

# Pelletin

From nature to your  
animal feed

sappi

# From nature to your animal feed

Sustainability and the circular economy drives Sappi to offer solutions from trees. At Sappi Biotech, we meet this challenge by offering customers a diverse range of bio-based functionalities from our cellulose fibrils, lignin products, hemicellulose and biocomposite materials. In doing so, we extract more value from the tree.



*Lignin is the natural binder found in trees;  
it gives wood its rigidity and stiffness.*



# The power of cellulose. Enhanced by Sappi.

Sappi is a global diversified woodfibre group, focused on dissolving pulp, paper-based solutions and high quality functional biomaterials.

Manufacturing operations can be found on 3 continents with sales in over 150 countries. We are using our global leadership position and significant investment in Research and Development in coated graphics papers, speciality packaging grades, dissolving pulp and biorefinery processes, to respond to the growing global demand for high quality functional biomaterials.

## CELLULOSE IS THE SOURCE OF OUR INSPIRATION

As we focus on creating value for our shareholders from relevant, sustainable woodfibre products, we take cognisance of our impact on the planet and our stakeholders to ensure that all benefit in the long term. Our commitment to sustainability is based on being a trusted, transparent and innovative partner in building a bio-based circular economy. Sustainability is entrenched in the way we manage our daily business activities, mitigate risk, leverage opportunities and plan for the future. We hold ourselves accountable for global sustainability and best practice standards by transparently measuring, monitoring and communicating our economic, social and environmental performance. We further use innovative technology to contribute to a thriving world through reliable and relevant solutions by extracting more value from each tree.



# Sustainability and collaboration

At Sappi, we believe building a thriving, sustainable world is a moral and business imperative, affecting each and every decision we make.

We are known for our challenge-driven innovation in natural solutions and are continuously looking for strategic partnerships in the quest for a sustainable future.

Minimise energy  
consumption.



Maximise  
bio-based circular  
economy.



Adherence to the  
highest quality  
standards.



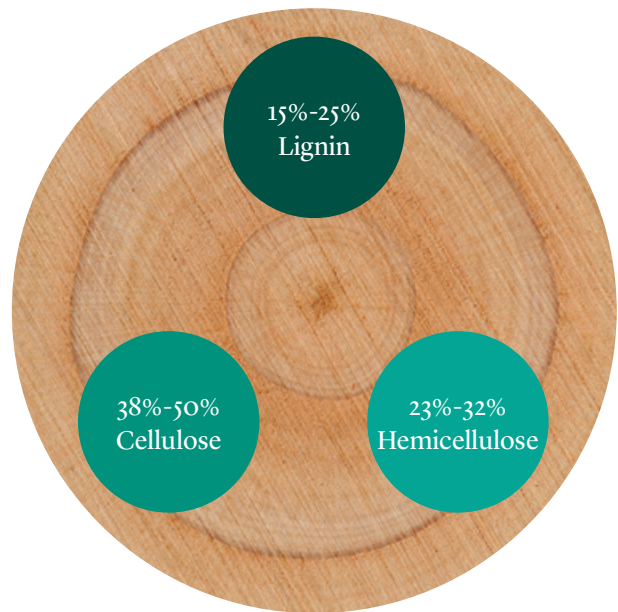
Natural,  
biodegradable.



## WHAT IS PELLETIN?

Lignin is the natural binder found in trees; it gives wood its rigidity and stiffness.

The complex molecule protects against disease. Pelletin is a technical lignin that primarily functions as a binder in the production of compound animal feeds. It is a natural wood-based product which Sappi produces from its renewable resource.



## HOW DOES PELLETIN WORK?

Pelletin offers multiple functionality to the benefit of the manufacturer, the animal and ultimately the consumer. Pelletin is a natural glue that binds all the feed ingredients and additives together to produce cost-effective compound feed pellets with enhanced durability and strength. The combined anti-caking and dispersing properties promote mixing uniformity and homogenous blending of all feed ingredients.

Pelletin acts as an effective lubricant where reduced friction in the pelleting process ensures increased production throughput, as well as reduced wear and tear on the manufacturing equipment.

# What are the benefits of using Pelletin?

The value proposition of feed binders offers benefits to the feed manufacturers, farmers and ultimately the consumers. Improved pellet quality and durability, reduced fines and ambient dust, improve the health and safety for humans. It has been shown that elevated dust levels correlate to increased microbial contamination.

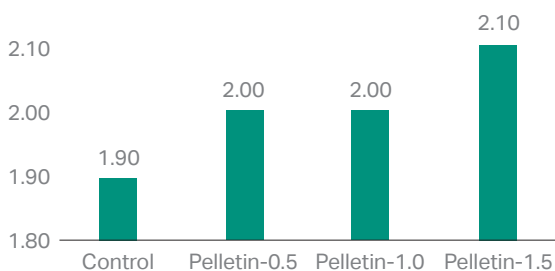
The benefits for feed manufacturers include an increase in manufacturing productivity, where the binding properties at reduced production temperatures and energy savings related to the reduced friction in the pelleting equipment result in increased production rates and reduced costs. Furthermore, reduced friction leads to reduced maintenance costs and increased equipment availability.



