Québec 2010
AIPCR · PIARC

XIII INTERNATIONAL WINTER ROAD CONGRESS

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SUSTAINABLE WINTER SERVICE FOR ROAD USERS

DISTRIBUTION OF SPREADING AGENTS ON THE ROAD SURFACE

G. Hausmann

KOMMZEPT-Ingenieurbüro Hausmann

hausmann@kommzept.com

WORLD ROAD ASSOCIATION MONDIALE DE LA ROUTE
AIPCR · PIARC

Québec

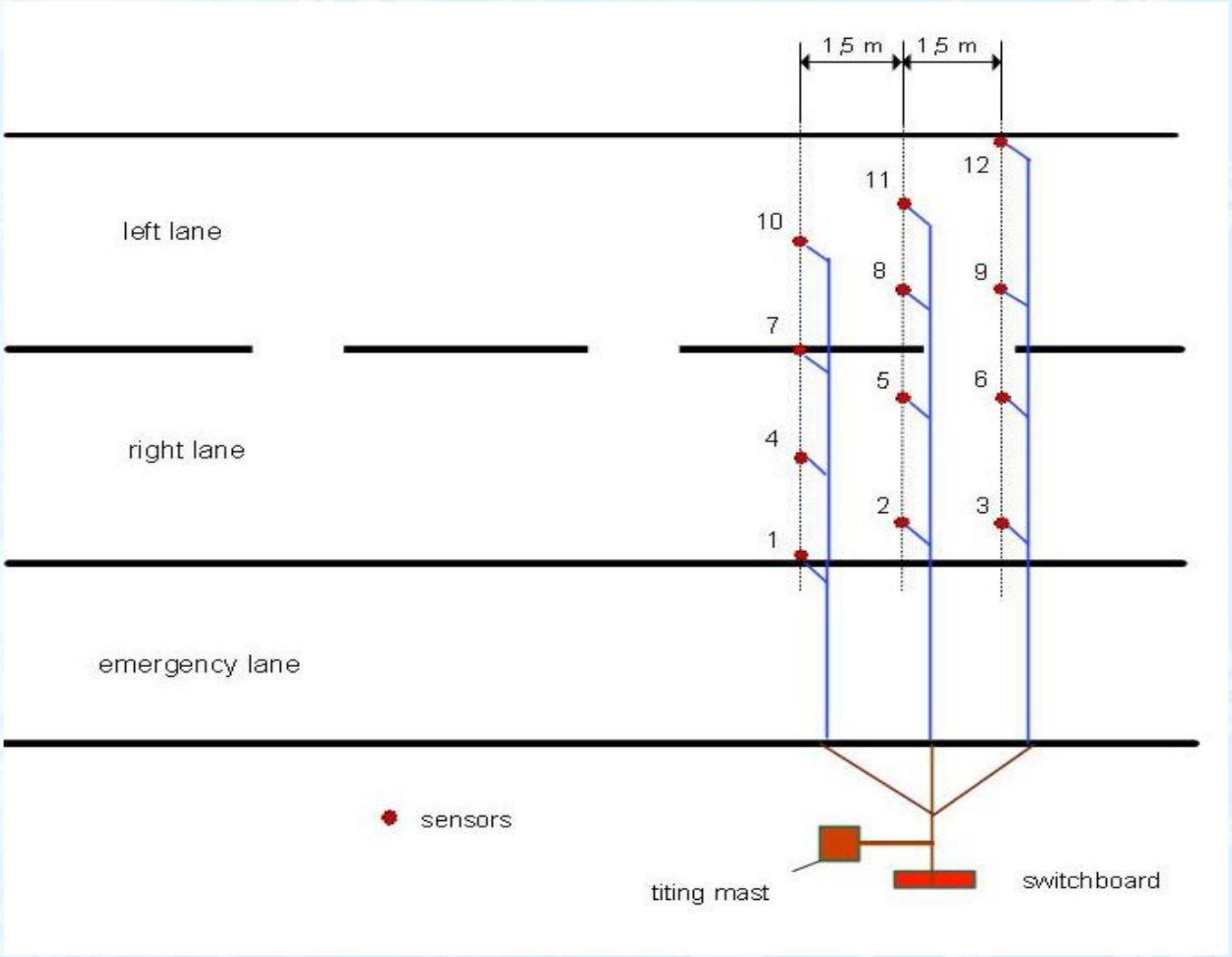
bast
Federal Highway Research Institute

KOMMZEPT.
Ingenieurbüro Hausmann e.K.

RESEARCH OBJECTIVES

- Register the effective quantities of salt on the road surface
- Investigation of the optimal location of road surface sensors
- Study the operational reliability of the current generation of sensors

