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Transforming post-harvest protection: ClearLeafâ??s GotaBlanca Post redefines future of zero-residue crop innovation

01 September 2025 | News

In an exclusive AgroSpectrum interview, Lawrence Pratt, President of ClearLeaf (Costa Rica), unveils how the companyâ??s GotaBlanca Post platform is revolutionizing post-harvest crop protection with zero-detectable residues. Using a proprietary copolymer matrix that embeds elemental silver, the technology destroys pathogens through multiple mechanisms while keeping silver levels at natural background thresholds. Pratt highlights that in pineapples and bananasâ??two of the worldâ??s largest tropical export cropsâ??the product delivers fungicide-level efficacy without worker safety risks or environmental trade-offs. With EU bans tightening and consumers demanding residue-free produce, he sees the non-toxic post-harvest protection market growing exponentially over the next five years. Regulatory trials have already shown ClearLeafâ??s formulations beat the strictest MRL limits, opening premium export markets to producers. Looking ahead, Pratt envisions GotaBlanca Post as a game-changer for global fresh produce trade, cutting waste, extending shelf life, and reshaping economics across long-distance supply chains.

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Transformative Innovation

GotaBlanca Post extends a field-proven crop protection platform into post-harvest applications. Can you explain the science behind its ability to deliver uncompromised pathogen control while leaving zero detectable residues?

The science lies in our innovative copolymer matrix design. GotaBlanca Post uses elemental silver embedded within a proprietary surface copolymer system that creates a protective microfilm on produce. The elemental silver of our formulation kills pathogens through multiple simultaneous mechanisms â?? shattering cell walls, disrupting nutrient uptake, damaging DNA, and causing oxidative stress. This multi-point mode of action is incredibly effective yet uses truly tiny amounts of silver. Our trials with Eurofins laboratory consistently show residues below detectable limits because the silver remains at naturally occurring background levels. The copolymer matrix keeps the active ingredient exactly where it needs to be â?? on the surface fighting pathogens â?? without interfering with natural processes or entering the food matrix.

In comparison to conventional synthetic fungicides, how does GotaBlanca Post redefine the balance between efficacy, safety, and environmental stewardship?

Weâ??ve essentially solved the traditional trade-off between effectiveness and safety. In our trials, GotaBlanca Post matched or exceeded the performance of conventional fungicides like fludioxonil against major pathogens, with 95 per cent of treated pineapples showing no mold after 21 days of simulated transoceanic transit. But hereâ??s whatâ??s revolutionary â?? workers can handle treated produce without protective equipment, thereâ??s zero environmental impact, and the product supports regenerative agriculture by promoting soil microbiome balance. This is a great complement to our field-use products which, unlike synthetics that require the plant to expend energy processing toxic chemicals, protects without the plant even â??knowingâ?• itâ??s there, eliminating metabolic stress entirely.

Market Strategy and Global Positioning

Among tropical fruits like bananas, pineapples, and papayas, which categories are expected to drive early adoption, and what commercial factors influence this trajectory?

Pineapples and bananas are our core opportunity markets, and for compelling commercial reasons. Pineapples face particularly severe pathogen pressure during the 21+ day transoceanic journeys, and Costa Rica exports more than 2 million tonnes of pineapples annually â?? mostly to Europe and North America where residue standards are strictest. Weâ??re already shipping one container weekly with a major Costa Rican exporter, and weâ??re in discussions with Southeast Asian exporters moving 10,000 to 40,000 containers annually. Bananas follow close behind due to their massive export volumes and susceptibility to anthracnose. The commercial drivers are clear: longer shelf life, access to premium markets demanding residue-free produce, and elimination of worker safety concerns that plague conventional treatments.

Looking ahead, how do you anticipate the global market for non-toxic, post-harvest crop protection evolving over the next five years, and what role will ClearLeaf play in shaping this transformation?

Weâ??re witnessing a perfect storm driving this transformation. The EU continues banning conventional fungicides â?? mancozeb being the latest â?? while consumer demand for residue-free produce accelerates. Major retailers are already recommending our technology to their suppliers based on trial results. We expect the non-toxic post-harvest market to grow exponentially as exporters realize they canâ??t afford the regulatory and market access risks of conventional treatments. ClearLeaf is positioned to lead this shift because weâ??re one of the only companies offering broad-spectrum, non-toxic efficacy that actually works at scale. Our technology platform can be deployed across dozens of crops and geographies â?? something that biological solutions simply canâ??t match due to their pathogen-specific limitations.

Sustainability, Regulation, and Consumer Confidence

Could you share insights from the regulatory registration process in Costa Rica, and your roadmap for securing approvals in major export markets globally?

Costa Rica proved our regulatory pathway works. We successfully obtained registration for our pre harvest (in-field) formulation in 2021, followed by Nicaragua, Honduras, and Panama. The key insight is that elemental silver has a massive safety database â?? itâ??s one of the most studied substances on earth. For post-harvest applications, the critical hurdle is meeting Maximum Residue Level requirements in export destinations. Since thereâ??s no specific MRL for silver, the default limit of 0.01 mg/kg applies, which we consistently beat by wide margins. Our trials with European CROs using ISO standard protocols show residues below detectable limits. Weâ??re now targeting Australia, Colombia, Vietnam, and expanding into major export markets where our zero-residue profile eliminates traditional regulatory barriers.

How does a zero-residue profile influence brand differentiation, consumer trust, and compliance in an increasingly trade-sensitive and health-conscious marketplace?

Zero residues are increasingly non-negotiable for premium markets. Major retailers are demanding residue-free produce, and consumers increasingly view any detectable residues as unacceptable. Our technology transforms compliance from a cost center into a competitive advantage. Exporters using GotaBlanca Post can access the highest-value market segments, command premium prices, and never worry about shipments being rejected at borders due to residue violations. Weâ??re seeing this play out with our commercial partners who report that zero-residue certification opens doors that were previously closed to conventional treatments. Itâ??s not just about meeting standards anymore â?? itâ??s about exceeding them so dramatically that it becomes a marketing asset.

Strategic Vision and Future Horizons

Are there upcoming innovations within the GotaBlanca platformâ??such as next-generation formulations, delivery systems, or integration with precision agricultureâ??that could redefine post-harvest protection?

Absolutely. Weâ??re developing enhanced formulations optimized for specific transit conditions and crop requirements. The beauty of our platform is its modularity â?? we can adjust the copolymer matrix and delivery mechanisms while maintaining the core silver technology. The most exciting development is our work on extending the platform to new application methods, including integration with existing packing line equipment to make adoption seamless for large-scale operations.

From a global supply chain perspective, how do you envision GotaBlanca Post reshaping economics, quality preservation, and food safety across long-duration shipping and export cycles?

This technology fundamentally changes the economics of global fresh produce trade. Currently, exporters lose 20-40 per cent of their product to post-harvest losses, which forces them to overproduce and accept lower prices. GotaBlanca Post enables exporters to ship with confidence, reduce insurance costs, access longer-distance markets, and capture premium pricing for residue-free produce. Weâ??re essentially expanding the geographic reach of fresh produce exports by extending viable shipping windows while ensuring products arrive in premium condition. This creates cascading benefits throughout the supply chain â?? reduced food waste, more efficient global distribution, and democratized access to premium export markets for producers who previously couldnâ??t meet strict residue requirements.

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