

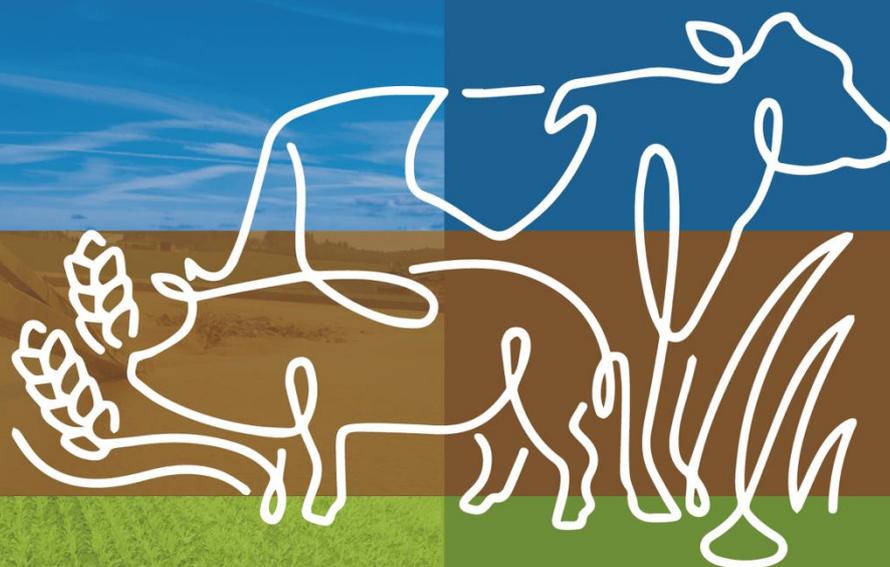


Baltic Slurry Acidification



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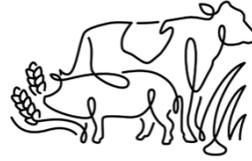


Baltic Slurry Acidification

Procurement process of pilot installations

Edited by Jānis Kažotnieks, Latvian Rural Advisory and Training Centre

August 2018



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Edited by Jānis Kažotnieks, Latvian Rural Advisory and Training Centre, Latvia

Contributing authors:

- Kalvi TAMM, Estonian Crop Research Institute, Estonia
- Jonas OSTERMANN, Blunk GmbH, Germany
- Gints JAKUBOVSKIS, Lauku Agro, Latvia
- Artūras ŠIUKŠČIUS, Animal Science Institute of Lithuanian University of Health Sciences, Lithuania
- Jan BARWICKI, Institute of Technology and Life Sciences, Poland
- Erik SINDHÖJ, RISE Research Institutes of Sweden, Sweden

Review by Henning Lyngsø FOGED from Organe Institute Aps, Denmark

August 2018

Preface

This report is prepared in the frames of the Baltic Slurry Acidification project, co-financed by Interreg Baltic and implemented by 16 partners from Baltic Sea Region (BSR) countries in the period from March 2016 to February 2019.

The report is a deliverable of work package 3 (WP3) concerning Procurement process of pilot installations.

The report contains descriptions of whole procurement process in each particular project partner countries – Germany, Latvia, Lithuania, Poland and Sweden. Descriptions include types of slurry acidification technology (SAT) chosen, some technical information about particular SAT's, procurement sums, offering companies, procurement time schedules, some specific details of contract as well as general explanation of whole procurement processes.

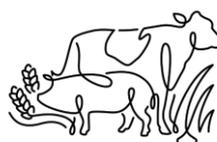
The procurement of the specific SAT was made in accordance with local legislation of each particular country, the feasibility considerations and within the available budget limitations of project.

The report is compiled by the WP3 leader on basis of information and data provided by the 6 pilot installation hosts. The framework of the report has been made by assisting leader of WP3 Henning Lyngsø FOGED from Organe Institute Aps, he has also carried out review of this particular report.

Ozolnieki, Latvia

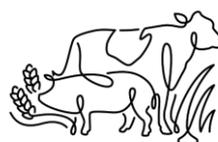
August 2018

Jānis KAŽOTNIEKS



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Summary

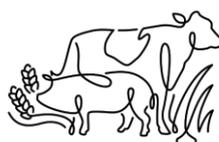
The procurement process began with tendering, that included elaboration of technical specifications too. General specifications for slurry tankers, spreading and acidification equipment were designed by WP3 leader Janis Kazotnieks and it was freely available to all the investment partners online on the project's BaseCamp platform. Some of the investing partners found it a challenge and reason for major delay to organise needed documentation to comply with.

The procurement process was carried out on basis of national and EU tender regulations in combination with the strict procurement requirements of Interreg Baltic. It was also based on facts obtained during feasibility studies and a study trip to Denmark earlier in the project. There was a total of 9 separate procurements done in six investment projects in six countries: Estonia - Estonian Crop Research Institute (ECRI); Germany - Blunk GmbH; Latvia – Lauku Agro SIA; Lithuania - Lithuanian University of Health Sciences (LUHS); Poland - Institute of Technology and Life Sciences (ITP) and Sweden - Br. Göransson AB. All the procurements were finalised as planned by the end of the project period No.5.

There were two types of acidification equipment procured during the process: five in-field – ECRI (small scale), Blunk GmbH, Lauku Agro SIA (used), LUHS and Br. Göransson AB, and one in-storage – ITP.

Based on the procurement of six investment projects a total budget of € 1'281'034 (compared to the planned 1'141'333) was used and it is expected to save the environment for 66'980 kg nitrogen via reduced ammonia emissions, and thus reduced use of nitrogen mineral fertiliser. The use of sulphuric acid will also reduce the costs for purchase of sulphuric mineral fertiliser.

