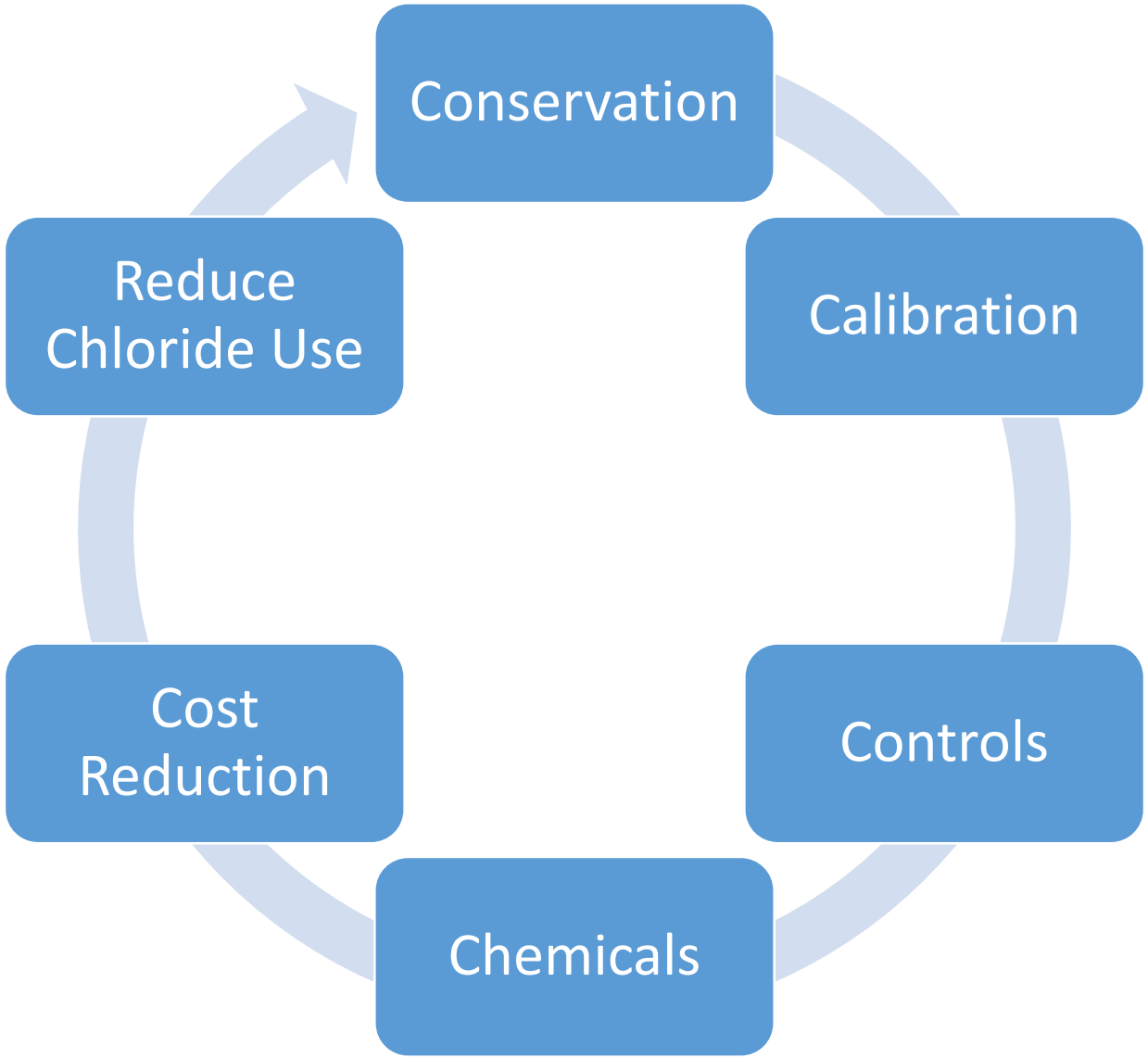
34 years Public Works

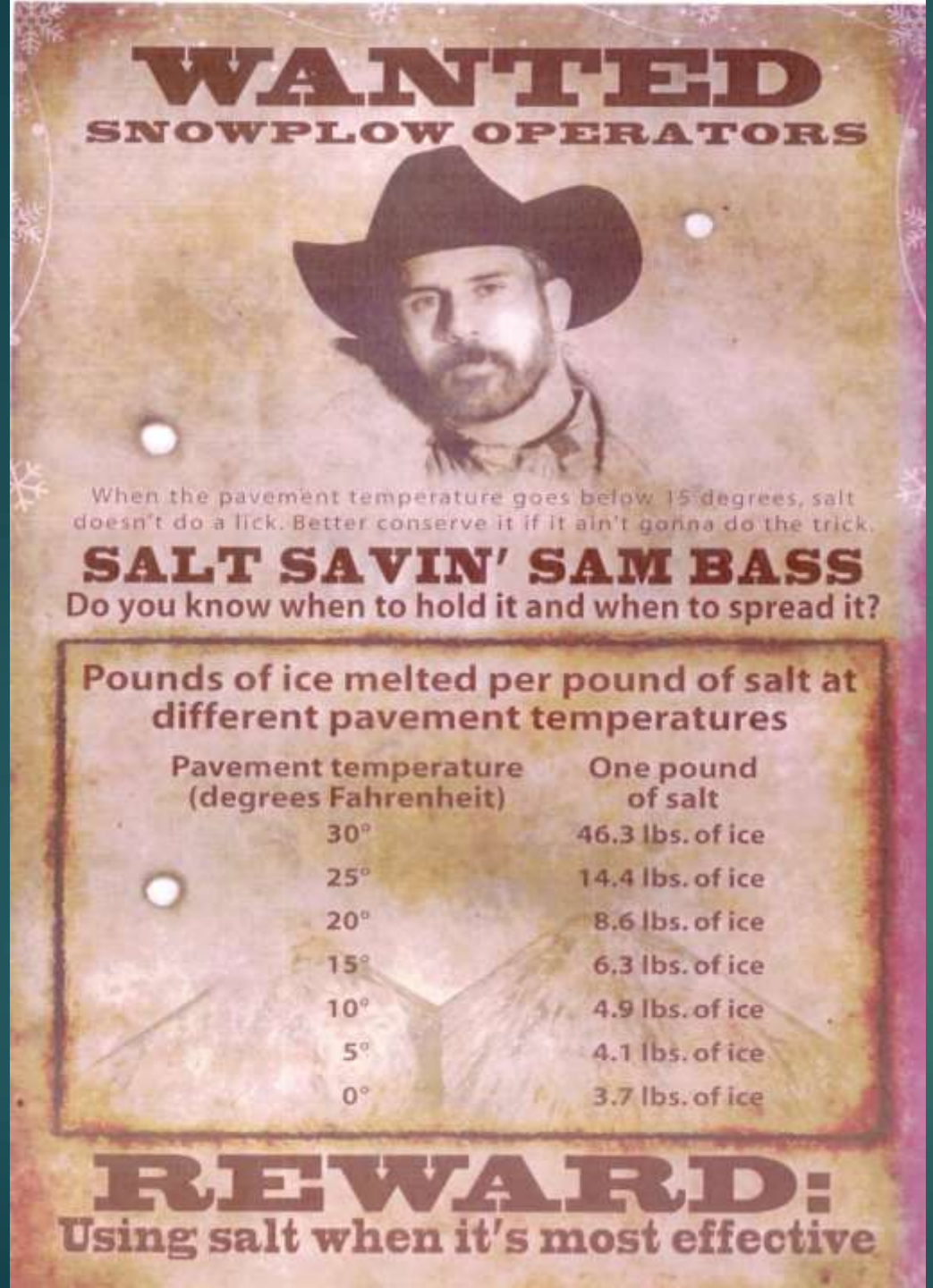
19 years @ Dayton International Airport – chemical deicing of runways

15 years with MCE

Extensive equipment background




Conservation
Calibration
Controls
Chemicals
Cost Reduction
Reduce Chloride Use



At colder temperatures it is a waste to apply untreated salt.

