

PULP DIRECT

UPM PULP • CUSTOMER NEWSLETTER

Birch in the spotlight

2/2017

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UPM Betula is
an easy-to-refine
pulp



The
sophisticated
alternative



Biodiversity under
UPM's protection
in Uruguay



Good health is
directly related
to good hygiene

BIRCH PULP GIVES CUSTOMERS AN EDGE

Birch is a versatile hardwood fibre. It's a premium grade and a niche product. Birch pulp might not be for everybody, but if you know how to capitalise the properties of the fibre, you will be rewarded handsomely.

Mats Backman, Director of Technical Customer Service at UPM Pulp says that their birch pulp, UPM Betula, performs well in reaching targeted quality properties and cost savings.

"Our goal is always to provide customers with the right fibre for the right end-use and help them use it the right way."

UPM Betula is an easy-to-refine pulp. It develops good strength, structure and surface properties predictably and quickly.

"This is also why our birch pulp offers the greatest saving potential in products that would normally require a lot of refining. In fact, over-refining will only lower the quality," Mats says.

According to Mats, energy isn't the only factor where customer mills can save money without compromising their products.

"Birch pulp can substitute more expensive raw materials, such as softwood pulp, in many applications. You're still able to reach good strength values and a compact structure."

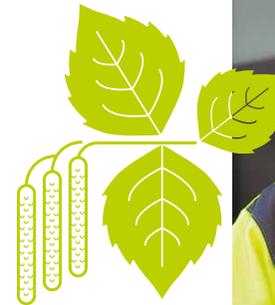
GUARANTEEING SUPPLY SECURITY

UPM Pulp produces birch pulp in all their mills in Finland. In recent years, the company has invested heavily on boosting birch pulp capacity. This makes UPM Betula volume-wise roughly equal in size with UPM Pulp's other products – Nordic softwood and eucalyptus pulps.

"Consistent quality birch pulp has an important role in our comprehensive portfolio and product strategy," Mats underlines.

In addition to reducing customers' supply risks today, UPM Pulp is ready for the upcoming rise in total demand. Traditionally, the production capacity of paper, board and tissue has increased significantly – especially in China – every year. The global demand, production and consumption of pulp has grown at a somewhat similar pace. But can pulp manufacturing keep up in the future?

"Our three Finnish mills back up each other in production of UPM Betula. We have ensured the availability of birch pulp at all times. In the past, now and tomorrow." ■



Birch pulp can substitute more expensive raw materials, such as softwood pulp, in many applications. You're still able to reach good strength values and a compact structure.

Mats Backman, Director of Technical Customer Service, UPM Pulp





FIBRE FEATURE

THE SOPHISTICATED ALTERNATIVE

Birch offers several exciting opportunities. But how well do you know this pulp? Pulp Direct asked two very different professionals – hands-on researcher **Hannes Vomhoff** and seasoned tissue paper manufacturer **Alessandro Carrara** – to talk about their experiences with birch pulp.

Consumer demand for higher quality and more diverse products is booming. This also means the level of sophistication in paper, tissue and board making is increasing, especially in growing markets such as China. Instead of producing simple, commodity style products, companies are exploring new means to differentiate. One way is to adjust the choice of raw materials.

Birch pulp has been a continuously supplied grade in Europe, Japan and Korea for decades, but in other markets it's not such a well-known fibre compared to eucalyptus and softwood pulps.

Birch is an advanced and surprisingly adaptable fibre. It's suitable for nearly every end-use – when you know what you're doing.



Birch reaches good strength without the need for excessive, energy intensive mechanical treatment of fibres. ”

Hannes Vomhoff, researcher,
RISE Bioeconomy research institute

GET THE MOST VALUE

Where to use birch pulp most effectively then? To generalise, in applications that require strength.

Birch excels in board and carton products. It enables a compact fibre structure and gives superior printability on the top layer of board. Excellent image reproduction is also one of the main points that makes birch a good choice for graphic papers.

Specialty papers is a challenging end-product segment where every paper has its own distinctive needs. Birch is a great fit for products that require high resistance or permeance properties such as barrier papers and labels.

BEST OF BOTH WORLDS

Although birch and eucalyptus are both hardwoods, they provide completely different characteristics for end-products. Birch fibres are longer than eucalyptus pulp's, yet shorter than in softwood pulp. Birch combines the good qualities of both fibre segments.