Investments were made on a pure commercial basis in three cases: Blunk GmbH in Germany and Br. Göransson AB in Sweden, both of which are contractors, and by Lauku Agro in Latvia, which is pig and arable farm businesses. Two investors, Institute of Technology and Life Sciences (ITP) in Poland, and Animal Science Institute of Lithuanian University of Health Sciences (LUHS) in Lithuania have scientific aims for the investments, but at the same time will use the equipment for their own livestock farms. Estonian Crop Research Institute (ECRI) will use their slurry acidification equipment exclusively for scientific purposes.

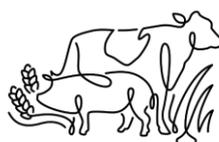


1. Background

For planning purposes, feasibility studies were done in each of the investment case. Each of the six individual investment partners made an indicative decision about the preferred SAT and included indicative budgets for the needed investments in the entire project budget. Some meetings and workshops were organized as well as study trip to Denmark to encourage the development of the project's investment side. Afterwards the phase of detailed planning began, including feasibility studies, where each individual investment partner estimated the economic, financial, logistical, environmental and other relevant issues to make their choice as sustainable and reliable as possible. Final decisions about the preferred SAT of the individual investment partner was taken and the feasibility study planning used for preparation of tender material and tenders themselves.

Table 1: Summary of the main SAT feasibility study conclusions.

Country	Organisation	Preferred SAT	Expected investment cost, €	Expected time of procurement	Expected annual reduction of N-loss, kg
EST	ECRI	In-field	192'000	Quarter 4/2017.	Minimal
DEN	Blunk GmbH	In-field	233'333	Summer 2017	25'300
LAT	Lauku Agro SIA	In-field	160'000	Second half of 2017	12'500
LIT	LUHS	In-field	180'000	Summer 2017	10'240
POL	ITP	In-storage	61'000	Second half of 2017	8'740
SWE	Br. Göransson	In-field	315'000	Finalised in February 2017	10'000
TOTAL	6 pilot installations		1'141'333		66'980



2. Procurement

Estonia

ECRI has invested in an in-field acidification system for research purposes only. They procured a Joskin 8 m³ slurry tanker from Eesti Agritehnika OU equipped with a 3m wide open slot disc injector (€ 57'480) and Biocover SyreN mini for another EUR 87'480.

According to Estonian regulations, national tenders have to be organised for procurements of values above € 40,000, and international tenders for values above € 130,000. All three items to procure have values below the threshold for international tenders, provided they are purchased separately. As a result, the first procurement of a slurry tanker and spreading device failed, because there was only one valuable offer and the price for tanker and spreader was too high - € 165 790 plus VAT, instead of € 175 000 for the whole system.

The second procurement was made in two parts: one for a tanker and an injector, another for a small-scale acidification equipment. The first part was successful with two offers: from Eesti Agritehnika OU for € 154'800 and from Stokker AS for € 57'480, choosing the last. The second got just one offer from Eesti Agritehnika OU for EUR 87'480, which was good enough to choose.

The second procurement at the end was easy and understandable, but there were some minor problems with the functionality of the equipment. There were also some disagreements between ECRI and the supplier, because it seemed the dealer was not familiar with machinery supplied. ECRI recommends paying more attention to qualify suppliers, but in this case, there was only one supplier of acidification equipment which made the whole procurement process more complicated.

The investment costs were below the project budget of € 192,000 (144'960). A digital procurement process was undertaken during October/November of 2017. Equipment was delivered in June 2018.

The Estonian legislation about public procurement is available at <https://www.riigiteataja.ee/en/eli/501112016003/consolide>

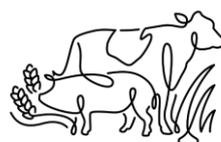
Procurement regulations in ECRI instead are available at http://www.etki.ee/images/pdf/Riigihange/Riigihank_eeskiri_2014_06_27.pdf

Estonian dealers for slurry acidification equipment are Eesti Agritehnika OU at www.agritehnika.ee/.

Germany

Blunk GmbH has invested in an in-field SAT system. As they are farm contractors, their equipment is of larger size containing 30 m³ Kaweco slurry tanker equipped with 24m wide trailing hose spreading device and SyreN acidification equipment. The total cost of the machinery was EUR 366'825.

The original decision was to go for a slurry tanker which would be suitable to carry 2,000 litres of sulphuric acid (2 IBC's) on it, and so that the IBC tanks with sulphuric acid would be placed in between the slurry tanker and tractor rather than in front of the tractor. The tender process began in January 2017 with half a year delay due to the complicated process of preparing the tender documents. As a result, they got an offer for 460'000 which was far above the budget limitations. Partly based on a fact that it was too



expensive and by that time legislation had changed there was another decision to change their specifications and return to an ordinary construction of acidification equipment. It was then another procurement process with one good offer from Kaweco (EUR 366'825) which ended up with signed contract in January 2018. The equipment was delivered in July 2018. The investment costs were € 366'825 which was above the budget of € 233,333.

Another procurement was done due to Blunk's plans to use safer containers for an acid – Varioboxes. It was an easy process comparing the purchase of fertilisation hardware and was completed within three months between May and July 2018. Only one valuable offer was received from Promens with the total cost for 20 Varioboxes of EUR 20'080.

The legislation which limits the procurement processes in Germany are as follows: RICHTLINIE 2014/24/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 über die öffentliche Auftragsvergabe und zur Aufhebung der Richtlinie 2004/18/EG

In English: Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

Link: https://www.bmwi.de/Redaktion/DE/Downloads/P-R/richtlinie-vergabe-oeffentlicher-auftraege.pdf?__blob=publicationFile&v=1

There are no dealers of slurry acidification equipment in Germany at the moment.