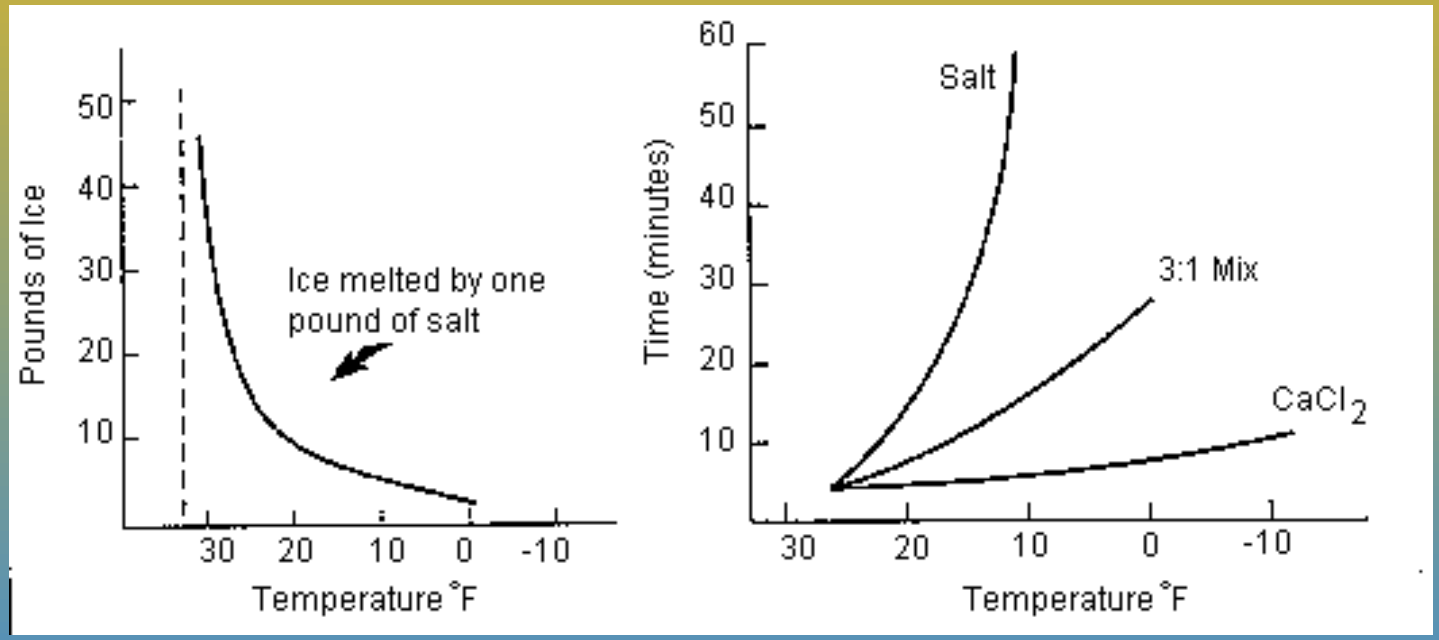
We will enhance loads with:

Salt brine

Beatle Juice

70% brine 30% Beatle Juice

Time: The longer a de-icing chemical has to react, the greater the amount of melting (see graph).
At temperatures above 20 F both salt and calcium chloride can melt ice in a reasonable time.
At lower temperatures salt takes much longer.

