

PULP FOCUS

THE ROTTNEROS
CUSTOMER NEWSLETTER #38

**ROTTNEROS
INVESTS IN
RENEWABLE
FUELS**

**ROTTNEROS IS
AWARDED FOR
OUR/EMPLOYEE
RELATIONS**

**ROTTNEROS
PACKAGING
EXPANDS WITH
NEW FACTORY**

CEO COMMENT



“IMPROVING PRODUCTS THAT BENEFIT THE ENVIRONMENT”

As a specialist in pulp development and production we are always trying to improve our products. Our goal is to make improvements that not only benefit you as a customer, but also the environment. During the past couple of months, we've taken some important steps on this journey.

► **The Swedish forests** stand strong and continue to grow even though pulp production has increased. Our forests play a leading role in shifting towards a sustainable lifestyle and for every tree that is cut down in the Swedish forest industry, two new ones are planted. The processed forests grow better, enhancing the environmental benefits and increasing output. At Rottneros, we see ourselves as a natural part of this sustainable ecosystem.

When we produce high yield pulp in Rottneros Mill, as much as 95 percent of the raw material becomes pulp and sustainable products. One of

these products is the molded pulp tray, manufactured by Rottneros Packaging. As our next step in developing Rottneros Packaging we are building a new production line, which you can read more about in this issue of Pulp Focus.

In our mill in Vallvik, we produce chemical pulp. Not only are 97 percent of all chemicals recycled but the production also produces enough green energy to fuel the mill. An impressive 99 per cent of fuel used at the mill today is fossil-free. Apart from our customers using our chemical pulp for exciting products we are also very enthusiastic about our

new biofuel collaboration. In this issue, you can read more about how extracting lignin can increase our pulp production and at the same time contribute to reversing climate change through participating in the transport sector's energy conversion.

All our daily activities and sustainability initiatives have one thing in common. Our committed and motivated employees. A few of them will be joining me in London for Pulp Week, and we hope to see you there!

LENNART EBERLEH

Rottneros invests in renewable fuels



Rottneros has entered into an agreement with RenFuel regarding delivery of the forest product lignin. Lignin is used for production of Lignol, RenFuel's patented lignin oil, which can be refined into renewable gasoline and diesel.

► **RenFuel is a Swedish company** that has developed a patented method of refining lignin from the wood pulp industry's renewable residue black liquor to lignin oil under the product name Lignol. Lignol can replace fossil oil and be used in the production of renewable gasoline and diesel. By using black liquor Lignol can be produced in a larger scale. It also allows for an increased production capacity of pulp and thus a possible increased profitability in the paper and pulp industry.

– This is an important step for Rottneros and allows us to further strengthen the Swedish bio economy. The pulp industry already is a vital part of it. While contributing to reversing climate change through participating in the transport sector's energy conversion, the extraction of lignin also gives us the opportunity to increase our own pulp production. In this way, the agreement favors all parts, says Lennart Eberleh, CEO of Rottneros.

During the spring of 2017, RenFuel has started the production of Lignol in its pilot plant in Bäckhammar, Värmland County. RenFuel's access to lignin, which is needed to increase the production of bio oils, is secured through the cooperation with Rottneros. During 2018, Rottneros will initiate deliveries of lignin from the company's mill in Vallvik outside Söderhamn to RenFuel's test and pilot plant in Bäckhammar, Värmland County. This will help RenFuel meet the increasing demand for environmentally-friendly fuels.

– Our product, Lignol, is key to reach the Swedish Government's goal of a fossil free vehicle fleet in 2030. Cooperating with Rottneros, a company of long-standing tradition and knowledge of forestry and pulp production, is an important step forward for RenFuel. Using membrane filtering of black liquor, a highly energy-efficient and environmental process, further strengthens the Lignol's potential as a climate-friendly fuel, even with regards to the production process, says RenFuel CEO Sven Löchen. ●

ROTTNEROS PACKAGING

ROTTNEROS PACKAGING EXPANDS WITH NEW FACTORY

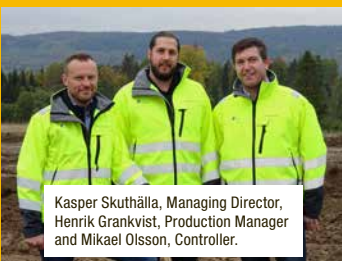
With an increased interest in sustainable and moulded fibre trays it is now time for Rottneros Packaging to scale up their business. Through the building of a new factory, Rottneros Packaging will be able to go from development to industrial production with larger volumes.



