



XIII
INTERNATIONAL
WINTER ROAD
CONGRESS

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Québec 

SUSTAINABLE WINTER SERVICE FOR ROAD USERS

*Testing of spreaders for snow and ice control agent
Methods and results*

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AGENDA

- Why testing
- Who can it be an advantages to
- Principle of the methods
- Results of the tests
- Methods advantages
- Future work

WHY TESTING

- Test shows that between 10 - 30 % of the distributed salt ends in ditch



Aahus airport June 2000 Rapport nr. 228

WHY TESTING

- Wasted salt = damage on the environment.
- Wastes salt = wasted money
- Doubt about documentations provided related to spreading quality

OBJECTIVES

- Standardization of saltspreaders capability to distribute thawing materials
- To specify requirements in connection with purchase of saltspreaders

OBJECTIVES OF THE METHOD

1. Independent institution
2. Registration of distribution picture in stationary and mobile tests.
3. Registration of dosage
4. Quick and simple
5. Approved of the users, producers and suppliers of spreaders.

OBJECTIVES OF THE METHOD

1. Independent institution

ENGINEERING CENTRE BYGHOLM

- Faculty of Agricultural Sciences
Aarhus University.
- Europes biggest spreading
laboratory.
- Testing of spreading devices as
fertilizers



Krister Persson

M. Sc. (Agro)

OBJECTIVES OF THE METHODS

2.Registration of distribution picture in stationary and mobile tests



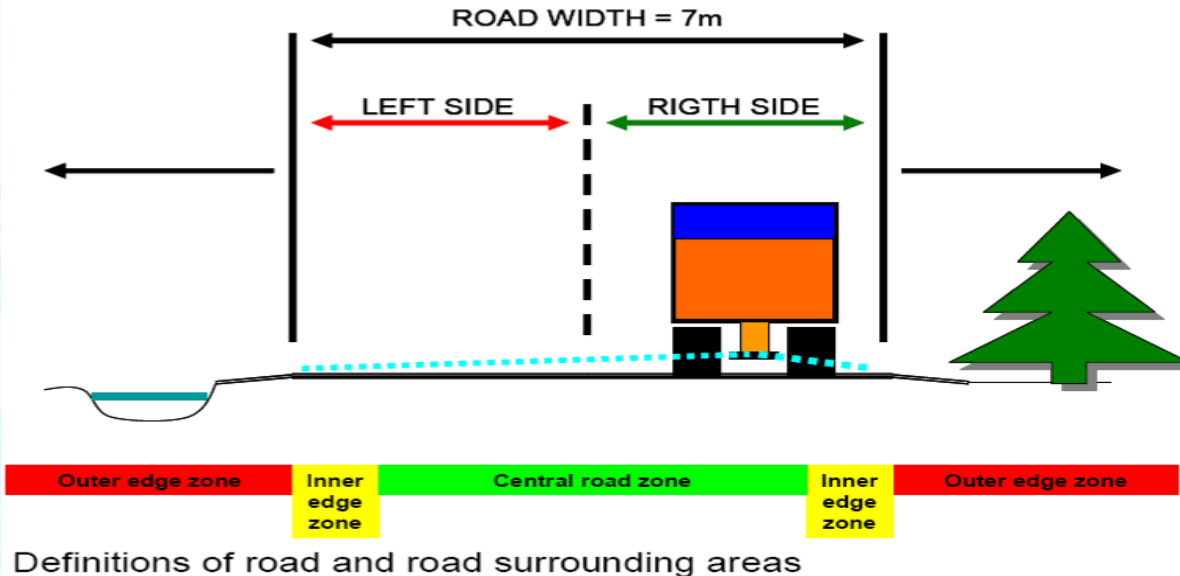
Saltspreader pass the measuring field



Collecting container on weight cell.