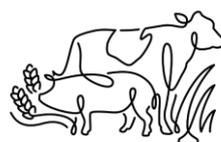
Latvia

Lauku Agro has invested in an in-field acidification system from GOMA Viborg ApS consisting of a Samson PG25 slurry tanker, a 24m wide spreading device with trailing hoses and acidification equipment SyreN from BioCover. They use it for spreading acidified separation liquids from pig slurry as well as digestate from biogas production. Equipment was procured as a second-hand alternative in very good shape. The total cost of investment was EUR 157'000, which fits into the project budget of EUR 162'000 perfectly.

It was the easiest and quickest procurement in whole project, beginning in July 2017 and ending with the machinery delivered 2,5 months later at the end of September 2017. Three good offers were received: AR Agro for € 169'500; AGS Maskiner for € 162'500 and GOMA Viborg ApS for € 157'000 respectively. The main problem for tender providers was to find an acidification system described in specs because of only one manufacturer – BioCover. All the rest of procurement through bid of three was easy and smooth, ending in optimal result just close to 3 months after beginning. The result was as good, because the company has an excellent and experienced personnel having completed many procurement processes before.

The legislation act which regulates the procurement process in Latvia is Publisko iepirkumu likums, Public Procurement Law, 15 December 2016, <https://likumi.lv/doc.php?id=287760> English version not available.

There are no dealers of slurry acidification equipment in Latvia at the moment.



Lithuania

LUHS has invested in an in-field acidification system from UAB Biržu žemtiekimas consisting of an AP 20 m³ slurry tanker, a 12 m wide spreading device with trailing hoses and acidification equipment SyreN from BioCover. They use it for spreading acidified cattle slurry. The total cost of the investment was € 223,474, which was over the project budget of € 180'000.

LUHS did use EU-wide-tender method for the equipment and the first procurement was for the tanker of a capacity of 24 m³ and the 12 m wide trailing hose spreading device equipped with acidification device. The only offer of EUR 238'000 was too expensive for their budget and was therefore rejected. The decision to purchase a smaller scale tanker (20 m³) was taken immediately and the second procurement announced with just some small changes in the tendering documentation.

It took three months for the second procurement to be finalised. They received only one valuable offer which was from UAB Biržu žemtiekimas for € 223'474,90. It was finally AP 20 m³ tanker with a 12 m trailing hose spreading device and the SyreN acidification equipment on it. The purchase was completed by August 2017 and the equipment was delivered in November 2017. However, it still was not the end of the story because LUHS did not have a tractor capable of carrying 1 m³ of sulphuric acid plus IBC and equipment on its front linkage. They therefore decided to find the one to rent. It is extremely important to understand and take in account that the needed lifting capacity of the front linkage should be no less than 4,5 tons in this case.

In Lithuania there are strict procurement requirements and a long document evaluation period. The open tender procedure takes about 4 months.

Lithuanian dealers for slurry acidification equipment are UAB Biržu žemtiekimas at:

Tiekimo 4, LT-41128 Birzai, Lithuania

GSM: + 370 682 18997

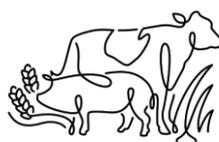
E-mail: info@zemtiekamas.lt

www.zemtiekimas.lt

Poland

ITP has invested in a tractor powered in-storage acidification equipment from Orum Co costing € 39'000 well as in small scale (2 x 12,5 m³) in-storage equipment from FAPO Co costing € 22'000 at their research farm. The total cost of investment was € 61'000, which matches perfectly with the project budget of € 61'000.

The procurement was separated into two parts: one for the tractor propelled in-storage and another for the small-scale in-storage equipment. The small-scale equipment procurement was initiated in August 2017 and completed in December 2017. Only one offer from FAPO Co for € 22'000 was received and accepted. The equipment was installed in December 2017. The procurement of the tractor powered mixer was initiated in October 2017 and completed in February 2018. There was only one offer from ORUM Co



of a value of € 39'000 in this case too. The machinery was delivered (December 2017) even before the payment was made (February 2018) – a sign of good co-operation between ITP and ORUM.

A problematic aspect of the procurement for ITP was that all the documentation from ORUM in Danish (or even in English) had to be translated into Polish to complete the procurement in a correct way.

There is no specific legislation that limits the procurement. ITP was using method to bid-at-three.

Polish dealers for slurry acidification equipment are:

West part of Poland: www.pomot.pl, address: str. Słowińska 2, 74-500 Chojna, Poland. Managing Director: Leszek Siatka

East part of Poland: www.agro.serwis.com, address: str. Kościelna 16, 18-315 Kołaki Kościelne, Poland, Owner: Dariusz Sobol

Sweden

Br. Göransson AB has invested in an in-field SAT system in order to sell slurry acidification services to their customers when spreading the slurry. As they, just like Blunk, are farm contractors, their equipment too is of larger size containing 30 m³ AP slurry tanker from AP Gyllevongne A/S equipped with a 24 metres wide trailing hose spreading device and SyreN acidification equipment from Biocover. The total cost of the equipment was € 384'618,75.

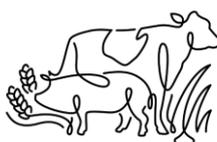
The procurement was separated into two parts: one for 30 m³ slurry tanker equipped with 24m wide trailing hose spreading device and other for acidification equipment. The procurement of the slurry tanker and spreader was initiated in December 2015 and completed in April 2016. They got three good offers for that: from GOMA Viborg ApS for EUR 262'083 plus VAT and shipping; from HARSO for EUR 259'012 plus VAT and shipping and from AP Gyllevongne A/S for EUR 252'695 plus VAT and shipping. Offer 3 was the lowest cost but they also had the largest tires which was a procurement criterion. Then there was the procurement for acidification equipment from April 2016 till April 2017 and only one good offer was received from Biocover AS for 55'000 plus VAT and shipping.