ROTTNEROS PACKAGING

Rottneros Packaging has developed a food packaging tray that will replace today's plastic alternatives. The tray is manufactured entirely with wooden raw material and is both recyclable, renewable and degradable. The team at Rottneros Packaging is committed to developing environmentally friendly and biodegradable trays and bowls that at the same time can withstand moisture and fat from the food.

Depending on the use, plastic is either completely eliminated or greatly reduced in products with high barrier requirements, as a renewable and degradable type of plastic can also be used. The specialists at Rottneros Packaging will customize the product to meet your specific needs.



Kasper Skuthälla, Managing Director, Henrik Grankvist, Production Manager and Mikael Olsson, Controller.

► **Rottneros Packaging** has had a flying start and are now busy with production for their first customers. To increase the production capacity, a new production facility is now under construction. The factory is being built in Sunne, close to Rottneros Mill, and will be 1,700 square metres.

“The new facility is customized for our operations. It is designed to meet all hygiene requirements and provide our employees with a healthy work environment.” says Kasper Skuthälla, Managing Director of Rottneros Packaging.

The production facility will hold several formation and lamination machines as well as a system for preparing the pulp. Outside a 3,500 sqm area is available for trucks to be loaded, personnel to park and possibly, further ahead, a tent for storage. The

facility is conveniently located along the European Route E45 for transportation purposes.

Rottneros Packaging's new facility is expected to be up and running next summer.

“So far, everything is progressing very smoothly and according to plan. The goal is to be ready to start delivering in larger volumes next summer.” says Kasper Skuthälla.

In preparation for the capacity expansion, the experienced team has both visited machine suppliers and started developing their own solutions.

“We have great pulp qualities and competence for this purpose so it is exciting to finally get to bring all our ideas to reality. Hopefully, we can also use our expertise to help other companies in this area.” ●

Pulp for every occasion

The possibilities for what our pulp can be used for are more than we can count. Wallpapers, packaging, air filters, electrical applications and laminate floors are just a few examples of end uses for our products. With a wide range of mechanical pulp as well as bleached and unbleached chemical pulp we're ready to help with your special requirements.

ENVIRONMENTALLY FRIENDLY MATERIALS IN YOUR KITCHEN

Greaseproof paper simplifies kitchen work worldwide while improving hygiene levels. The most important functional property is the resistance to grease, fat and oil. Additionally, it is more environmentally friendly than materials such as aluminum and teflon. Our high-quality and specially designed Kraft Pulp, Robur Flash, provides the perfect balance between tensile strength and tearing, guaranteeing a strong and reliable greaseproof paper.

LABELS AND INSOLES THAT STAND THE TEST OF TIME

Our tailor-made pulp fibre blends have also proven to be excellent base materials for many of the leading jeans manufacturers throughout the world. Rottneros world-leading flash dried pulp provides an open fibre structure, where the long softwood fibres guarantee excellent strength and absorption, which are important properties of the end products in this segment such as label packaging and shoe insoles. Made out of natural cellulose fibre and other additives, the products can be printed, laminated, coated or screen printed to suit current trends.

DECORATING YOUR HOME FROM TOP TO BOTTOM

Decorative laminate floors are examples of end products where saturated paper is used. They are made of paper impregnated with thermosetting resin. The laminate is composed of a sheet of decor paper and sheets of saturated base paper. For producing this saturated base paper, Rottneros High Yield Pulp is an excellent choice. Our High Yield Pulp is also perfect for making wallpaper. The high opacity ensures that the substrate doesn't shine through while the good dimensional stability ensures that the wallpaper remains perfect at all times, even in wet and damp conditions. ●

Examples end uses

Greaseproof paper



Shoe insoles



Jeans labels



Wallpaper



Laminate floors



ROTTNEROS
RANKED
TOP 10



Rottneros is awarded for our employee relations

Rottneros has been ranked among the top 10
Best Construction and Manufacturing companies
by Powered by People.

► **Powered by People** is a Swedish award aimed at honoring and celebrating companies who are successful in terms of working with employee relations and creating sustainable change in their organization. The award is based on results from employee surveys and employees' true attitudes, rather than subjective judgements.

We are very proud to have been recognized for our personnel work. We strongly believe that in order to be a sustainable and successful company our employees have to enjoy and develop at the workplace. Therefore, we have focused on working with safety matters and developing our employees through Rottneros Academy.