ARRANGEMENT OF THE ROAD SENSORS IN THE MEASURING FIELD

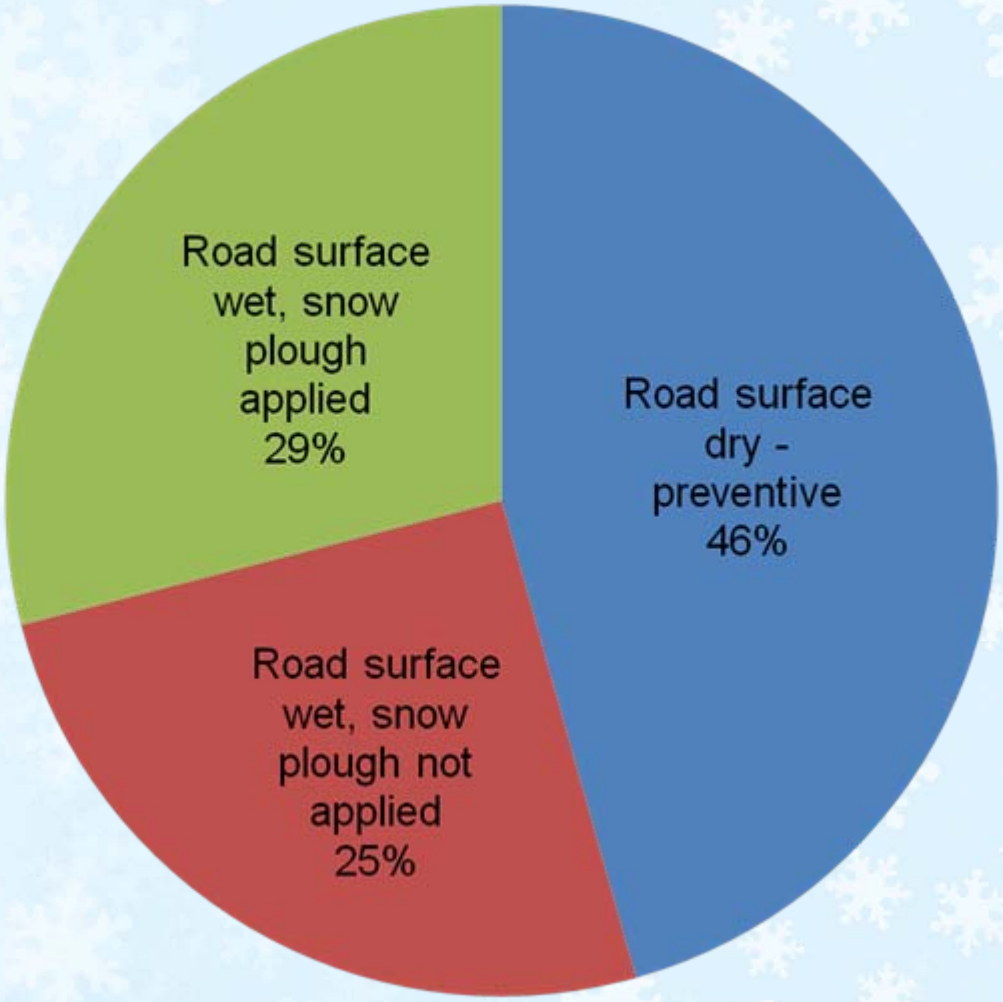


EVALUATED WINTER SERVICE MISSIONS FROM DECEMBER 2006 THROUGH APRIL 2008

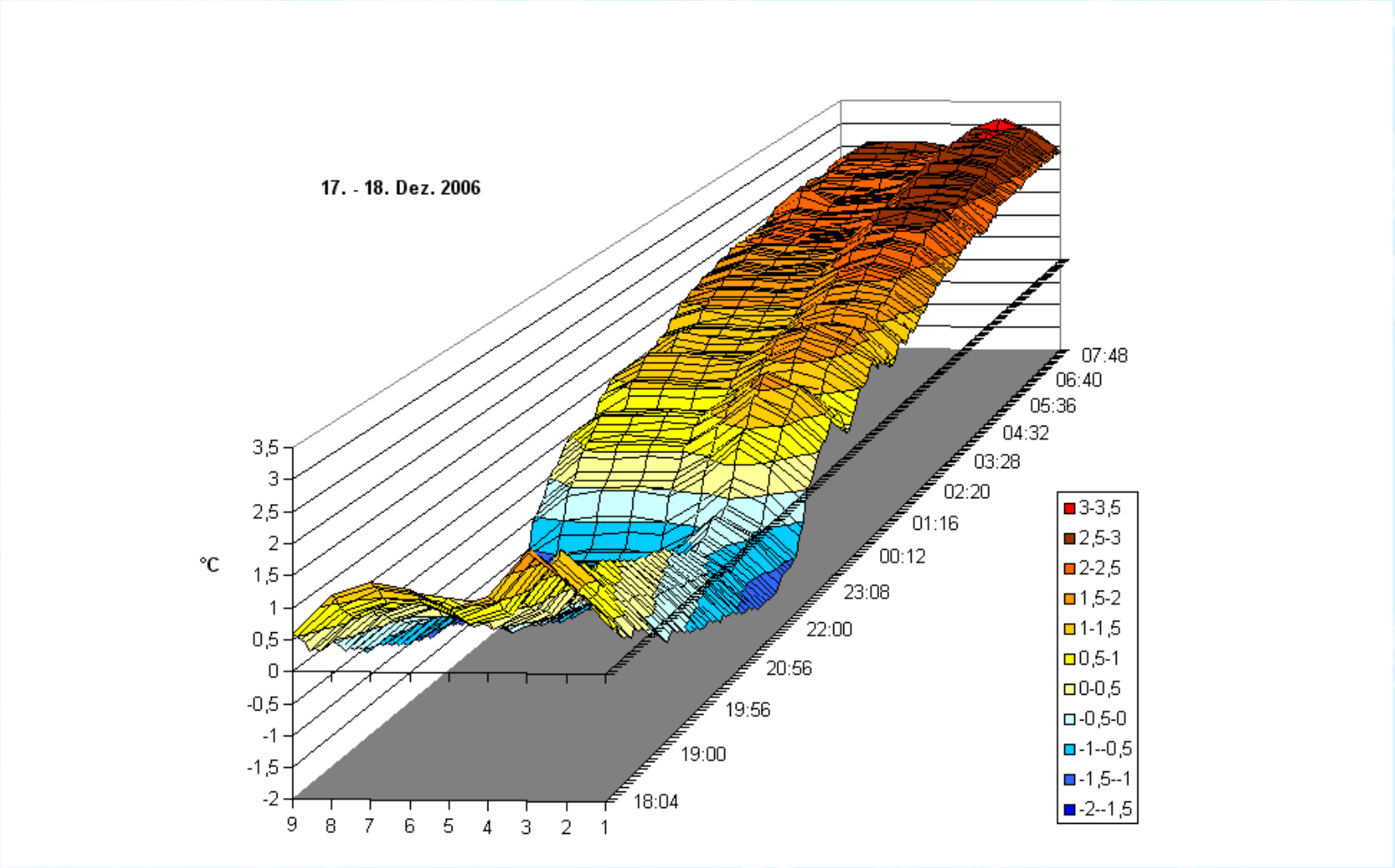
Total: 217

Typ	Number of Winter Service Missions	Days