This fact makes Hannes Vomhoff from the RISE Bioeconomy research institute in Sweden to call birch pulp an intermediate fibre.

Vomhoff has over 20 years' experience in paper manufacturing research, and has more recently been involved also with stock preparation, fibre treatment and tissue research.

"My goal is to understand the importance of fibre morphology and characteristics on final products," he says.

The easiest way to highlight birch pulp's opportunities is to compare them with other competing fibres in different applications.



In tissue, for example, birch gives good fibre distribution and provides better tear related properties compared to eucalyptus pulp.

"Birch reaches good strength without the need for excessive, energy intensive mechanical treatment of fibres," Vomhoff says.

In printing and writing papers, birch pulp can substitute softwood pulp, thanks to its better formation properties. Fibres are more uniformly distributed in a paper sheet enhancing its printability.

Another important differentiator in graphic papers is the vessel elements typical of hardwood pulps. Bonded into paper structure, vessel elements have a big effect on print quality since they can detach in the printing press or converting. This causes dusting and disturbances. The vessel elements in birch pulp are more efficiently bound into paper than in eucalyptus pulp.

"The suitability of birch pulp depends always on the application and desired properties. There is also a huge difference in how market pulp and never-dried pulp mass from an integrated mill performs in papermaking," Vomhoff explains.

Hannes Vomhoff says that there are many exciting prospects for birch and other wood fibres. At the top of his list are achieving projected functions with less fibres, finding fibre-based alternatives for oil-based products as well as creating sustainable packaging and barrier solutions.

"The key issue is how to select the right fibres and treat them correctly."

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STRONG TRADITIONS AND RELATIONSHIPS

Sometimes you get the best results with birch pulp by combining long traditions, deep fibre knowhow and a personal style to foster business relationships.

Such is the case with Alessandro Carrara, a fourth-generation Italian papermaker. The Carrara family has manufactured tissue for over 130 years.

Alessandro Carrara's companies, Industrie Celtax and others, have an unusual approach to customers and suppliers.

"We have over 2,000 dealers and distributors in 57 countries around the world. Small and large. Our goal is to create a business environment and relationship that is mutually beneficial for even the smallest players in the market," Carrara explains his way of growing together.

Alessandro Carrara companies have used UPM's pulps for over 25 years and were one of the first to take advantage of UPM Betula birch pulp in Italy. The CEO says that optimised use of birch fibre is a key part of their furnish and provides a very stable mix.

"We have a little bit different attitude to refining. We, of course, try to find optimised refining for every product, but we have also created standardised refining profiles. This enables us to provide our customers with flexibility."

Alessandro Carrara companies manufacture tissue products such as kitchen towels and towels. In addition to absorption capabilities, wet strength and especially breaking length are important properties for them.

"With UPM Betula we get a good balance of quality and competitiveness," he says.

Carrara says that working with UPM Pulp has always been close, solution-focused and open. He describes the relationship between the two companies with an analogy:

"When you have a good relationship with your spouse, you don't have to always say 'Yes'. You can disagree and debate things, and still be great together! Same goes with our business." ■

With UPM Betula, we get a good balance of quality and competitiveness.

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Alessandro Carrara, a fourth-generation Italian papermaker



WANT TO KNOW HOW **UPM** BETULA BIRCH PULP WOULD SUIT YOUR PRODUCT?

Contact UPM Pulp's sales and technical customer service, contact information at www.upmpulp.com



BIODIVERSITY

under UPM's protection in Uruguay

The rich flora and fauna in UPM's forestry site Esteros y Algarrobales del Rio Uruguay (Mafalda) makes it a very special area. As the land owner, UPM is actively promoting the protection of wildlife living on the site.

UPM started its forestry operations in Uruguay some 25 years ago. Since then the company has systematically developed methods for maintaining biodiversity in its eucalyptus plantations.

Biological surveys conducted in the 90s revealed the flora and fauna and some ecosystems in Mafalda were quite remarkable. For example, there are approximately 700 species of flora living in the region that represent around 25% of flora found in the whole country. However, the invaluable natural site was previously over-exploited due to agriculture and cattle grazing. This sparked an initiative that is the basis for all UPM's conservation work in Uruguay still today.

In Uruguay plantations are established on degraded grasslands created by historic farming. UPM is mapping and protecting these grasslands. All native forests are protected by law and the species that live within them are conserved. There is no forest clearance as in most tropical and subtropical countries.