The long delay before announcing the procurement acidification equipment was because Br. Göransson was waiting for the approval of the procurement process for slurry tanker and spreader. Also, after receiving the SAT in April 2017, it took another month before the equipment was installed on the tractor and slurry tanker.

Procurement criteria for the tanker included: largest available tanker under 30 m³, trippleboggie with largest wheel size possible, 24-meter trailing hose boom, crane-arm loading, centrifugal pump.

Procurement criteria for the SAT equipment included: verified according to standards equal to or greater than VERA, approved for ADR transport of dangerous goods, use concentrated sulfuric acid (approx. 96%), automatic pH regulation, easy to rinse clean with water, controlled through ISO BUS terminal-based software for easy integration with the tractor.

Procurement for the SAT equipment was delayed due to difficulties and getting the first procurement approved by the MA/JS. There were uncertainties about which procurement method should be used due to the overall size of the investment, whether bid-at-three, national open procurement or EU open procurement. Public procurement legislation in Sweden is only for authorities not intended for private

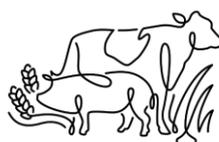


companies and therefore it is essentially not possible for private companies to comply with the legislation. After consultations with the National Agency for Public Procurement, the Swedish Competition Authority and the Swedish Agency for Economic and Regional Growth, it was still unclear about what rules actually applied in Sweden. Another issue without clarification was that the total cost of the slurry tanker was above the national threshold for open procurement, however, the amount that would be reimbursed to our partner through the de minimus state aid element for the tanker was under the national threshold and within the "bid-at-three" procurement range. After discussions with the aforementioned authorities, it was eventually decided that bid-at-three procurement would be sufficient for the tanker as well since the amount of reimbursement from the Interreg program is under the national threshold. There were no issues with the procurement for the SAT equipment and the "bid-at-three" rule was applied, however only one bid was received.

There are no dealers of slurry acidification equipment in Sweden at the moment.

Table 2: Summary of the procurement process.

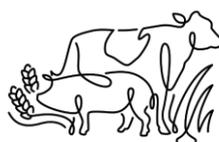
Country	Organisation	SAT type procured	Investment cost including VAT, €	Equipment delivered
EST	ECRI	In-field	144'960	June 2018.
DEN	Blunk GmbH	In-field	386'905	July 2018
LAT	Lauku Agro SIA	In-field	157'000	September 2017
LIT	LUHS	In-field	223'474,90	November 2017
POL	ITP	In-storage	61'000	December 2017
SWE	Br. Göransson	In-field	384'618,75	April 2017
TOTAL	6 pilot installations		1'357'958,65	



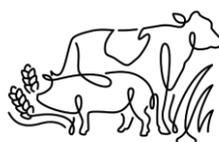
Annex A: Specifications

Annex A.1: Specification of slurry tanker

			Needed
GENERAL			
Volume	m3		20
Chassis	Type	Fully welded	
Number of axles	Pcs.		2
Loading	Type	Self loading	
Unloading	Type	Centrifugal	
Brakes	Type	Hydraulic	
PTO shaft	Diameter/splines	1 3/4 and 6 or others	
Drawbar	Type	Hydraulic suspension	
Tyres	Not smaller than	650/60-R30,5 Radial	
TANK			
Volume	m3		20
Diameter	At least, mm		2000
Material	Type	Steel grade	
Material thickness	At least	5mm	
Outside cover	At least	Sandblasted, polyurethane, varnish and primer	
Inside cover	At least	Epoxy	
Anti-surge partition	At least		3
6" coupling		Yes	
Inspection hatch		Yes	
Mechanical level indicator		Yes	
Electronic filling indicator		Yes	
Hydraulic ball plug valve for mixing		Yes	
Hose protection for trailing hose boom		Yes	
CHASSIS			
Type		Fully welded	
Cover	At least	Sandblasted, polyurethane, varnish and primer	
Boom fixing		Fixed	
Coupling	Type/size, mm at least	Bolt on Schamuller Ball type hitch, 80	
Drawbar	Type	With hydraulic suspension	
Drawbar height adjustment	At least	Mechanical	
Parking		Hydraulic jack	
AXLES			
Number of axles	At least		2
Suspension		Hydraulic with speed sensors	



Steering type		Electronic with axle lock	
Steering angle	At least, degrees		15
Mudguards on all wheels		Yes	
Brakes	Type	Hydraulic	
Brake sizes	At least, mm	410x180	
Width	At least, mm		2200
Tyres	Not smaller than	650/60-R30,5 Radial	
Tyre pressure regulators		2 circuit, shut off valve for each wheel	
PTO			
Wide angle universal shaft	Min length, m	XX	
LOADING			
Device	Type	Self loading, hydraulic arm, vacuum pump	
Turning circle of device	At least, degrees		100
Output	At least, l/min		6000
Max reach, storage height	At least, mm		2600
Max reach, in storage	At least, mm		5200
Flowmeter		Yes	
Computer control		Yes	
Auto-load and weight control		Yes	
UNLOADING			
Device	Type	Centrifugal pump with hydraulic drive	
Pump output	At least, l/min		4500
Stone trap		Yes	
Flowmeter		Yes	
Computer control		Yes	
Piping galvanised		Yes	
Coupling for trailing hose system		Yes	
HYDRAULICS			
Couplings at the rear of tanker	At least		9
Coupling type		Quick release couplings	
Outlets prepared for section control		Yes	
Computer control		Yes	
LIGHTS			
According to legislation road traffic safe		Yes	
Working lights on loading device	At least, pcs.		2
Type of working lights/ brightness	At least, Type/lumens	LED/ 1500	
LUBRICATION			
Type	Manual	Yes	
OTHER			
Camera at the rear		Yes	



