

# Sustainable Solutions From Crop Residues



**Agringenium: Residue Redefined**

**Agringenium Innovations: Seed Coating  
Technology & Sustainable Solutions From  
Crop Residues**



## ABOUT US

**At Agringenium Innovations, we replace petroleum-based materials with 100% biodegradable, chemical-free products engineered from upcycled crop residues and agricultural byproducts. Our patented, low-impact process avoids pulping or bleaching, ensuring maximum resource utilization with zero waste generation. By valorizing agricultural waste, we eliminate the need for burning or burying, directly safeguarding human health and the environment. Choosing Agringenium means investing in purposeful innovation and a resilient, sustainable future for generations to come.**

## 1. Agriculture & Horticulture

**The Challenge:** Traditional agricultural packaging made of plastic and aluminum is frequently discarded in fields, leading to long-term soil and environmental pollution.

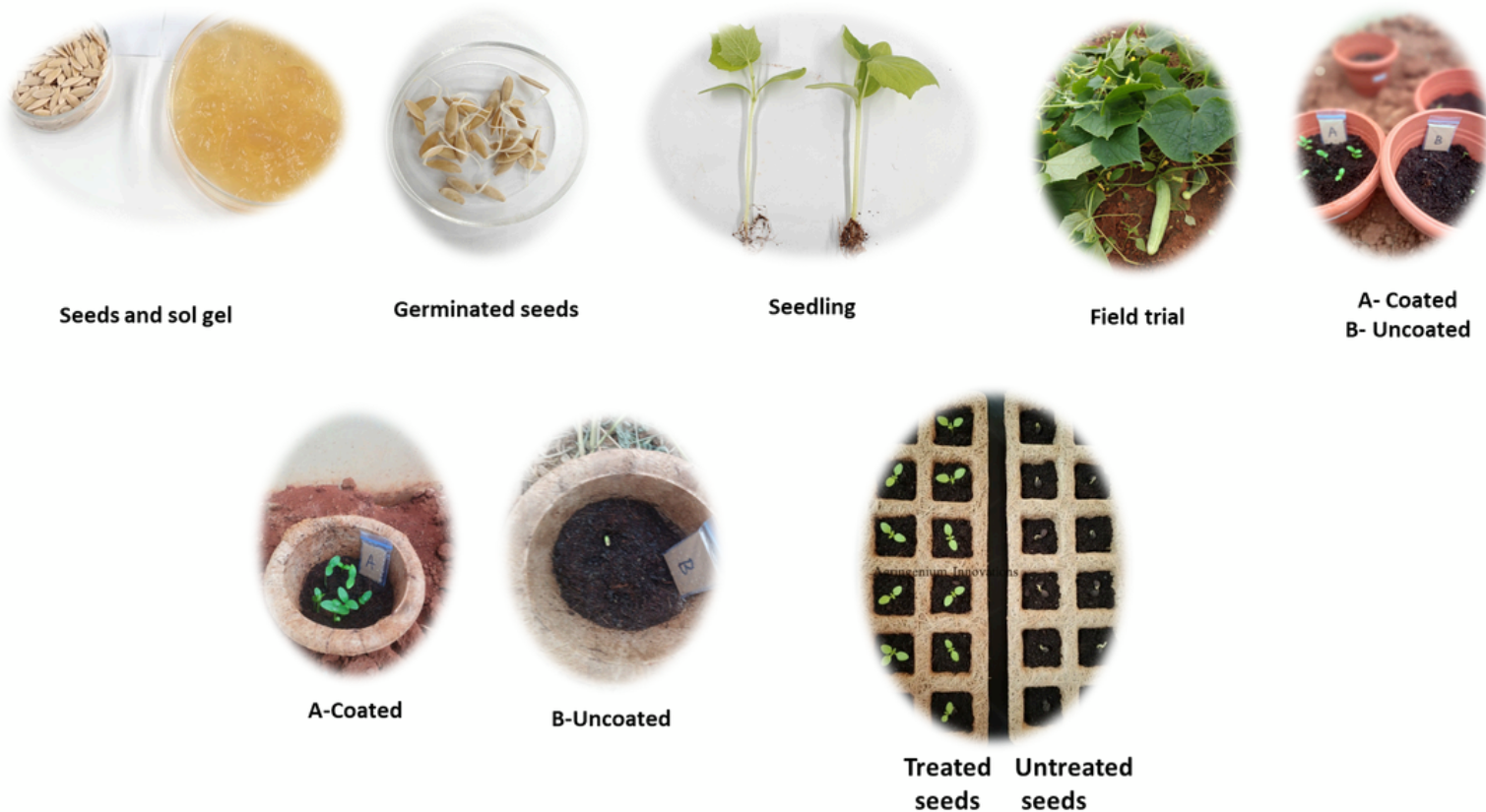
**The Solution:** Our 100% biodegradable sapling trays, pots, and mulching sheets are crafted from crop residues like coir and bagasse, allowing for direct planting that eliminates transplant stress while naturally enriching the soil.