UNIQUE CORPORATE INITIATIVE

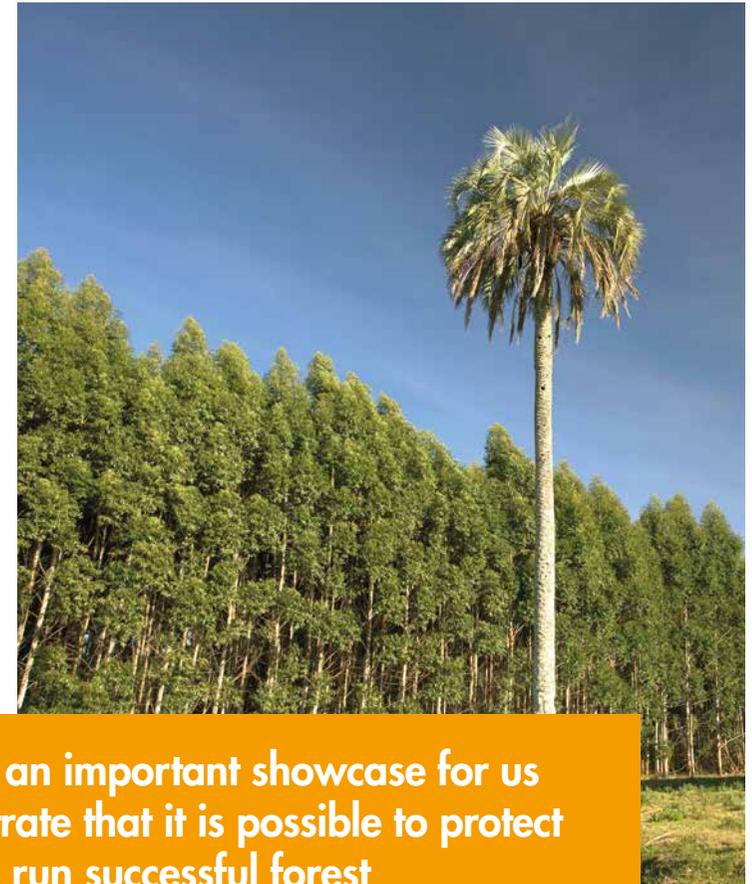
As a large land owner, UPM promotes voluntary nature conservation and protected areas that become part of UPM's biodiversity programme all over the world.

In Mafalda the size of the protected areas has grown steadily during the last 25 years, rising from 1,000 hectares up to 1,550 hectares nowadays.

In order to establish the conservation work officially, UPM presented a proposal to the Environmental Ministry of Uruguay that Mafalda should be included as a part of the national system of protected areas (Sistema Nacional de Áreas Protegidas, SNAP). The agreement was finally concluded in October 2016.

"This was the very first time that a private company has managed a protected area here in Uruguay," says **Ivan Grela**, UPM Forestal Oriental's Head of Environment.

Currently UPM is developing the infrastructure of the site to allow visitors such as locals, students, authorities and



Mafalda is an important showcase for us to demonstrate that it is possible to protect nature and run successful forest operations in the same zone.

Ivan Grela, UPM Forestal Oriental's Head of Environment



experts to research and enjoy the nature of the region. UPM is also promoting a new working culture in Uruguay by collaborating with stakeholders and NGOs to manage the area.

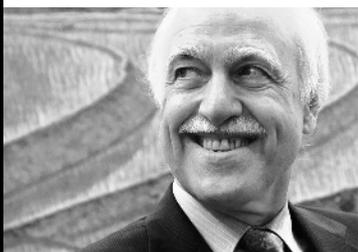
"Mafalda is an important showcase for us to demonstrate that it is possible to protect nature and run successful forest operations in the same zone," Grela explains.

UPM's global biodiversity programme has been created by the company's forest ecologists and sustainable forestry experts together with external experts. The aim is to maintain and increase biodiversity in forests as well as to promote best practice in sustainable forestry and wood sourcing. In total over 120,000 hectares of UPM's forests worldwide have been protected as valuable habitats. ■

GOOD HEALTH IS DIRECTLY RELATED TO GOOD HYGIENE

Roberto Berardi

Honorary Chairman
European Tissue Symposium
europeantissue.com



Hand hygiene is recognised as a very important element in infection control.