Road surface dry preventive	99	50
Road surface wet snow plough not applied	55	24
Road surface wet snow plough applied	63	12

PROPORTION OF ROAD CONDITIONS DURING WINTER SERVICE MISSIONS

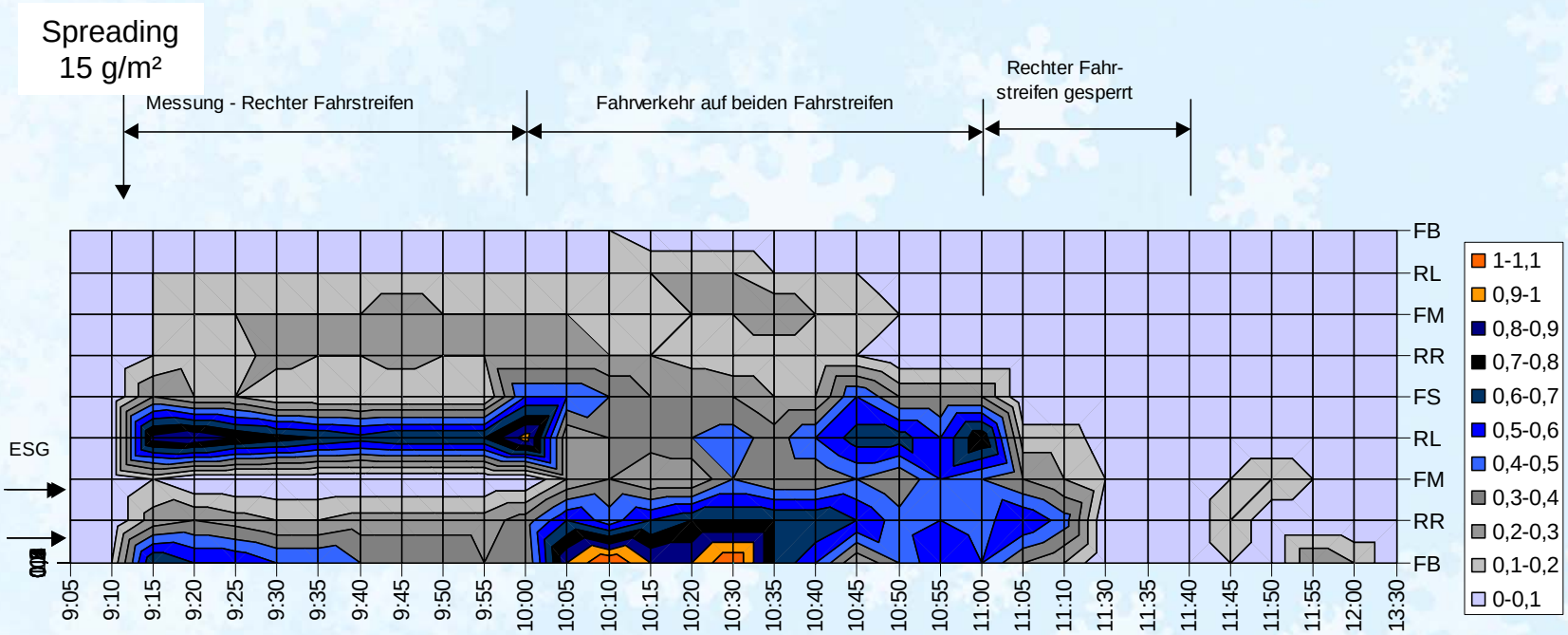


TIME DEPENDENT OF SURFACE TEMPERATURE
(EXAMPLE)