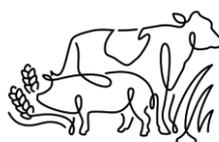
Camera at the loading device		Yes
Colour screen in cab for cameras		Yes

Tool box		Yes
Clean water tank	At least 15l	Yes
Ladder for inspection		Yes

User's manual (including maintenance issues) in local language		Yes
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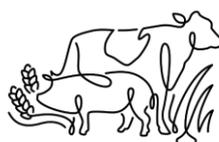
PRACTICAL TRAININGS AND DEMOS

How to connect tanker to the tractor		Yes
How to operate tanker/spreader basic operations		Yes
Safety instructions		Yes
Guidelines for maintenance		Yes
Warranty issues		Yes



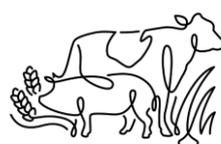
Annex A.2: Specification of slurry spreading equipment

		Needed	
GENERAL			
Connected to tanker		Yes	
Boom width	m		24
Number of distributors	Pcs.		1
Material		Fully galvanised metal parts	
ISOBUS compatible		Yes	
BOOM			
Width	m		24
Protection	Type	Trapezium	
Material		Galvanised steel	
Rising/lowering	Type	Hydraulic from cabin	
Folding/unfolding	Type	Hydraulic from cabin with master/slave cylinders	
Transport position		Inclined to protect against dripping	
Anti drip system		Yes	
Trailing hose end type	Type	Trailing shoes, open end???	
Section control		Yes	
Max width of section	m		2
DISTRIBUTOR			
Pieces	Pcs.		1
Position		Vertical	
Chopper		Rotating knives	
Drains per distributor	Pcs.	48...72	
Output per distributor	l/min	6000+	
Stone trap		Yes	
Stone trap slide valve	At least	Hydraulically operated for emptying	
Dosage		From cabin via controller	
HYDRAULICS			
Couplings at the rear of tanker	At least		9
Flow	l/min	40+	
Pressure	bar	180+	
Computer control		Yes	
LIGHTS			
According to legislation road traffic safe		Yes	
LUBRICATION			
Type	Manual	Yes	
OTHER			

PRACTICAL TRAININGS AND

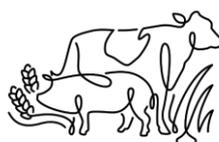
DEMOS

How to operate spreader	Yes
Safety instructions	Yes
Guidelines for maintenance	Yes
Warranty issues	Yes



Annex A.3: Specification of slurry acidification equipment

		Needed	
GENERAL			
Connected to tanker		TBD	
Acid used		96% H2SO4	
Number of mixers	Pcs.		1
Tank placement		Front linkage	
ISOBUS compatible		Yes	
TRACTOR TO BE EQUIPPED (INFORMATION FOR SUPPLIER)			
Brand/Model		XXX	
Power	hp	230+	
Transmission		Powershift	
Front linkage lifting capacity	Kg	4500+	
Front linkage category			3
Hydraulic coupler at the front		Yes	
Hydraulic return at the front		Yes	
	At least at bonnet level on sides of cab		
Elevated traffic light		Yes	
ISOBUS plug at the rear		Yes	
ISOBUS terminal in the cab		Yes	
TANKER TO BE EQUIPPED (INFORMATION FOR SUPPLIER)			
Brand/Model		XXX	
Boom width	m3		24
Central wire box for coupling to ISOBUS wire harness		Yes	
TANKS			
Main acid tank	Type	IBC with self vented drip free dry connector installed	
Main acid tank volume	m3		1
		Stainless steel with external level indicator with self vented drip free dry connector installed	
Tank for additives	Type		
Volume of tank for additives	l	80+	
		Stainless steel with electronical and external level indicator	
Clean water tank	Type		
Clean water tank volume	l	50+	
Acid pump with PTFE lined ADR approved hose and self vented drip free dry connector to connect to acid tank		Hydraulic drive with RPM sensor and calibrating valve	
Electrically driven pump for additives		Yes	
HOSES			
Material		PTFE lined ADR approved hose for sulphuric acid	



Couplings	Type	Stainless steel 60 degree cone	
Couplings per hose	Pcs.		2
Total length of hoses	m, according to tractor and tanker models	To be checked by supplier	

MIXER

Type of mixer		Turbulence type with direct acid injection	
Material of mixer		Galvanised steel	
Type of injector		Direct with contra valve	
Material of injector		Stainless steel	
ph meter in stainless steel sump		Yes	

LIGHTS IN FRONT

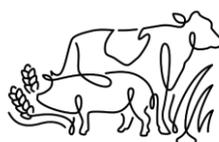
According to legislation road traffic safe		Yes	
Type		LED	
Low beam	Pcs.		2
High beam	Pcs.		2
Turning lights	Pcs.		2
Side position (gabarites)	Pcs.		2

SAFETY

Filling acid	Type	No direct filling	
Connections to acid/ additive tanks	Type	Self vented drip free dry connector	
Washing system with clean water after use	Type	Automatic	
All around external impact protection cage with impact safe floor for acid tank		Yes	
Lockable cage for acid tank		Yes	
Tree point linkage for fitting to tractor		Yes	
Extra chain for tank cage safety		Yes	
Traffic monitoring camera on acid tank cage with monitor in cabin		Cameras at left and right side	
Camera for monitoring acid tank loading in cage with monitor in cabin		Yes	
Storage for safety equipment within acid tank cage	Type	Closed type, lockable	
Gloves approved to work with sulphuric acid	Pair		1
Visor for eye protection	Pcs.		1
Protection apparel	Pcs.		1
pH calibration fluids	Pcs.	2 x 3 bags pH 7 and pH 4	
User's manual	Pcs.		1
Spare part catalogue	Pcs.		1