2. Registration of distribution picture in stationary and mobile tests.

- Tolerance limits for a 7 m (22,97 feet) road width

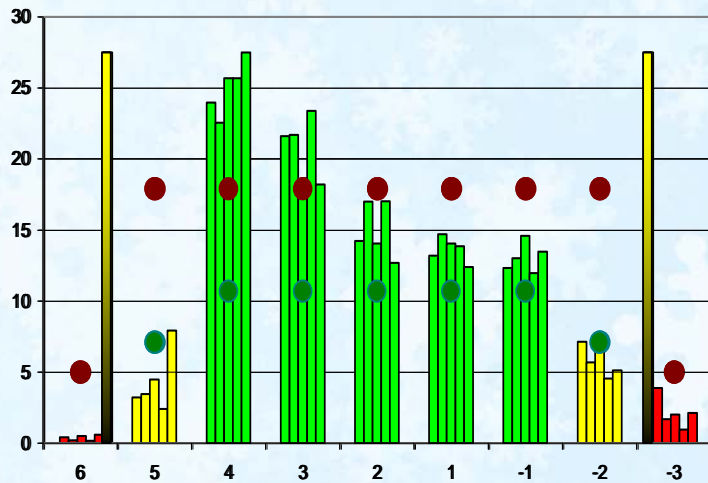


Max accepted, %
 Wanted amount, %
 Min accepted, %

OUTER EDGE ZONE	INNER EDGE ZONE	CENTRAL ROAD ZONE					INNER EDGE ZONE	OUTER EDGE ZONE
5	17,9	17,9	17,9	17,9	17,9	17,9	17,9	5
0	14,3	14,3	14,3	14,3	14,3	14,3	14,3	0
	7,1	10,7	10,7	10,7	10,7	10,7	7,1	

OBJECTIVES OF THE METHOD

2. Registration of distribution picture in stationary and mobile tests.



OBJECTIVES OF THE METHODS

2.Registration of distribution picture in stationary and mobile tests

Measurements area without and with plates.