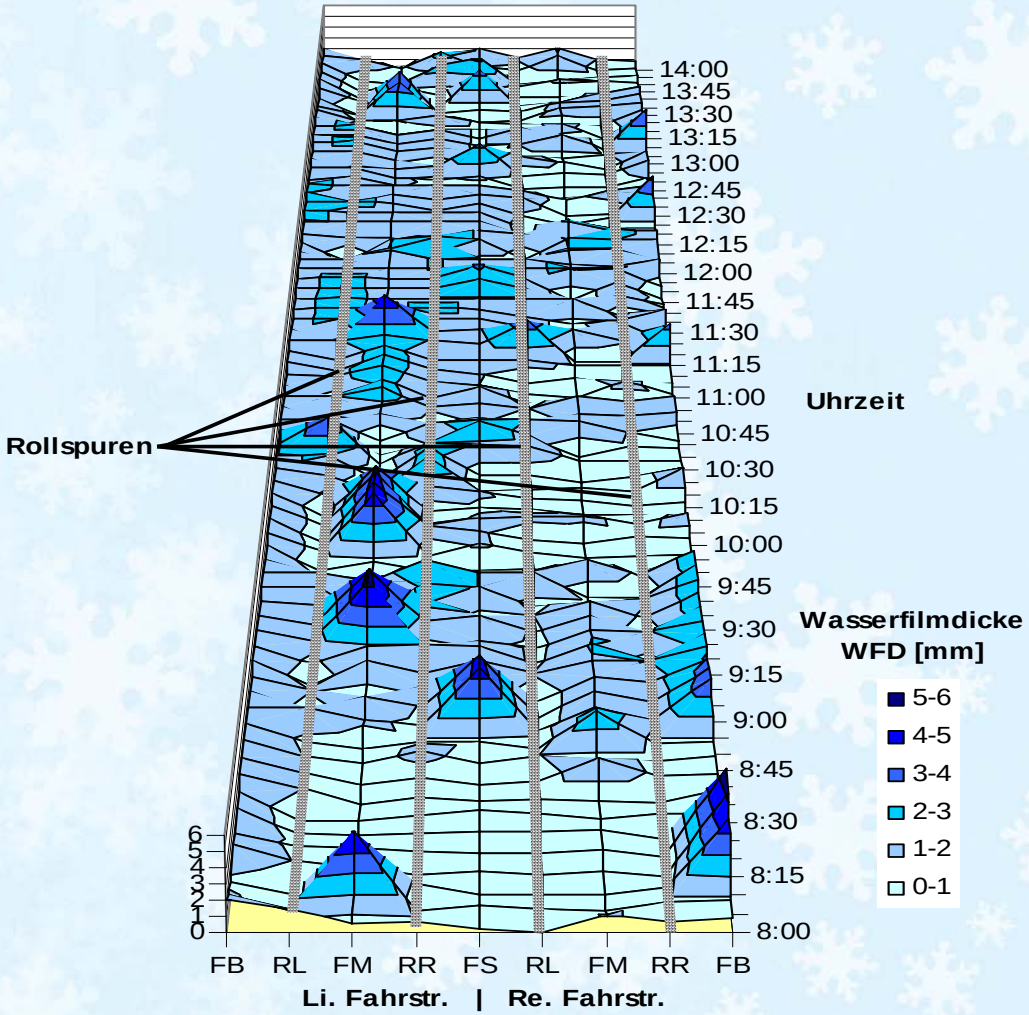


SALT DISPLACEMENT OF ROAD SURFACE

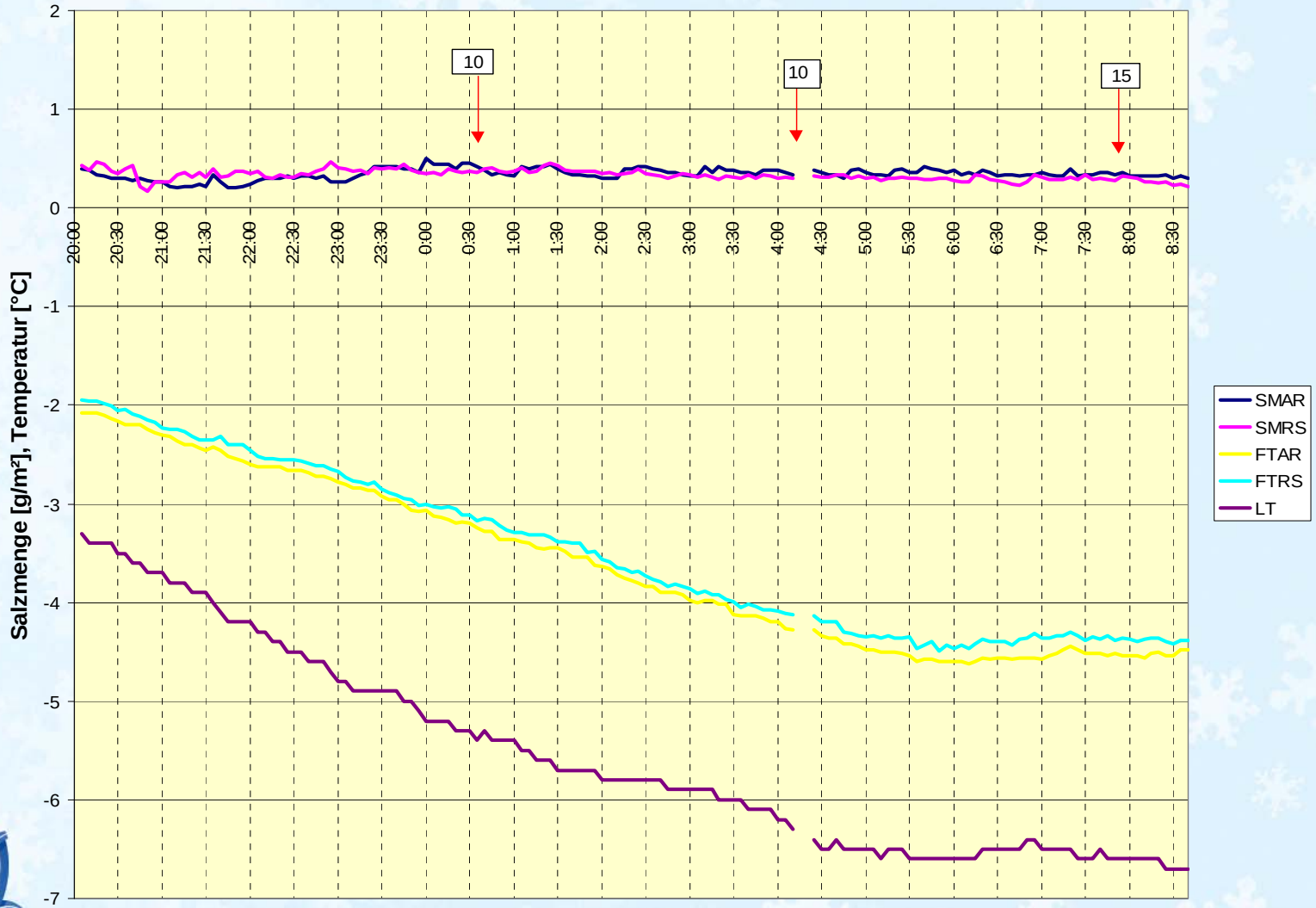
(EXAMPLE)