## PELLET QUALITY

- Better pellet durability and hardness
- Less fines and wastage
- Less segregation in silos
- Less customer complaints
- Higher moisture retention with low water activity
- Better pellet appearance

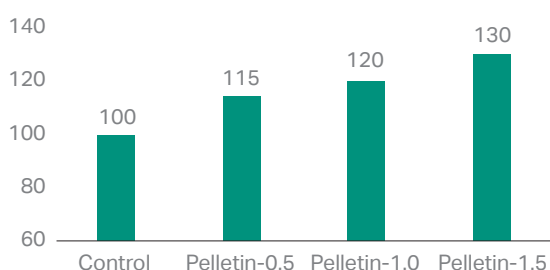
### \*\*Hardness of pellets - KgF



## MANUFACTURING PRODUCTIVITY AND SAVINGS

- Increased production throughput - T/hr
- Reduced energy consumption (lubricating effect) kWh/T
- Less wear and maintenance on the die and rollers (lubricating effect)
- Less blockages and machine downtime
- Improved binding at lower conditioning temperatures

### \*\*Production Rate measured as throughput – kg per hour











## HEALTH AND HYGIENE

- Less respiratory health issues for humans and animals due to reduced ambient dust levels
- Cleaner work environment with reduced prevalence of bacterial and fungal contamination

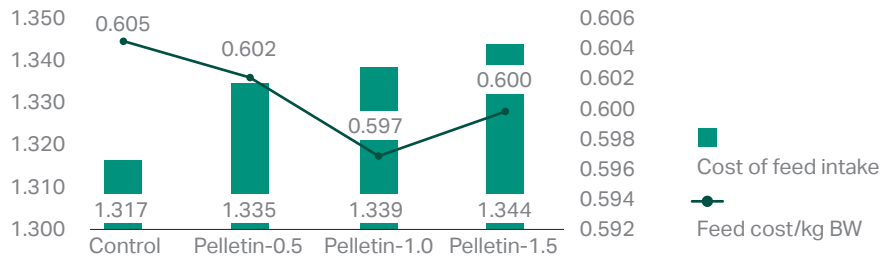
### \*\*Percentage of fines in finished feed post bagging



## CONSUMER PRODUCTIVITY AND SAVINGS

- Improved Feed Conversion Ratio (FCR) and productivity index
- Reduced waste and inventory cost
- Improved feed cost per body weight ratio

### \*\*Cost of feed intake per kg body weight at 35 days



\*\*Based on the Agrivet poultry evaluation study on the effects of Pelletin - Dosage rate: 0.0, 0.5, 1.0, 1.5 g/kg dry feed.





# How should Pelletin be applied?

Pelletin is added to the dry feed ingredients during the mixing process at a dosage rate of between 0.1-2.5% (1-25g/kg) on a dry mass basis. Where the equipment provides for oil applicators, Pelletin can be applied in liquid form.



## PELLETIN PACKAGING

Sappi Pelletin is a dry powder product available in 25kg and 600kg units.

## OUR CERTIFICATIONS INCLUDE

ISO 9001:2015, ISO 14001:2015, ISO 50001:2011, ISO 45001:2015

Product registration No. V31823 – Department: Agriculture, Forestry & Fisheries; Republic of South Africa



## Working together for sustainable impact

We believe the best ideas and innovations spring from diverse partnerships, so we invite you to help us accelerate meaningful change. We are committed to investing resources to develop applications which progress the commercial realisation of the unique benefits that Lignin has to offer.

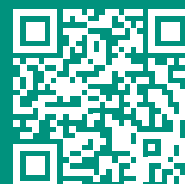
### CONTACT DETAILS TO REQUEST A SAMPLE

Sappi Biotech

*[sappi.com/lignin](https://sappi.com/lignin)*

*[lignin@sappi.com](mailto:lignin@sappi.com)*





*For further product details please scan the QR code.*

# Sappi unlocks the power of trees to make every day more sustainable

Sappi is a leading global provider of powerful everyday materials made from woodfibre-based renewable resources. As a diversified, innovative and trusted leader focused on sustainable processes and products, we are building a more circular economy by making what we should, not just what we can.

Our raw material offerings (such as dissolving pulp, wood pulp and biomaterials) and end-use products (packaging and speciality papers, graphic papers, casting and release papers, lignin products and forestry products) are manufactured from sustainably-sourced production facilities powered with bio-energy. Together with our partners, Sappi will continue to build a thriving world by acting boldly in support of the planet, people and prosperity.