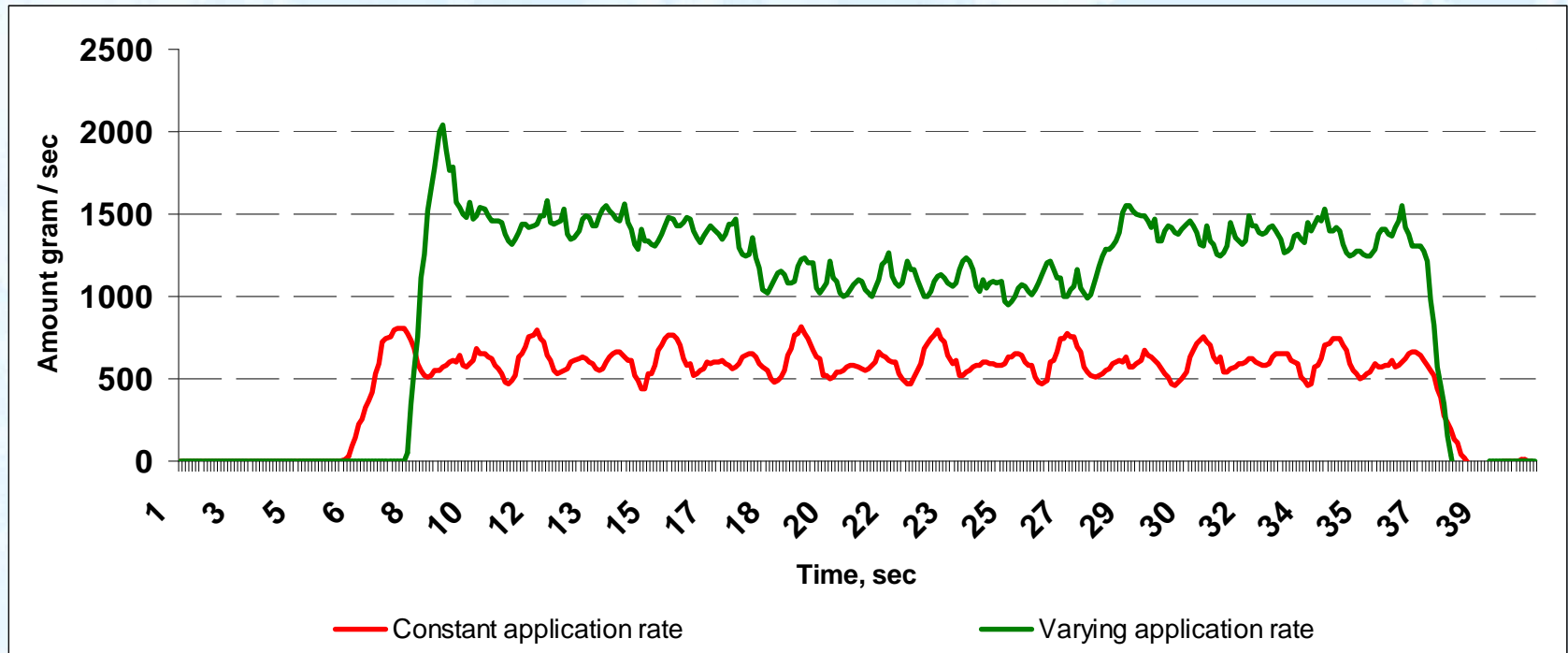
Without plates



With plates

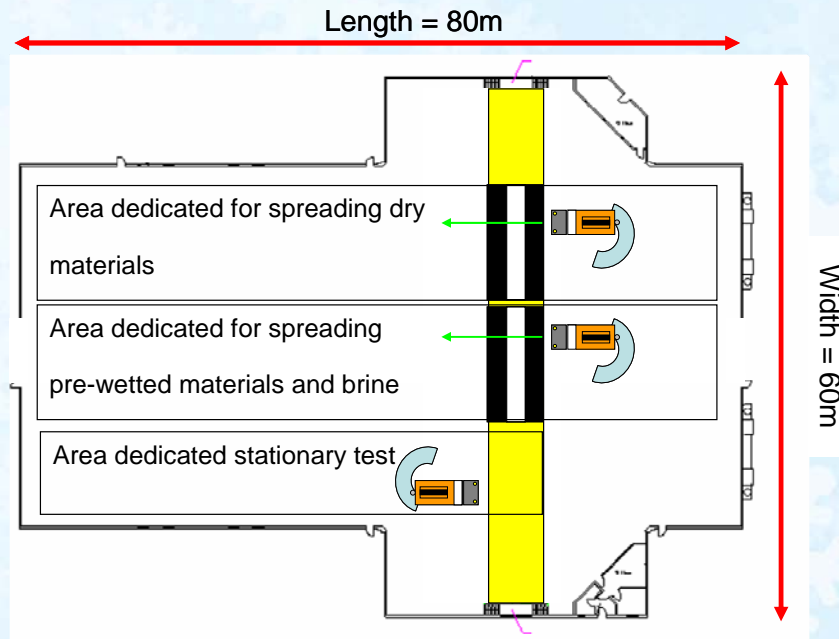
OBJEKTIVES OF THE METHODS

3. Registration af dosage



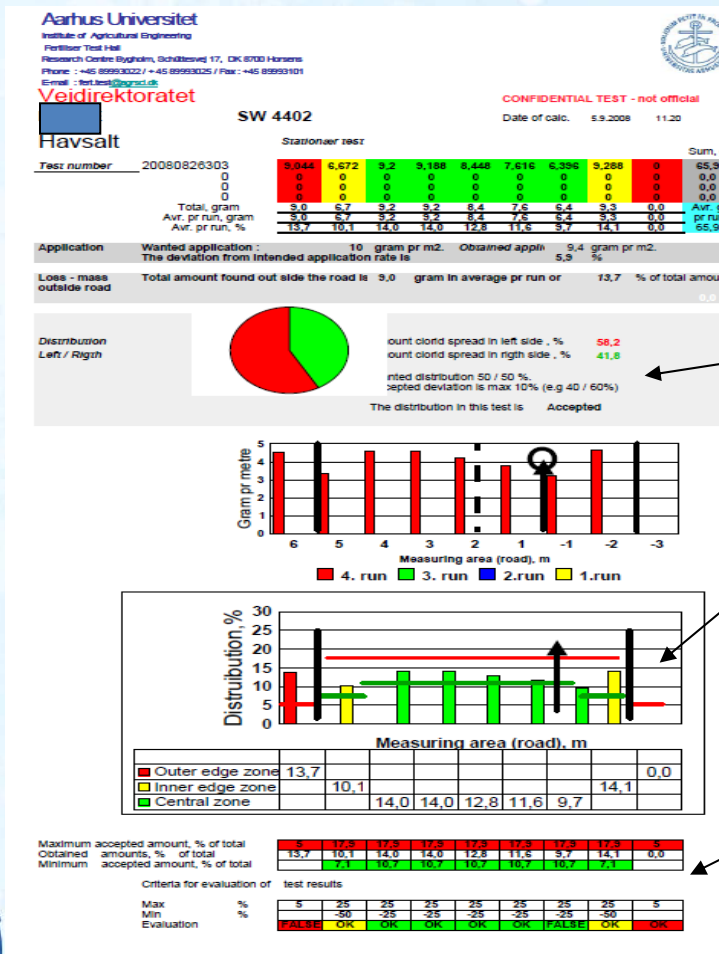
OBJEKTIVES OF THE METHODS

4. Quick and simple



TRANSSKRIFT OF RESULT

4. Quick and simpel



The print contains information on:

Amount spread in the run

Left/right distribution

Distribution across the road surface
 Green line = min. accepted amount
 Red line = max. accepted amount

Results seen in relation to established criteria
 OK = accepted
 FALSE = not accepted

OBJEKTIVES OF THE METHODS

- 5. Approved of the users, producers og suppliers af spreaders.
- Salt spreader agencies in Denmark has been invited to participate in order to demonstrate spreaders capability

The logo for KUPPER WEISSE, featuring the brand name in a bold, black, stylized font with a white outline.The logo for Falköping, featuring the brand name in a bold, red, sans-serif font.The logo for epoke, featuring the brand name in a bold, blue, sans-serif font.