The purpose of hand washing is to reduce the number of microbes on hands and to prevent harmful microbes from entering the body via the hands.

Hand washing loosens micro-organisms on the surface of the skin. Rinsing hands with water does not remove these microbes – drying plays a crucial role in microbe removal.

Scientific studies have demonstrated that the use of absorbent single use

towels, like paper hand towels, to dry hands offers the optimal level of both hand and washroom hygiene.

Regarding hand hygiene, warm air and jet air dryers are not as effective in removing microbes from hands as single use towels. The friction generated by rubbing hands against a towel and the high absorption of tissue mean that paper is very effective in reducing microbes on hands. Scientific studies have shown that the use of air dryers can increase the number of micro-organisms on hands after drying, as well as potentially contaminating the washroom environment.

When washroom hygiene is considered, three recent peer reviewed scientific studies have confirmed marked differences in the extent of aerosolization of microbes during drying with different methods: jet air dryers show a higher level of airborne microbe dissemination.

The European Tissue Symposium believes that clean and absorbent single use towels, for example paper hand towels, are the best solution for drying hands, thanks to the excellent moisture absorption of paper towels. ■

WHAT'S UP?

Good progress in Uruguay

The discussions between the Government of Uruguay and UPM are progressing well. Most of the key negotiation points have been agreed concerning the infrastructure development and other local prerequisites for long-term industrial growth in Uruguay.

In 2016 it was concluded that Uruguay could potentially accommodate a new pulp mill, if the country's logistics infrastructure would be rebuilt to support large scale export-oriented operations. ■

UPM enters a global partnership with FSC®

The agreement with FSC is a natural part of UPM's responsibility strategy. It's a logical step to develop and promote standardisation of the industry as well as best forestry practices, transparency and stakeholder engagement.

UPM has been involved in the development of forest certification since the 90s and promotes all responsible forest certification schemes. All UPM forests are either FSC certified, PEFC™ certified, or both, and the company sources wood from FSC and PEFC certified forests.

UPM's target is to increase the portion of certified wood to 100% by 2030. Reaching this target requires both active participation in the development of standards and including forest certification in the range of forest services offered to forest owners.

UPM will offer FSC its know-how of best practices for wood production in plantations and northern forests. The company also has extensive experience of group certification in several countries. In Finland UPM has been implementing FSC certification since 2011.



FSC's global strategy provides an opportunity to develop and test new ways of implementing certification in a more cost-effective way and increase credibility in the eyes of stakeholders. ■

NICE TO MEET YOU

SAFETY DIRECTOR of UPM Pulp

Who are you and what do you do at UPM Pulp?

"My name is Gerardo Galimberti and I was appointed in April as the Safety Director of UPM Pulp. Previously I was the Safety Manager of UPM's Uruguay operations including forestry and the Fray Bentos pulp mill."

What have you been doing since your appointment?

"I have spent time in each of our Finnish pulp mills getting to know the people and learning their ways of working. My priority was to identify the best practices and potential safety issues that should be resolved."

What should UPM Pulp's customers know about safety at UPM?

"Safety comes first. It translates directly to quality. An employee who feels safe in his or her workplace will produce better products and services."



What would you like your customers to know about yourself?

"I'm always searching for things to improve. I'm hungry for new challenges."

What is your motto?

"Never lose the ability to enjoy the things you do at work and in life in general!" ■



NEW UPM PULP SALES MANAGER FOR APAC

William Wu has been appointed Sales Manager for UPM Pulp's sales team for Apac in Shanghai as of 3 July 2017.

P.S.

Dear Reader,

There is a lot of wisdom in old sayings, like the one which says that you see more with four than just two eyes. This is very true in business, where cooperation is a great driver of development. It has always been a central part of UPM's way of doing business – with customers and other parties throughout the value chain.

The global partnership agreement signed between UPM and FSC in May is another example of our long-term commitment to the development of the standardisation of the industry and to promote best and responsible forestry practices. Successful certification benefits all parties and stakeholders, both working closely with the forest and in the supply chain. UPM's target is also to increase the use of certified wood so that 100% of the wood we use will be certified by 2030.

The power of cooperation is somehow present in all the stories in this newsletter and thinking about the projects we are currently working on, there will be many more stories to share on this topic. Let's continue an active dialogue on any opportunity and see what we can achieve together.

Best regards,
Lajos



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