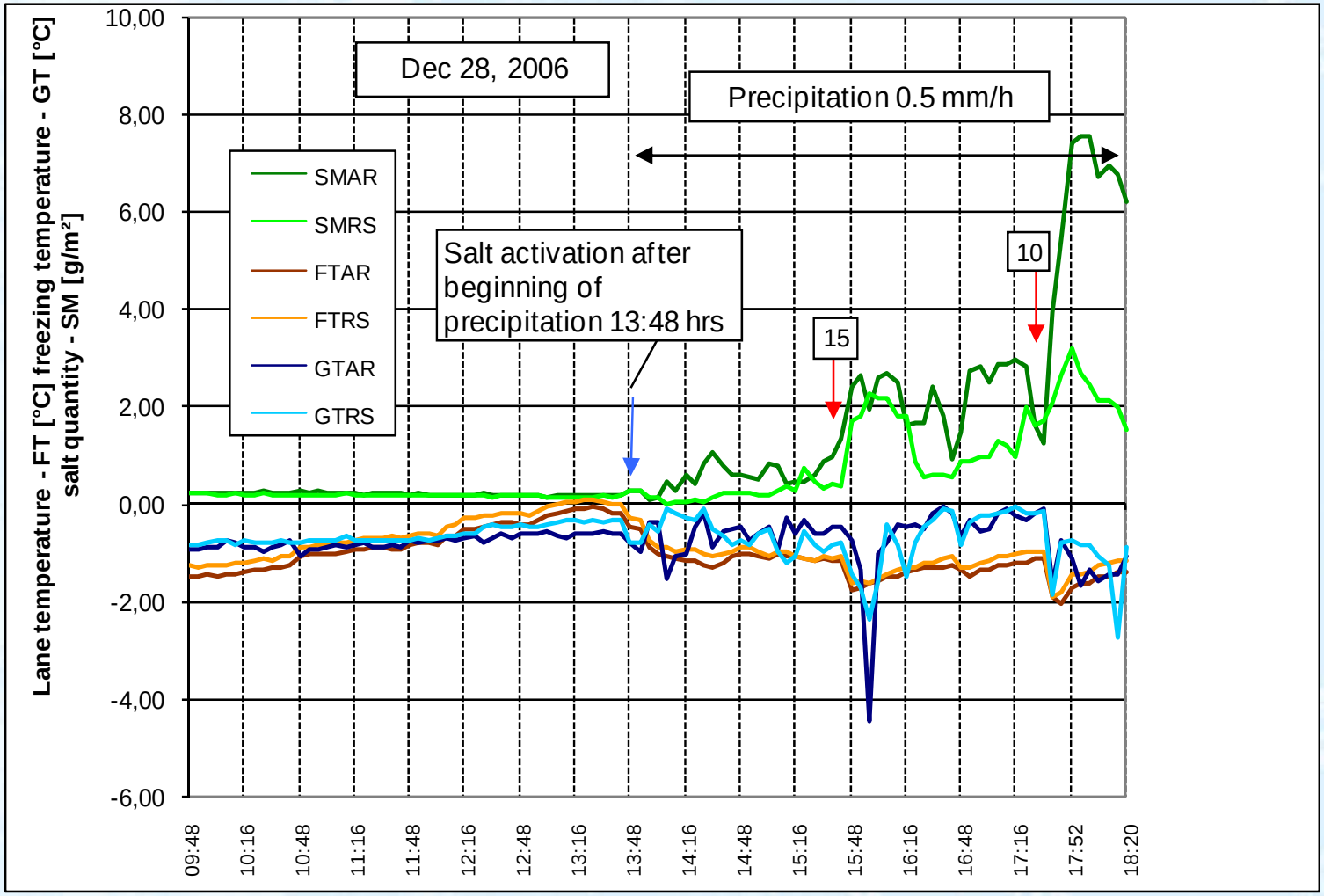
WATER FILM THICKNESS IN SLUSH



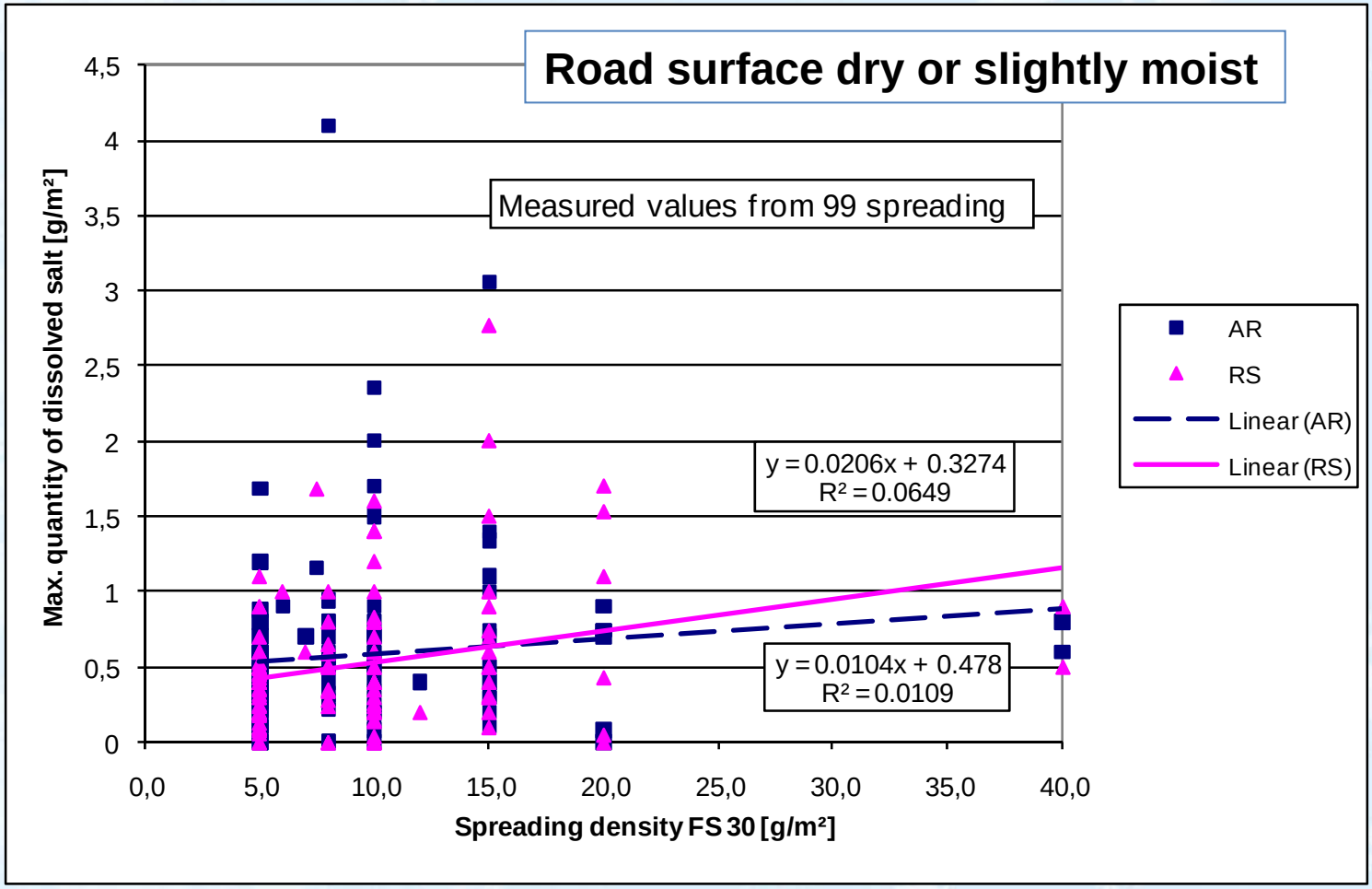
DRY SURFACE - SALT REMAINS UNDISSOLVED



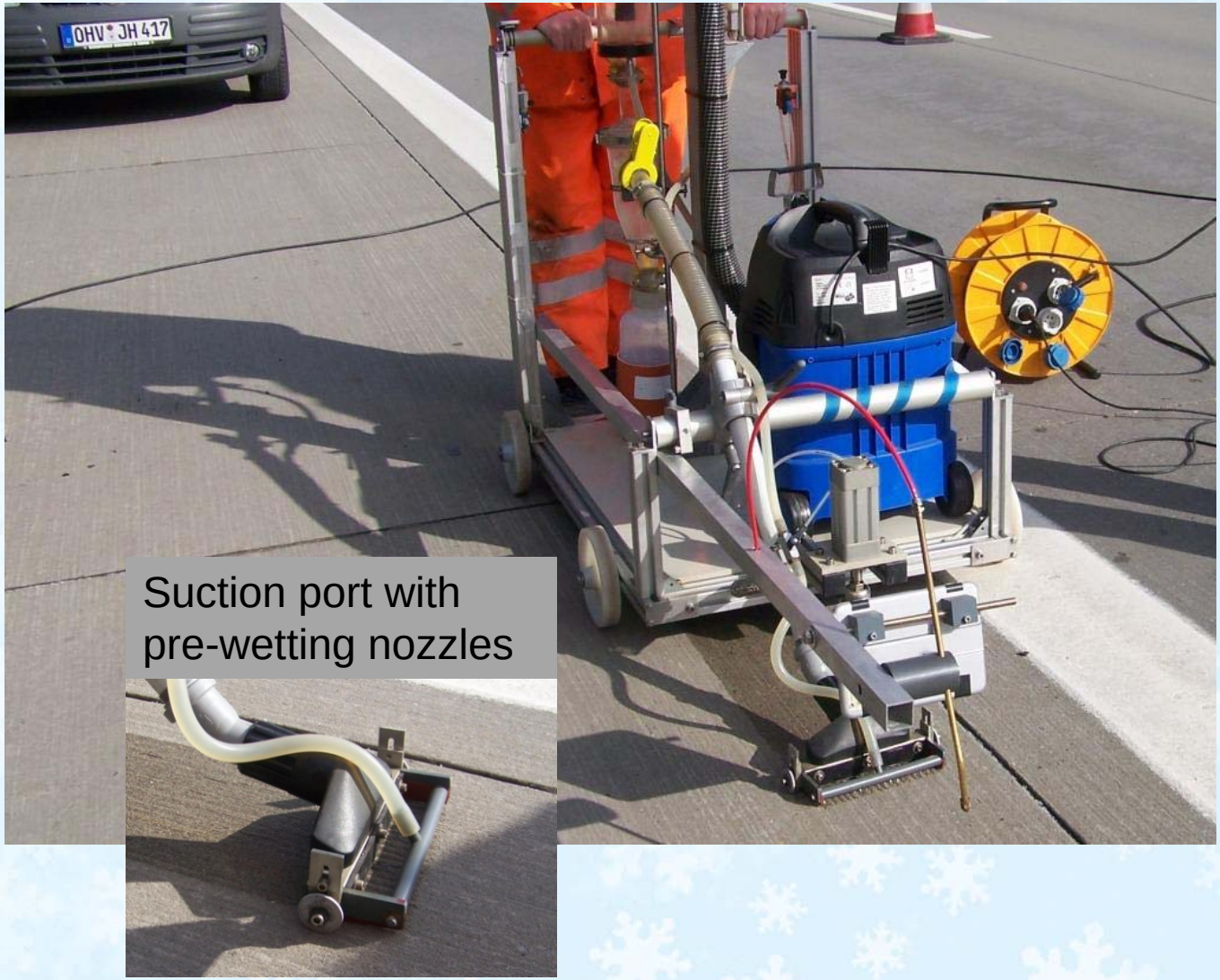