We're very happy to see that our efforts are resulting in such a positive review from our employees. ●

NETSURVEY
AWARDS
2017 | **POWERED
BY
PEOPLE**



WHAT'S GOING ON IN OUR MILLS?

Sustainable investments that benefit both production and the environment

As part of the Group’s long-term development plan, Agenda 500, several investments have been made in our mills. We strive to make investments that not only benefit our production capacity but also the environment.

Vallvik Mill

► At Vallvik Mill, where Rottneros produces chemical pulp, an impressive 99 per cent of the fuel used today is fossil-free and 97 percent of all chemicals are recycled. Within Agenda 500, investments to improve production capacity and pulp quality while decreasing emissions have been made. The most recent investment is the new washing press that was successfully installed during October.

“The new washing press will make the washing much more efficient, improve the working environment for operators and decrease emissions from the bleaching department.” says Per-Arne Nilsson, Project Manager at Vallvik Mill.

“The installment went well and I’m really happy to see how our team has worked together on this project. They’ve done a great job, from idea to operation start”, says Per-Arne Nilsson.

Rottneros Mill

► “The paper industry is replacing plastic with fibre products, and in general, plastic articles are increasingly questioned. So, our investments in this field have a good timing. There is a growing demand for increased sustainability.” says Olle Dahlin, Managing Director of Rottneros Mill.

At Rottneros Mill the most recent investment is a new bio mass boiler which supplies the drying process with heat. The new boiler is fired with bark and fuel chips making the Mill’s energy consumption essentially fossil-free.

“In the future, we should be able to use our own sludge to fuel the boiler. Then we will almost have a closed eco system at the factory.” says Olle Dahlin.

While the bio mass boiler is now in full use, the new anaerobic purification stage for the wastewater, where also biogas will be produced, is still under construction and won’t be ready to use until next summer. But investments have already started paying off and production is now up to about 170,000 tonnes per year.

“The installing of the bio mass boiler was a success and once all investments are in place, we should be able to approach 200,000 tonnes,” says Nils Hauri, Production Manager at Rottneros Mill.

MEET US AT LONDON PULP WEEK!

If you want to get a chance to meet the Rottneros team in person this fall, representatives from all our business areas will be attending the London Pulp Week from 6th to 10th November 2017.

We hope to see you there!



LONDON

MECHANICAL PULP



GROUND-WOOD PULP



Bleached/unbleached



Production (tonnes)

2016
69,000

2015
68,900

+0%

CTMP



Bleached/unbleached



Production (tonnes)

2016
87,600

2015
85,700

+2%

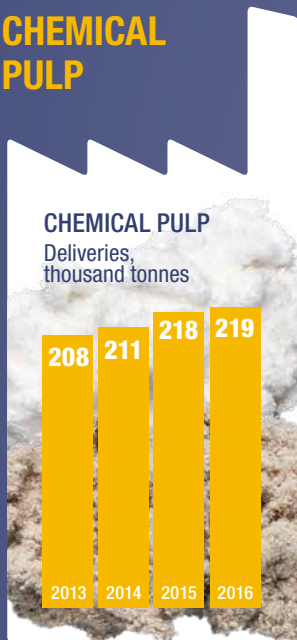
CTMP



Bleached



CHEMICAL PULP



LONG-FIBRE SULPHATE



Bleached



Production (tonnes)

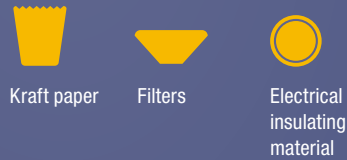
2016
138,400

2015
153,300

-10%



Unbleached



Production (tonnes)

2016
79,100

2015
65,300

+21%

FIBRE TRAYS

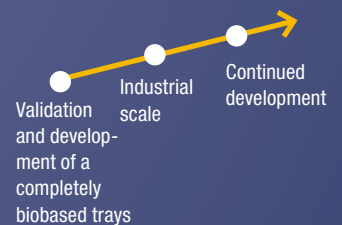


MECHANICAL PULP

Bleached



Vision



PULP FOCUS

COVER: Vallvik Mill | PHOTO: Alexander Ruas

PUBLISHED BY: Rottneros AB | Box 144, SE-826 23 Söderhamn | Sweden

Tel + 46 270-62 200 | info@rottneros.com | www.rottneros.com

PRODUCTION: Oxenstierna & Partners