



Science & Technology: Cultivating
*a Sustainable Future for Agriculture
and Food Security*

taurus
ENVIRONMENTAL

“We are convinced that bringing together the scientific community, food producers, and the entire farming sector is essential for identifying and cultivating regional strengths in Agritech and agricultural production. Integrating energy alternatives is key to this collaborative effort.”

Affordable Sustainability in Arid Environments

Taurus Environmental Consulting LLC is an Abu Dhabi-based agricultural and environmental consultancy dedicated to turning sustainability into measurable success. We design science-based, cost-efficient Aggrotech solutions that optimize resources and make farming viable even in the harshest desert conditions.

Founded on the principle that innovation should serve both profit and the planet, Taurus works at the crossroads of **agriculture, water, and renewable energy**. We help clients produce more with less-less water, less waste, and less environmental impact.

Our work is driven by collaboration. We partner with leading research institutions and specialized technology firms across Europe, Asia, and Latin America, combining global know-how with local understanding to deliver tailored, practical solutions.

At our **KEZAD Ag Park project in Al Ain**, we’re building an integrated hub that brings together solar energy, atmospheric water generation, and biotechnology to test, refine, and scale the future of sustainable farming.

We believe in empowering progress through partnership, bridging the gap between scientists, farmers, and policymakers to cultivate a thriving regional ecosystem for Aggrotech innovation.



Vision & Implementation: Leading Regional Food System Transformation

Taurus aims to lead the transformation of GCC agriculture, ensuring it is both **sustainable and highly profitable**. Operating from the UAE, we utilize a synergy of science, technology, and robust collaboration.

Our approach centre on developing and deploying the **most efficient and affordable Agrotech solutions**, accelerating regional food and water security. This focus on cost-effectiveness ensures viability and widespread technology adoption.

Our commitment to capacity building is anchored at the **KEZAD Ag Park hub**, a regional reference point. This cutting-edge facility features fifth-generation greenhouses, smart sensors, solar systems, and advanced biotechnology.

Taurus strategically collaborates with key partners—including **Mayee Water, Aerobic Technologies, MAFA bio-science**, and **Inveurope** – to integrate energy, water, smart systems, and agriculture. This approach effectively closes the resource loop, securing the region’s sustainable future.



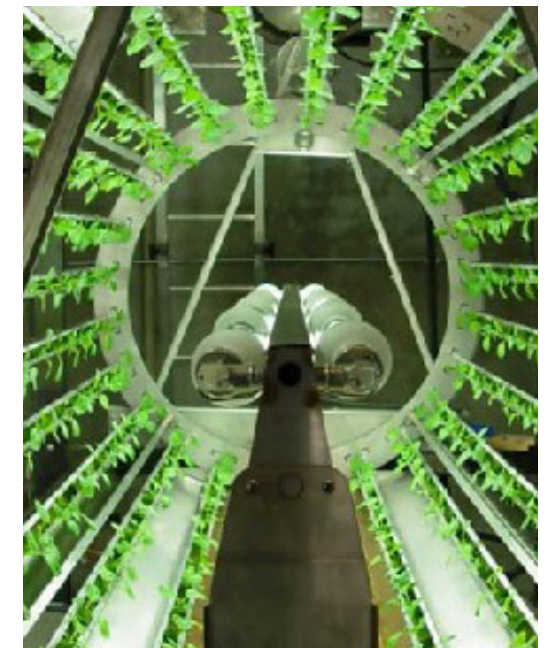


Regional Context: Driving Sustainable Transformation

The Gulf economies, currently fuelled by a substantial energy market, are undergoing a rapid and strategic diversification toward **knowledge-based and sustainable industries**. The United Arab Emirates (UAE) is at the forefront of this transformation, championing innovation in food security, renewable energy, and advanced environmental management. This shift is deeply supported by the ***Mother Nation 50-50 initiative***, which prioritizes innovation and future-readiness across all sectors as the UAE enters its next half-century.

The UAE treats its inherent resource challenges—arid climate and limited water—as catalysts. It has become a **global testing ground** for Agrotech, guided by ambitious national strategies. Key policies include the evolving ***Plant Emirates Program*** to expand local production via CEA, the ***Water Security Strategy 2036*** for resilience, and the ***National Food Security Strategy 2051***, which targets a **50% increase in domestic food production** using smart, efficient practices.

These initiatives affirm the UAE's deep commitment to science-driven progress and its role as a leader in sustainable Agrotech adoption.



Sustainability is Identity: Why the UAE Matters

Vertical farming and controlled-environment agriculture are ideal for the UAE's unique geography. The country's high urbanization rate, growing demand for premium produce, and global F&B leadership make it a perfect environment for innovative, water-efficient farming.