Product Description	Bulk Price (Est.)	MOQ
Plant-direct, zero-waste pots.	₹80 – ₹125 / unit	10 units
Multi eco-fiber trays.	₹25 – ₹40 / unit ( 12 cells per unit)	10 pieces

**The Problem:** Low seed germination rates and storage-related damage significantly drive up farming costs and reduce overall crop profitability.

**Our Technology:** Our patented protein-based seed coating creates a "breathable" microbial shield that drastically enhances germination rates and sapling vigor compared to uncoated seeds.



## Sol-Gel Coating Enhances Seed Performance

Product Description	Bulk Price (Est.)	MOQ
Bio-treatment for germination.	₹150 – ₹300 / lt	1L

## 2. Home & Lifestyle: Sustainable Living

**The Challenge:** Most plastic products used in daily life eventually end up in landfills, creating a significant and lasting burden on our global environment.

**The Solution:** Our lifestyle products, including hangers and perfumed hang-ups, are crafted from 100% chemical-free, renewable crop residues like sugarcane bagasse and coir.

**The Impact:** These sustainable alternatives are completely biodegradable and can be safely disposed of as nutrient-rich animal feed or natural fertilizer.



Product Description	Bulk Price (Est.)	MOQ
Durable, non-plastic hangers.	₹50– ₹90 / unit	100 pieces
Chemical free, biodegradable toys, puzzles, gaming systems.	As per customers' needs	50 Pieces

### 3. Food & Packaging: Fresh & Conscious

**The Problem:** The rising demand for processed foods has led to a massive surge in non-biodegradable, synthetic polymer packaging that clogs municipal landfills.

**The Fact:** India produces over 9 million tons of plastic waste annually, with a staggering 68% remaining unaccounted for and polluting our land and water bodies.

**Our Solution:** We transform raw crop residues into chemical-free, 100% biodegradable packaging that preserves the natural properties of the fiber and safely returns to the earth as animal feed.

**Versatility:** We offer fully customizable, multi-use packaging solutions in various shapes and sizes to meet both food and non-food commercial requirements.



Product Description	Bulk Price (Est.)	MOQ
Rigid, luxury sustainable boxes.	₹65 – ₹400 / unit (Varies Based on size, shape & design)	50 pieces
Sweet box, Reusable	₹30 – ₹75/ unit	50 Pieces
Alcohol/ Perfume Packaging Boxes, Rigid	₹250 – ₹ 1000 / unit	50 Pieces

**Potential Customers**

Luxury Retail	Hospitality	Tech & Lifestyle
Jewelry & Watches	Hotel Welcome Gifts	Mobile Device Boxes
Silk Sarees & Apparel	Airline (Customized gifts)	Perfume & Cosmetics
Premium Footwear	Dry Fruit Platters	Liquor & Spirits

**AGRINGENIUM INNOVATIONS: DIVERSE BIODEGRADABLE PRODUCTS**



## 4. Construction & Interiors

### **Biotile™:** The Future of False Ceilings

From Field to Finish We transform agricultural waste into premium architectural panels. Where traditional materials fail, Biotile™ thrives—giving "hidden gold" a permanent home in modern design.

**The Edge:** Performance Beyond Gypsum \* Waterproof & Stain-Free: Unlike gypsum, our tiles never sag or discolor from moisture.

**Climate & Acoustic Control:** Inherent thermal insulation and sound dampening for a superior indoor experience.

**Ultra-Lightweight:** Engineered for rapid installation and reduced structural load.



Product Description	Bulk Price (Est.)	MOQ
Acoustic, lightweight eco-panels.	₹50– ₹75 / sq. ft	100 sq. ft

<i>Property, Unit</i>	<i>Sugarcane bagasse</i>	<i>Groundnut</i>	<i>Gypsum Board</i>
<b>Density Kg/m<sup>3</sup>*</b>	770	620	750
<b>Tensile Strength, MPa</b>	17.5±1.7	9.86± 0.9	5.4±0.5
<b>Flexural Strength, MPa</b>	11.5 ±0.8	26.03±1.2	9±0.7
<b>Flame resistance UL-94 Rating</b>	V-1/V-0*	V-2/V-0*	V-0
<b>Sound Absorption Coefficient</b>	0.2-0.7	0.1-0.4	0.4-0.6
<b>Thermal Conductivity, W/mK</b>	0.154±0.06	0.270±0.02	0.057±0.02
<b>Water absorption, %</b>	14.64	20.12	58.6