PRE-SALTING (ANTI-ICING) WITH SUBSEQUENT PRECIPITATION



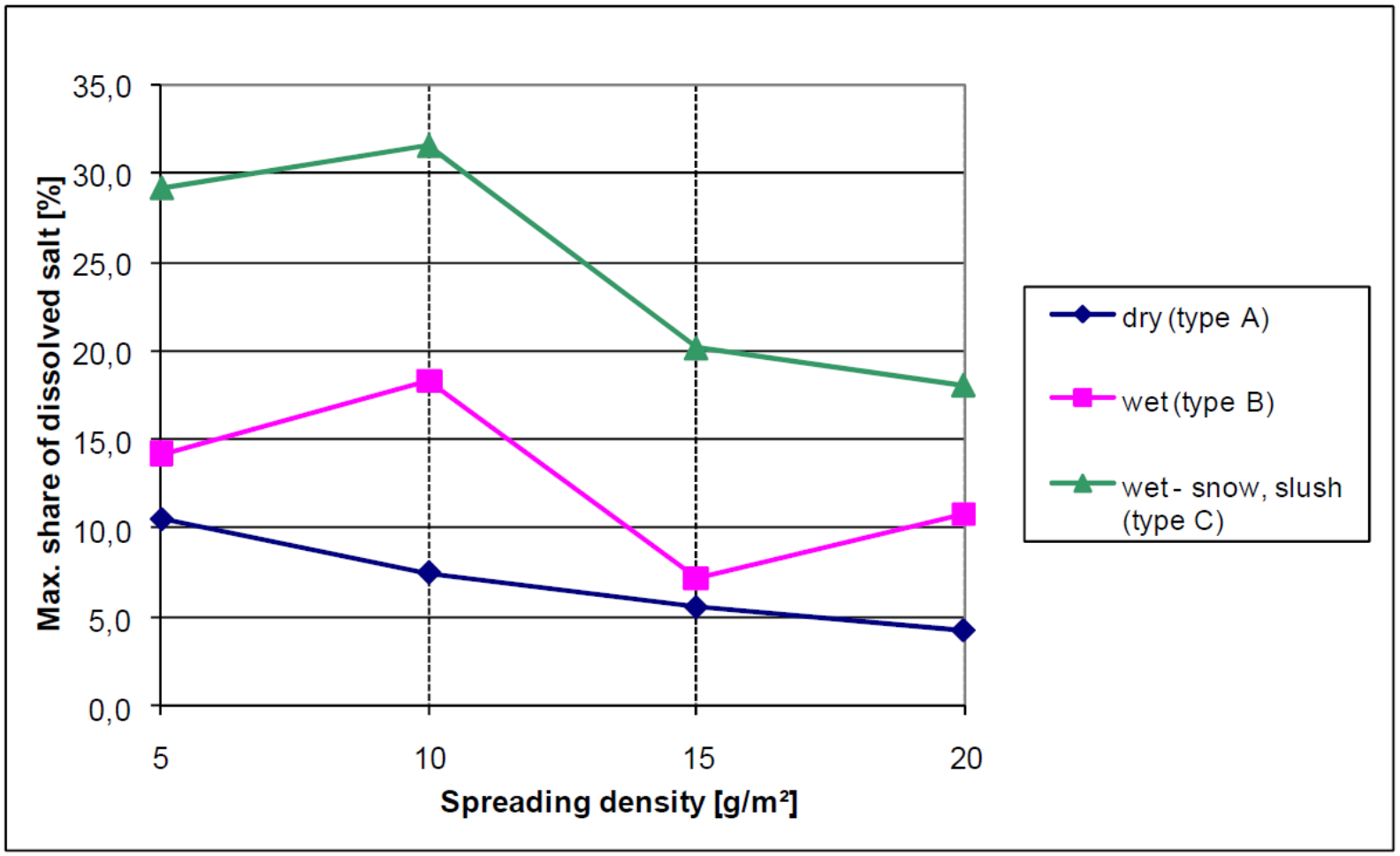
MAXIMUM QUANTITY OF DISSOLVED SALT, DEPENDING ON THE SPREADING DENSITY



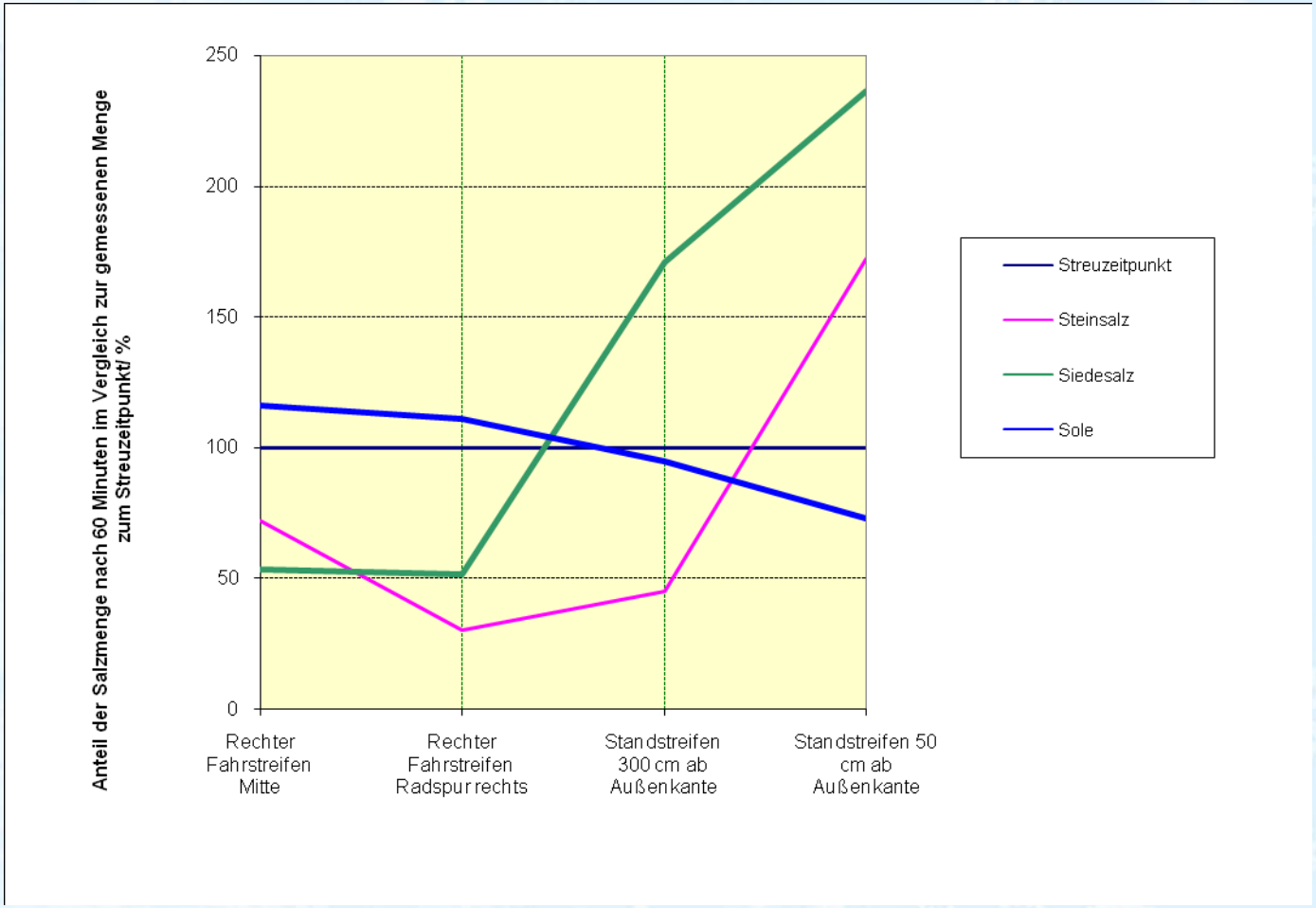
SALT INTAKE BY MEANS OF THE RINSING/SUCTION DEVICE



MAXIMUM SHARE OF DISSOLVED SALT DEPENDING ON THE SPREADING DENSITY AND THE ROAD SURFACE SITUATION



RELATIVE CHANGE OF SALT QUANTITIES IN THE RIGHT LANE AND ON THE HARD SHOULDER OR EMERGENCY LANE AFTER 60 MINUTES OF ROAD TRAFFIC PASSING



RECENT TESTS WITH COMBINED SPREADER FOR PRE-WETTED SALT AND BRINE

Thank you for your interest !

A report containing the research data is available, in German, with an English abstract.