ELECTRONICS/ DATA STORAGE

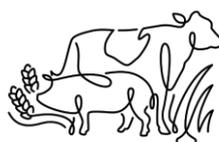
ISOBUS compatible ECU with coupling to tractor ISOBUS terminal		Yes	
ISOBUS software integrated in ECU for controlling dose rate of acid and additives from cabin		Yes	



Wire harness with central wire box and coupling for tank sensor, light, GPS / GSM and ECU controller	Yes
GPS / GSM module for automatic data transfer for documentation in CSV format.	Yes
Log-in to internet download of data	Yes
1 year data traffic from GPS / GSM system	Yes

PRACTICAL TRAININGS AND DEMOS

How to operate spreader	Yes
Safety instructions	Yes
Guidelines for maintenance	Yes
Warranty issues	Yes



Annex B – Check list template

Project: Baltic Slurry Acidi
 WP: 3
 Activity: 3.2.
 Sub-activity: 3.2.6.
 PP: 

Checklist

SAT type chosen:

In-storage 

In-field 

Comments 

Procurement sums (including VAT), EUR

Offer No.1 

Offer No.2 

Offer No.3 

Comments 

Offering company:

Offer No.1 

Offer No.2 

Offer No.3 

Comments 

Time schedule (dates):

Procurement 

documentation ready 

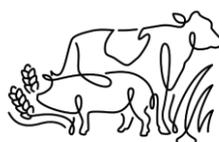
Procurement announced 

Offers received 

Contract signed 

Machinery received 

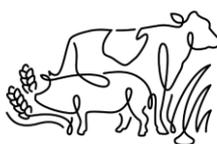
Comments 



Specific details of the contract (if applicable):



General explanation of the whole procurement process (please indicate any difficulties or deviations as well):



Annex C – Procurement process for Estonian installation

Annex C.1: Checklists for procurement process

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	3, ECRI

Checklist

SAT type chosen:

In storage

In field

SyreN

The device is a BioCover SyreN mini. This is SyreN special edition for research purposes. The acid tank is 60 l and is placed behind the tractor.

Comments

Procurement sums (including VAT), EUR

Offer No.1

72900+14 580(VAT)=87 480 EUR

Offer No.2

Offer No.3

Comments

It was public procurement, and only one offer was made.

Offering company:

Offer No.1

Eesti Agritehnika OÜ

Offer No.2

Offer No.3

Comments

Eesti Agritehnika OÜ is BioCover dealer in Estonia.

Time schedule (dates):

Procurement

documentation ready

30.10.2017

Procurement announced

30.10.2017

Offers received

03.11.2017

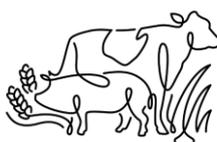
Contract signed

03.11.2017

Machinery received

Comments

The machinery is ready for delivery at BioCover and is waiting for slurry tank and slurry spreader



Specific details of the contract (if applicable):

The contract also includes the installation of the system to the spreader and training of staff.

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

The most complicated part was to prepare the conditions for the procurement. The procurement process itself was not difficult because we have 1) a digital system in Estonia for public procurements, 2) an experienced person in ECRI who is responsible for procurements and he worked with the procurement system.

Project:

Baltic Slurry Acidi

WP:

3

Activity:

3.2.

Sub-activity:

3.2.6.

PP:

3, ECRI

Checklist

SAT type chosen:

In storage

In field

X

Joskin Slurry 8 m3 tanker and 3 m open-slot disc injector. It will work with BioCover SyreN mini.

Comments

Procurement sums (including VAT), EUR

Offer No.1

47900+ 9580(VAT)=57480

Offer No.2

129000+25800=154800

Offer No.3

Comments

It was a public procurement, and only two offers were made.

Offering company:

Offer No.1

Stokker AS

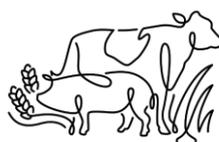
Offer No.2

Eesti Agritehnika OÜ

Offer No.3

Comments

Time schedule (dates):

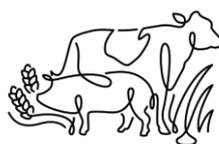


Procurement documentation ready	31.10.2017
Procurement announced	01.11.2017
Offers received	17.11.2017
Contract signed	14.12.2017
Machinery received	According to the contract it should be 30.04.2017.
Comments	

Specific details of the contract (if applicable):

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

The most complicated part was to prepare conditions for the procurement. The procurement process itself was not difficult because we have 1) a digital system in Estonia for public procurements, 2) an experienced person in ECRI who is responsible for procurements and he worked with the procurement system.



Annex D – Procurement process for German installation

Annex D.1: Checklists for procurement process

Project: Baltic Slurry Acidi
 WP: 3
 Activity: 3.2.
 Sub-activity: 3.2.6.
 PP: 10, Blunk GmbH

Checklist

SAT type chosen:

In storage

In field

Comments

x

Procurement sums (including VAT), EUR

Offer No.1

Offer No.2

Offer No.3

Comments

366,825.00

Offering company:

Offer No.1

Offer No.2

Offer No.3

Comments

Kaweco

Time schedule (dates):

Procurement

documentation ready

Procurement announced

Offers received

Contract signed

Machinery received

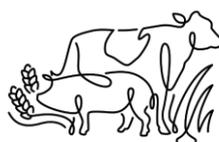
10.01.2017

16.01.2017

06.02.2017

18.01.2018

11.07.2018



Comments

Specific details of the contract (if applicable):

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

Project:

Baltic Slurry Acidi

WP:

3

Activity:

3.2.

