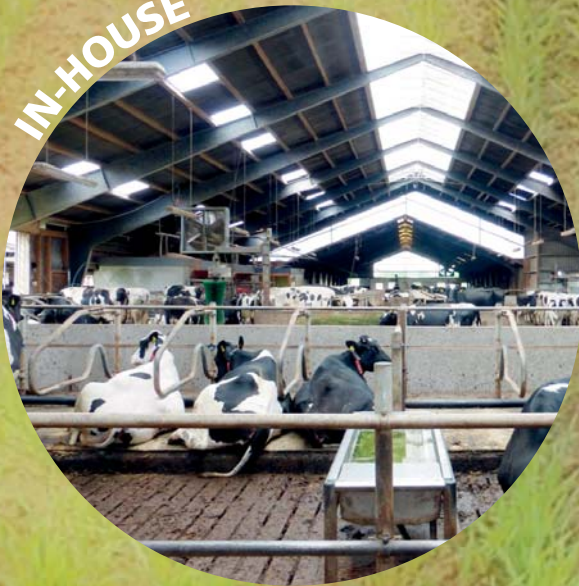


# Baltic Slurry Acidification

IN-HOUSE



Reducing nitrogen loss from livestock production by promoting the use of slurry acidification techniques in the Baltic Sea Region

IN-STORAGE



IN-FIELD



 **Interreg**  
Baltic Sea Region

**Baltic Slurry Acidification**



EUROPEAN  
REGIONAL  
DEVELOPMENT  
FUND

EUROPEAN UNION

# Baltic Slurry Acidification

Livestock manure is the main source of ammonia-nitrogen emissions in the Baltic Sea Region, which through atmospheric deposition results in a significant amount of nitrogen entering to the Baltic Sea. Ammonia emissions threaten also human health through the formation of particulate matter, which as a pollutant is estimated to have a high negative impact on human health.

Ammonia losses can be reduced with slurry acidification techniques (SATs). Baltic Slurry Acidification project aims to promote the implementation of SATs throughout the Baltic Sea Region. Reducing ammonia losses will reduce airborne eutrophication of the Baltic Sea. Thus increased usage of these techniques will give an environmental benefit for the whole region. The usage of SATs benefits also farmers by increasing the nitrogen use efficiency of their manure fertilizers and thereby decreasing their dependency on mineral nitrogen.

Slurry acidification techniques can be used to reduce the ammonia losses from livestock manure in livestock housing, manure storages and from the fields during the application of manure. These techniques have been widely tested and implemented in Denmark.



The three main types of SATs are:

- In-house acidification of livestock slurry
- In-storage acidification of stored livestock slurry
- In-field acidification of livestock slurry during field spreading.



## The partnership

Baltic Slurry Acidification project is a cooperation of seventeen different partners from eight Baltic Sea countries. The lead partner is RISE - Research Institutes of Sweden Agrifood and Bioscience.

### Partners

- Agricultural Advisory Centre in Brwinow Branch Office in Radom, Poland
- Animal Science Institute, University of Health Sciences, Lithuania
- Association of ProAgria Centres, Finland
- Baltic Sea Action Group BSAG, Finland
- Blunk GmbH, Germany
- Br Goransson AB, Sweden
- Dotnuvas Experimental Farm, Lithuania
- enAgro Plc, Denmark
- Estonian Crop Research Institute, Estonia
- Institute of Technology and Life Sciences ITP, Poland
- RISE Agrifood and Bioscience
- Lithuanian Agricultural Advisory Service, Lithuania
- Ltd Latvian Rural Advisory and Training Centre SIA, Latvia
- State Agency for Agriculture, Environment and Rural Areas of the German Federal State Schleswig-Holstein LLUR, Germany
- The Rural Economy and Agricultural Society, Sweden
- Union "Farmers' Parliament" ZSA, Latvia
- Vecsiljani ZS, Latvia

# Work packages



## WP 1

### Project Management and Administration

WP 1 takes care of the project management and administration but also contributes to different work package work. In addition to this, WP 1 will take care of the project's general communication and coordinates WP related communication activities.