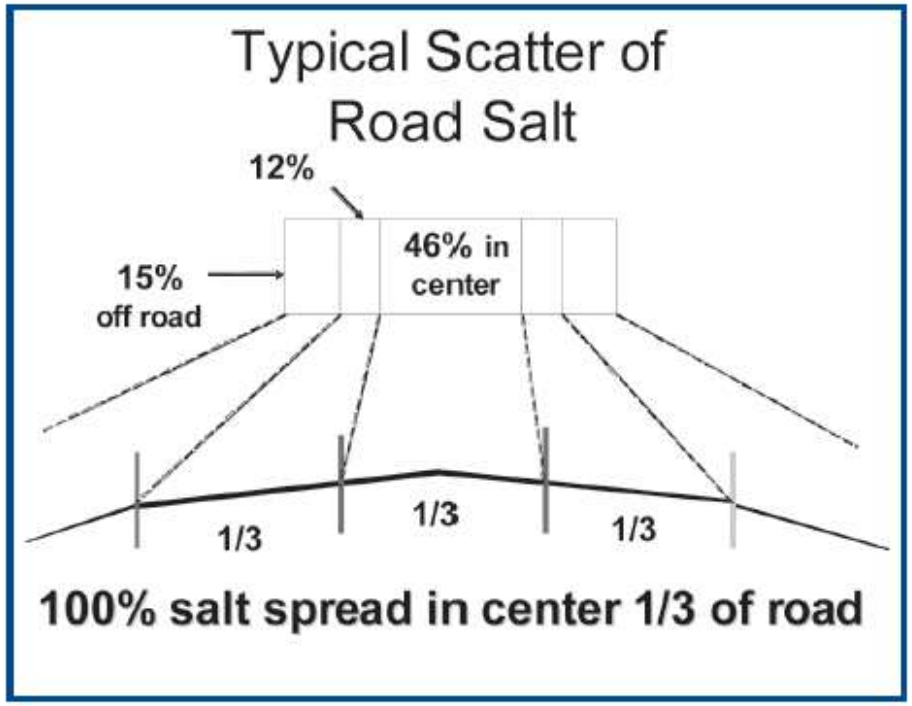


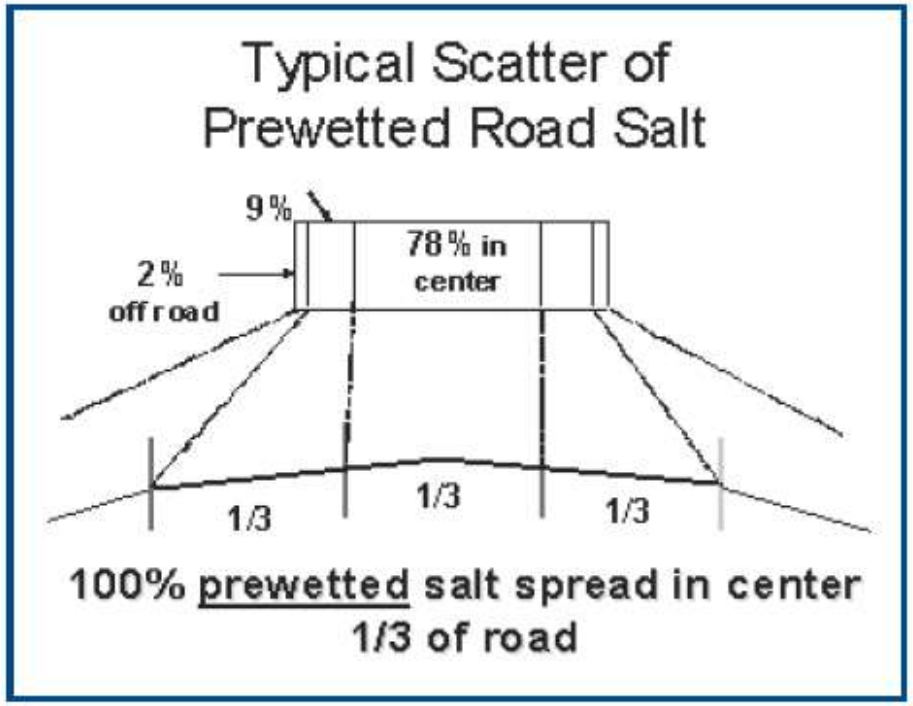
The graph on the left shows that salt melts more ice per pound at higher temperatures. The graph at right shows the comparative time for different compounds to melt 1/8" of glare ice.

Ask the question

Why Prewet?

Dry material bounces or blows off the road, resulting in some loss. Because pre-wetting causes more material to stick to the road, 20 to 30 percent less material may be used. This saves money and reduces environmental impact. The charts below for dry versus pre-wet salt illustrate this savings.





PennDOT LTAP Technical Information Sheet #129, Fall 2006

Flood your inlet!

Scatter / Bounce ???

Brian Pickworth from Farminton Hills MI

Cost to your operation:
a little extra time

This item fits in everyone’s budget

- **Conclusions**

- The most obvious of these differences is the effect truck speed has on salt bounce and scatter, regardless of delivery system or salt type used. Results show that, by far, there is less scatter of salt, when it is applied at a 25 mph speed.
- The percentage of salt that remains in the target area at 25 mph is close to, if not more than, double than the amount retained at 35 mph. The data presented in this report also validates the 14 conclusions presented in the “Pre-wetted Salt Report". Which concluded that pre-wetting salt reduces salt loss due to bounce and scatter. Treated salt at all speeds and with both types of distribution systems performed better than dry salt.

Do you have more control over a $5.00 filter than $70.00 per ton salt?


WARREN
4457
WARREN
CAUTION
K.E. ROSE
TRUCK EQUIPMENT
HUBER HEIGHTS, OH.
937-236-9702

Manual Spreader Controls

- Simple to use
- Can be noisy
- Potential for hydraulic leaks in the cab
- Does not automatically shut off when the truck stops
- Does not adjust output to match truck speed
- Cannot be calibrated to match auger specifications
- In many cases, the valve is normally operated on setting 2 or 3, the rest are nearly unusable

AUGER SPEED VS GPM

WARREN AC620 UNDERGATE SPREADER = 24.9 CUBIC INCH DIRECT DRIVE MOTOR
SWENSON SAD6 UNDERGATE SPREADER = 23.7 CUBIC INCH DIRECT DRIVE MOTOR
GRESEN QD SERIES = 0-10 GPM FLOW

231 X 10 / 23.7 = 97.5 RPM 97.5 X 15= 1462LBS X 2 = **2925** LBS LM

231 X 1.5 / 23.7 = 14.5 RPM 14.5 X 15= 217.5LBS X 2 = **435** LBS LM


FORCE
BODY UP
FWD
AUGER
REV
CLEAR
JAM
ON
MANUAL
ON
PREWET
SPINNER
35%
SALT
Granular Mat
80
Set LB/MI
STNBY
PREWT
Prewet Liquid
5.0
Set GAL/T
Menu
BLAST PUSH
ON PUSH
5100e

Over 48,000 gal. storage

Spread out in 5 locations


Schneider
Electric
Magelis
EMERGENCY
STOP
AUTO
HAND
Water
NaCl °F
32
MISCO

KCl

BEET-HEET®

BEET-HEET® Concentrate

GEOMELT USA

ICE BITE NB

ICE B'GONE MAGIC

MgCl 2

HELP???

ICE BITE M

ICE BITE™ By Univar

ICE BITE S

$CaCl_2$

GEOMELT 55

NaCl

BEET-HEET® SEVERE


WA EN