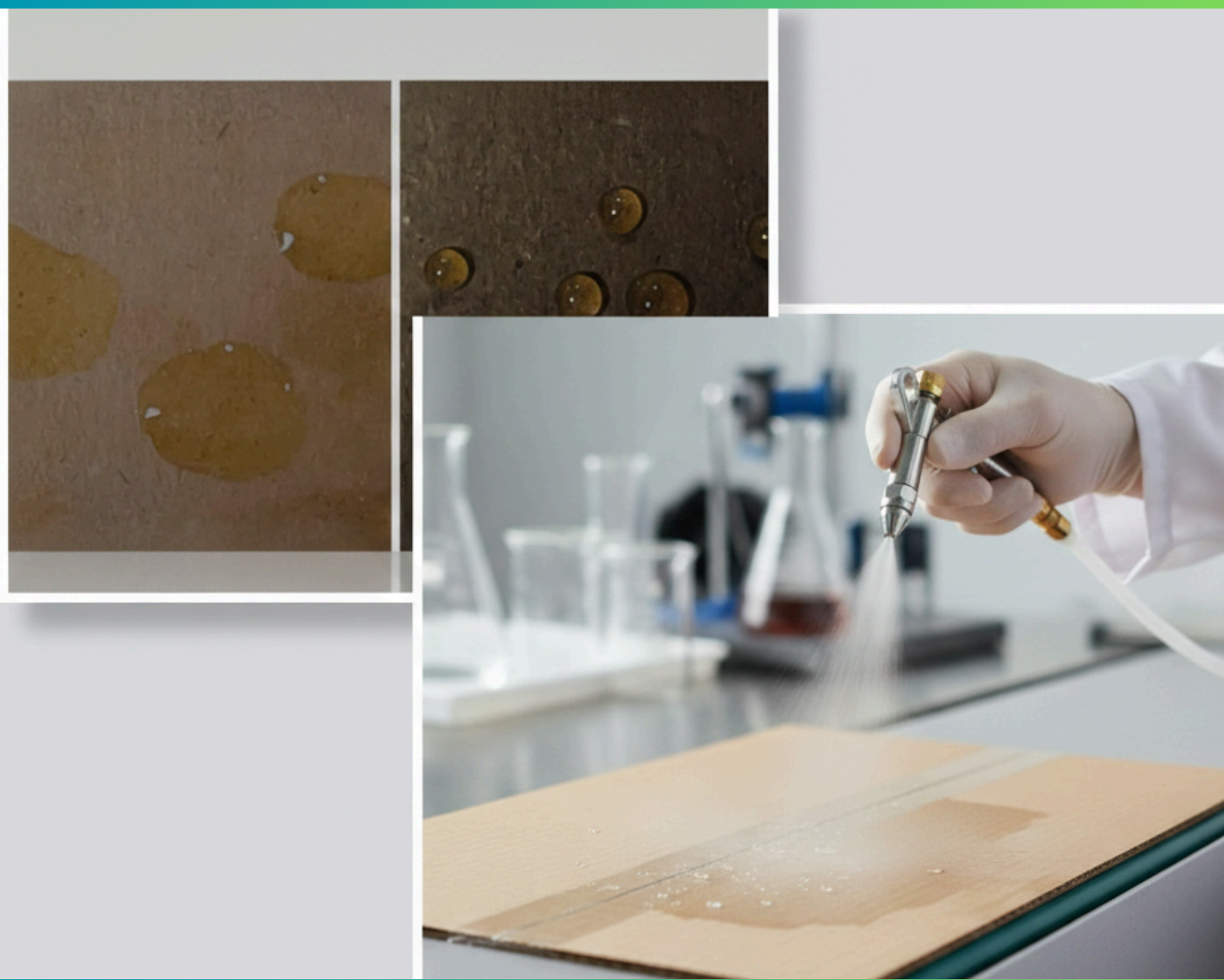
## 5. Hydrophobic Coatings

**Superior Hydrophobicity:** High-performance water resistance that prevents moisture damage without changing the product's natural feel.

**Active Preservation:** Inherent antimicrobial properties paired with optimized oxygen and vapor transmission to extend food shelf life.

**Weather-Proof Packaging:** Easily applied to paper and carton boxes, making them completely impervious to humidity and external moisture.

**Cost-Effective Sustainability:** A high-availability, natural polymer alternative that outperforms expensive synthetic or pulp-based coatings.



Industry Application	Benefit
Packaging Paper & Cardboard	Prevents sogginess and oil penetration.
Wood Outdoor Furniture/Decks	Prevents rot and UV damage without toxic chemicals.
Construction Concrete & Masonry	Reduces water absorption and efflorescence.
Agriculture Tools & Silos	Prevents rust and fungal growth from moisture.
Consumer Apparel & Gear	Breathable, long-lasting water repellency.

Application Industry Focus	Bulk Price (Est.)	Sample Qty
Surface Coating Wood, Construction, Agriculture	₹2,800 – ₹5,500 / L	250ml
Packaging Paper & Cardboard barrier	₹1,500 – ₹3,200 / L	250ml

## Contact & Corporate Information

**Corporate Office:** Agringenium Innovations, Bangalore, India.

**Research Partnership:** Developed in collaboration with the Centre for Incubation, Research and Consultancy (CIIRC).

**Academic Affiliation:** Proudly affiliated with the Jyothy Institute of Technology (JIT).

**Strategic Vision:** Targeting global sustainability standards for the 2026 European Biopolymer Market.

### Get in Touch

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