## WP 2

### Technical Feasibility Studies

WP 2 aims to speed up the process of overcoming technical and practical bottlenecks for implementing the use of SATs in the Baltic Sea Region. A feasibility study will summarize the understanding of and solutions for potential issues and risks related to the transfer of SATs to countries in the region.

## WP 3

### Pilot Installations and Demonstrations

WP 3 is responsible for pilot SATs investments. As an actual application of SATs in Baltic Sea Region countries, the pilots are the core of the project. Data related to the installation and operation of the investments will be collected and used for the environmental and economic analysis of WP 5. The pilot investments will also be involved in a demonstrations program to increase local exposure of technologies.

## WP 4

### Field Trials

The aim of WP 4 is to reach a broad base of farmers and other end-users in each country to raise their awareness, increase knowledge and help build confidence relating to the effects of SATs. WP 4 will act as a link between the pilot installations and farmers. WP 4 will organize field trials for testing the use of acidified slurry against non-treated slurry. The results from field trials will be delivered to WP 5 to verify the theoretical estimates of impacts of SATs.

## WP 5

### Environmental and Economic Implications

WP 5 aims to increase knowledge concerning the environmental and economic impacts of SATs in order to help build end-user confidence in SATs and to help justify the risks involved with investing in these innovative technologies. WP 5 will work in close cooperation with WP 2, WP 3 and WP 4.

## WP 6

### Policy Recommendations and Analyses of Markets and Legislation

WP 6 will do country specific analyses of related policies, legislation, framework conditions and market potentials and will thus clarify the potential for use of SATs in the individual Baltic Sea Region countries. The work from WP 2, WP 3, WP 4, and analyses from WP 5 will support the studies in WP 6. On basis of that, policy recommendations will be formulated and they will provide the foundation for a qualified dialogue with project's target groups.





Photo: Ranaverken AB

## Contact info

### WP 1 Project Coordinator

Erik Sindhöj  
RISE Agrifood and Bioscience  
erik.sindhøj@ri.se  
tel: +46 10 516 6912

### WP 1 Project Management

Martin Sundberg  
RISE Agrifood and Bioscience  
martin.sundberg@ri.se  
tel: +46 10 516 6924

### WP 1 Project Management

Lena Rodhe  
RISE Agrifood and Bioscience  
lena.rodhe@ri.se  
tel: +46 76 10 516 6951

### WP 1 Communication

Paula Biveson  
Baltic Sea Action Group, Finland  
paula.biveson@bsag.fi  
tel: +46 73 080 1088

### WP 2 Leader

Wacław Romaniuk  
Institute of Technology and Life  
Sciences, Poland  
w.romaniuk@itp.edu.pl

### WP 3 Leader

Jānis Kažotnieks  
Ltd Latvian Rural Advisory and  
Training Centre, Latvia  
janis.kazotnieks@llkc.lv  
tel: +371 630 50220

### WP 4 Leader

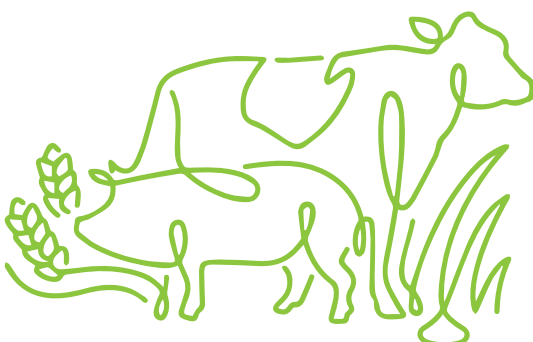
Dijana Ruzgiene  
Lithuanian Agricultural Advisory  
Service, Lithuania  
dijana.ruzgiene@lzukt.lt  
tel: +370 68 254 261

### WP 5 Leader

Kalvi Tamm  
Estonian Crop Research Institute  
kalvi.tamm@etki.ee  
tel: +372 322 3886

### WP 6 Leader

Henning Lyngsø Foged  
enAgro Plc, Denmark  
hlf@enagro.eu  
tel: +456 141 5441



Baltic Slurry Acidification



EUROPEAN UNION

EUROPEAN  
REGIONAL  
DEVELOPMENT  
FUND