Sub-activity:

3.2.6.

PP:

Checklist

SAT type chosen:

In storage

In field

Comments

x 20 Variboxes

Procurement sums (including VAT), EUR

Offer No.1

1,004.00

Offer No.2

Offer No.3

Comments

Offering company:

Offer No.1

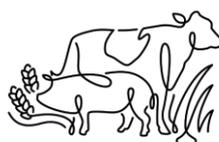
Promens

Offer No.2

Offer No.3

Comments

Time schedule (dates):

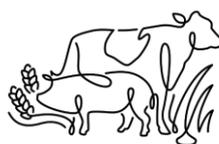


Procurement documentation ready	10.05.2018
Procurement announced	11.05.2018
Offers received	18.05.2018
Contract signed	01.06.2018
Machinery received	03.07.2018
Comments	

Specific details of the contract (if applicable):

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

Because of the total amount of 20.080 € we were allowed to use a free award procedure process for the the Variboxes. There were no problems.



Annex E – Procurement process for Latvian installation

Annex E.1: Checklist for procurement process

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	21, Lauku Agro SIA

Checklist

SAT type chosen:

In storage

In field

x

Syren system from Biocover, Fendt 930 tractor and Samson PG25 slurry tanker with 24m booms and hose system

Comments

Procurement sums (including VAT), EUR

Offer No.1

162,500.00

Offer No.2

169,500.00

Offer No.3

157,000.00

Comments

all second hand equipment, very well refurbished

Offering company:

Offer No.1

AGS Maskiner, VAT No DK33134908

Offer No.2

AR Agro SIA, VAT No LV43603039552

Offer No.3

GOMA Viborg ApS, VAT No DK 10963230

Comments

1) Samson, 2) Joskin, 3) Samson

Time schedule (dates):

Procurement

documentation ready

03.07.2017

Procurement announced

03.07.2017

Offers received

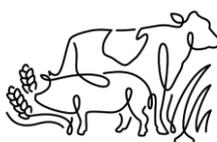
12.07.2017

Contract signed

31.08.2017

Machinery received

29.09.2017



Comments

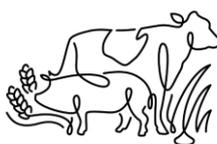
-

Specific details of the contract (if applicable):

-

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

The main problem for tender providers was to find an acidification system that we asked for in product specs because of only one manufacturer - Biocover.
Few minor issues regarding tanker specs, had to change before publishing because it fit only one manufacturer.



Annex F – Procurement process for Lithuanian installation

Annex F.1: Checklist for procurement process

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	18, LUHS (Institute of animal sciences)

Checklist

SAT type chosen:

In storage

In field

Comments

Biocover A/S system slurry acidification in field.

Tank capacity is 20 cubic metres and 12 metres spreading hoses.

Procurement sums (including VAT), EUR

Offer No.1

Offer No.2

Offer No.3

Comments

184 690,00 + VAT 38 784,90 Total amount including VAT EUR 223 474,90

A public procurement was organized and one offer was received.

Offering company:

Offer No.1

Offer No.2

Offer No.3

Comments

UAB Biržų žemtiekimas (Joint-Stock Company Biržų žemtiekimas)

UAB Biržų žemtiekimas is BioCover dealer in Lithuania.

Time schedule (dates):

Procurement

documentation ready

Procurement announced

Offers received

Contract signed

Machinery received

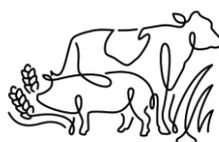
13.06.2017

14.06.2017

28-06-2017

01.08.2017

07.11.2017



Comments

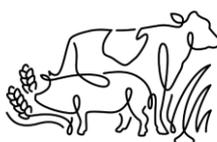
The equipment will be tested until 27 July 2017, depending on weather conditions.

Specific details of the contract (if applicable):

The contract includes training for two people and full installation and testing.

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

In Lithuania there are strict procurement requirements and a long document evaluation period. The open tender procedure takes about 4 months.



Annex G – Procurement process for Polish installation

Annex G.1: Checklists for procurement process

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	7, ITP.

Checklist

SAT type chosen:

In storage

X

In field

FAPO production, but system was elaborated by ITP. Original acidification storage system suitable for Polish conditions presented to POLISH PATENT OFFICE.

Comments

Procurement sums (including VAT), EUR

Offer No.1

22,000.00

Offer No.2

Offer No.3

Comments

A public procurement was organized and only one offer was received.

Offering company:

Offer No.1

FAPO Co.

Offer No.2

Offer No.3

It took time but there were no problems with procurement and money transfer.

Comments

Time schedule (dates):

Procurement

documentation ready

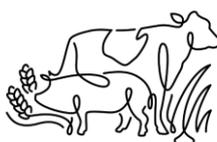
15.08.2017

Procurement announced

15.09.2017

Offers received

15.10.2017



Contract signed	15.11.2017
Machinery received	20-12-2017
Comments	Good cooperation with FAPO

Specific details of the contract (if applicable):

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

There was no problems with procurement and money transfer activities.

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	7, ITP

Checklist

SAT type chosen:

In storage

X

In field

Comments

ORUM system type GDM 7500 - TF -12, power requirements about 200 hp

Procurement sums (including VAT), EUR

Offer No.1

39,000.00

Offer No.2

Offer No.3

Comments

A public procurement was organized and only one offer was received.