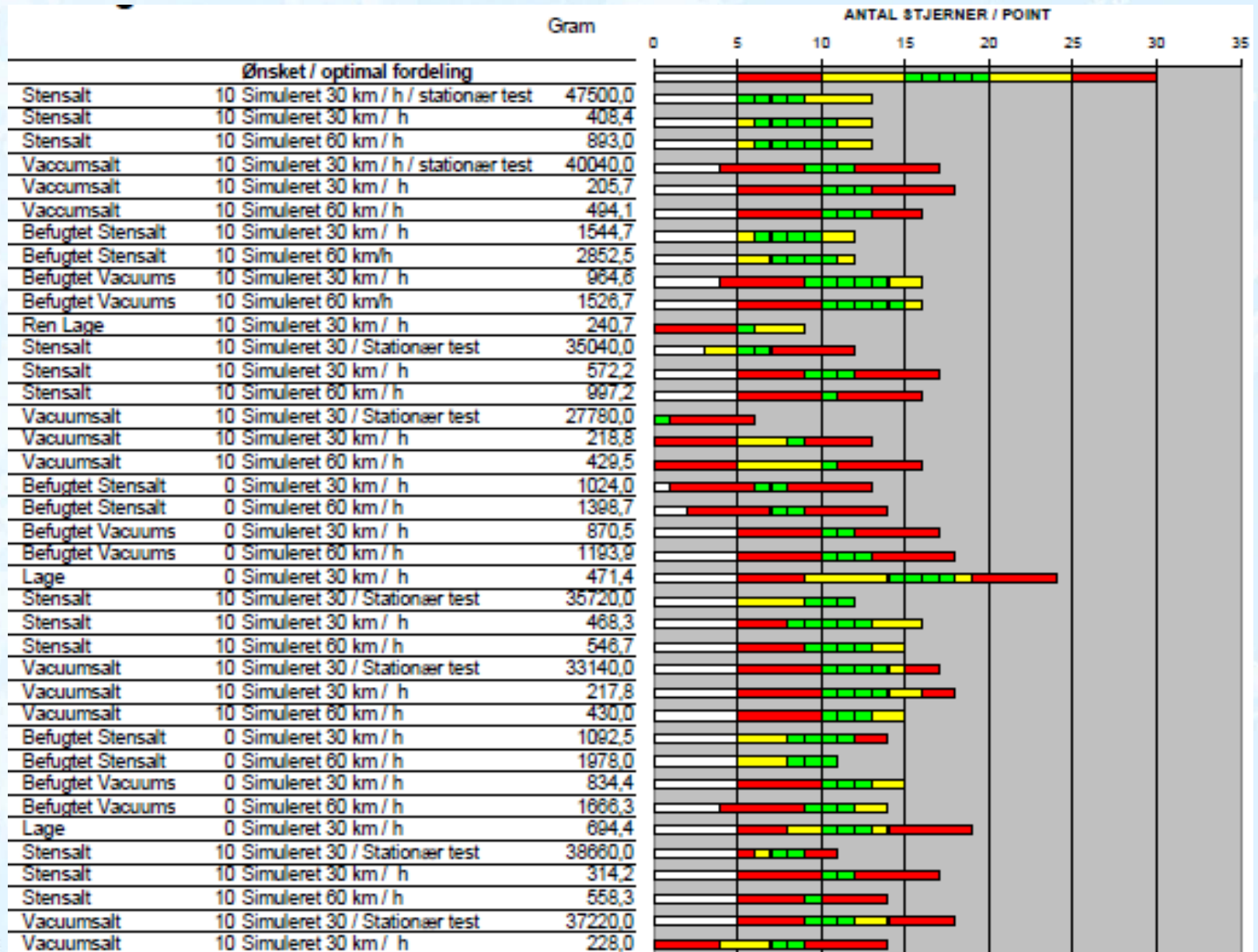
Salo

The logo for AEBI, featuring the brand name in a bold, white, sans-serif font on a red rectangular background.The logo for SCHMIDT, featuring the brand name in a bold, white, sans-serif font on a blue rectangular background.The logo for Nido, featuring the brand name in a bold, blue, sans-serif font.

- Test with dry salt, prewetted salt and brine

Testing of spreaders for
snow and ice control agents

RESULTS AUGUST 2009



ADVANTAGES OF THE METHODS

- Test different spreading strategies
- Make reducible result in a fast way
- To test without influence of weather, lorry and speed
- Produce test result the very same day
- To test with low use of resources

WORK IN 2010

- Compare tests using a vacuum cleaner
- Varying spreading width.
- Spreading with GPS.
- Co-operation with other Nordic countries.
- Establishment of common requirements / procedures according to the weather and roads conditions in different countries

- Thank you