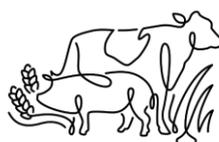
Offering company:

Offer No.1

ORUM Co.

Offer No.2

Offer No.3



Comments

It took time but there was no problems with procurement and money transfer.

Time schedule (dates):

Procurement

documentation ready

15.10.2017

Procurement announced

15.11.2017

Offers received

25.11.2017

Contract signed

15.02.2018

Machinery received

15-12-2017 (yes that is true we received machinery before payment)

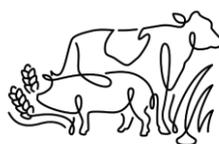
Comments

Good cooperation with ORUM

Specific details of the contract (if applicable):

General explanation of whole procurement process (please indicate any difficulties or deviations as well):

There were no problems in the cooperation, the procurement just takes time to get things done.



Annex H – Procurement process for Swedish installation

Annex H.1: Checklist for procurement process

Project:	Baltic Slurry Acidi
WP:	3
Activity:	3.2.
Sub-activity:	3.2.6.
PP:	17

Checklist

SAT type chosen:

In storage

In field

Comments

X

Procurement sums (including VAT), EUR

Offer No.1

Offer No.2

Offer No.3

Comments

Two stage procurement - (1) for slurry tanker and (2) for in-field SAT

(1) 259 012 excluding VAT and shipping, (2) 55 000 excluding VAT

(1) 262 083 excluding VAT and shipping

(1) 252 695 excluding VAT and shipping

Offering company:

Offer No.1

Offer No.2

Offer No.3

Comments

(1) Harsø (27), (2) Biocover

(1) Göma Viborg APS (Samson pg II 27)

(1) AP Gyllevongne A/S (28)

(1) For slurry tanker only. Offer 3 was lowest cost but they also had the largest tires which was a procurement criteria. (2) Only one offer for the in-field SAT was received, Kyndestoft did not send in a bid since their system did not meet the procurement criteria.

Time schedule (dates):

Procurement

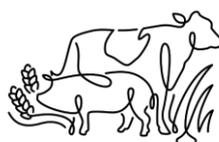
documentation ready

Procurement

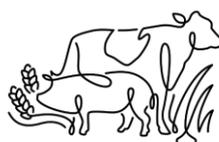
announced

(1) December 2015, (2) April 2016

(1) December 2015, (2) December 2016

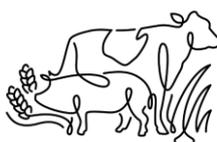


Offers received	(1) December 2015, (2) February 2017
Contract signed	(1) February 2015, (2) March 2017
Machinery received	(1) April 2015, (2) April 2017
Comments	(2) the long delay before announcing the procurement was because PP17 was waiting for the approval of the procurement process for (1). Also after receiving the SAT in April, it took another month before the equipment was installed on the tractor and slurry tanker.
Specific details of the contract (if applicable):	(1) the procurement criteria for the tanker included: largest available tanker under 30 m ³ , trippleboggie with largest wheel size possible, 24 meter trailing hose boom, crane-arm loading, centrifugal pump. (2) procurement criteria for the SAT equipment included: verified according to standards equal to or greater than VERA, approved for ADR transport of dangerous goods, use concentrated sulfuric acid (approx 96%), automatic pH regulation, easy to rinse clean with water, controlled through ISO BUS terminal-based software for easy integration with the tractor.



General explanation of whole procurement process (please indicate any difficulties or deviations as well):

(2) procurement of the SAT equipment was delayed due to difficulties and getting the (1) procurement approved by the the MA/JS. There were uncertainties about which procurement method should be used due to the overall size of the investment, whether bid-at-three, national open procurement or EU open procurement. Public procurement legislation in Sweden is only for authorities not intended for private companies and therefore it is essentially not possible for private companies to comply with the legislation. After consultations with the National Agency for Public Procurement, the Swedish Competition Authority and the Swedish Agency for Economic and Regional Growth, it was still unclear about what rules actually applied in Sweden. Another issue without clarification was that total cost of the slurry tanker was above the national threshold for open procurement, however, the amount that would be reimbursed to our partner through the de minimus state aid element for the tanker was under the national threshold and within the "bid-at-three" procurement range. After discussions with the aforementioned authorities, it was eventually decided that bid-at-three procurement would be sufficient for the tanker as well since the amount of reimbursement from the Interreg program is under the national threshold. There were no issues with the procurment of the SAT equipment and the "bid-at-three" rule was applied, however only one bid was actually recieved. The total cost of the tanker and the SAT system was around 310 000 EUR, however, PP17 was only allowed to claim 255 000



www.balticslurry.eu

Summary of the project

'Baltic Slurry Acidification' is an agro-environmental project, co-financed by Interreg Baltic Sea Region under the priority area 'Natural resources' and the specific objective 'Clear waters'. The aim of the project is to reduce nitrogen losses from livestock production by promoting the use of slurry acidification techniques in the Baltic Sea Region and thus to mitigate eutrophication of the waters, including airborne eutrophication.

Summary of the report

The report contains descriptions of the whole procurement process in each particular project partner country – Germany, Latvia, Lithuania, Poland and Sweden.

Contributing authors:

- Kalvi Tamm, Estonian Crop Research Institute, Estonia
- Jonas Ostermann, Blunk GmbH, German
- Gints Jakubovskis, Lauku Agro, Latvia
- Artūras Šiukščius, Animal Science Institute of Lithuanian University of Health Sciences, Lithuania
- Gintarė Kučinskienė, Lithuanian Agricultural Advisory Service, Lithuania
- Jan Barwicki, Institute of Technology and Life Sciences, Poland
- Erik Sindhøj, RISE Research Institutes of Sweden, Sweden