Sustainability is more than a policy goal here — it's a national identity. From clean energy and education to healthcare and biodiversity, the UAE's commitment to inclusive, responsible growth underpins everything Taurus stands for.

In this ecosystem, **Taurus acts as both advisor and innovator**, helping clients bridge vision with implementation and bringing scientific farming to life across the region.

CEA in the UAE: Drivers for Controlled Environment Agriculture (CEA)

Controlled Environment Agriculture (CEA) provides critical advantages over conventional farming in the Gulf, directly addressing the UAE's core resource constraints: **arid climate and limited freshwater**. CEA systems, including vertical farming and advanced greenhouses, deliver significant water savings and consistent, high-quality, **freshly grown local crops**, regardless of external conditions.

Demand for CEA is also driven by socio-economic factors. The UAE's rapidly growing, wealthy, and global urban population requires a stable, diverse food supply. Its status as a thriving **food and beverage hub** necessitates local sourcing to meet consumer needs.

Crucially, CEA adoption aligns with the UAE's national strategic imperatives. It is essential for achieving sustainable development goals, enhancing **resource efficiency**, and securing food and **water security**. By utilizing CEA, the UAE is fulfilling its commitment to a sustainable and resilient future with adequate, affordable food access for all.

We provide expert training in farming operations and management, as well as hands-on operational support.





Our Services: Translating Vision into Sustainable Action

At Taurus, we transform strategic vision into actionable, measurable results. As a leading Agrotech and environmental consultancy, we guide businesses, investors, and government entities across the GCC toward a resilient and sustainable agricultural model.

Our approach combines deep technical expertise with practical, on-the-ground insight to overcome production barriers, strengthen food security, and minimize environmental impact. We provide end-to-end advisory, design, implementation, and market assistance focused on:

- **Controlled Environment Agriculture (CEA) Design:** Designing fifth-generation greenhouse and vertical farm systems that ensure consistent quality and maximum yield, even in harsh climates.
- **Smart Farming & IoT Solutions:** Integrating real-time data analytics, IoT sensors, and automation for precise, resource-efficient management and predictive growing.
- **Water Resource Management:** Utilizing advanced atmospheric water generation, sustainable irrigation techniques, and optimized desalination integration to secure a reliable water supply.

- **Renewable Energy Integration:** Embedding solar and hybrid energy systems directly into agricultural operations to significantly reduce operational costs and carbon emissions.
- **Advanced Agronomy & Crop Yield Optimization:** Applying precision farming techniques and advanced agronomy to increase productivity, crop resilience, and nutritional value.
- **Sustainability Compliance & Waste Management:** Assisting clients in meeting environmental standards and transforming agricultural waste into valuable resources.
- **Product Market Entry & Logistics Advisory:** Providing strategic assistance for marketing and distributing high-value agricultural products, optimizing cold-chain logistics, and securing market access for locally grown produce.

We believe progress must be measurable. Every Taurus project is guided by clear Key Performance Indicators (KPIs) for productivity, water savings, and carbon reduction—**turning sustainability from an aspiration into verifiable performance.**



Innovation in Practice: The *KEZAD Ag Park Hub*

Our operational hub at the *Al Ain KEZAD Ag Park* is designed to be a living laboratory for the future of agriculture. Here, Taurus effectively demonstrates the synergy between **renewable energy, smart systems, Atmospheric Water Generation (AWG), biotechnology, and Controlled Environment Agriculture (CEA) systems.**

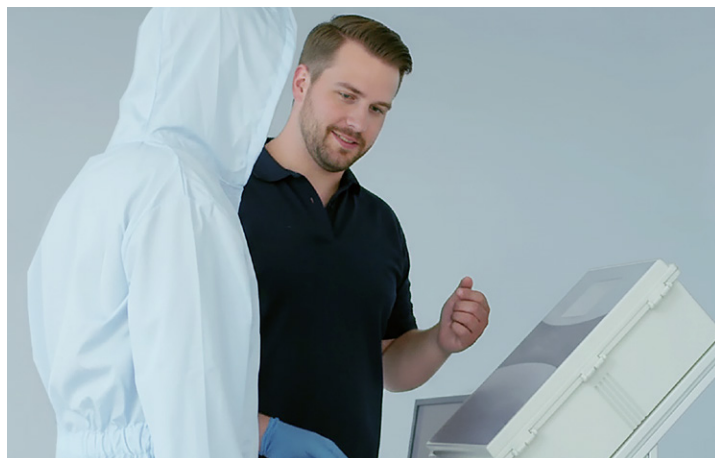
The site integrates smart sensors, atmospheric water generators, solar arrays, and advanced biotech to grow high-quality organic produce using only a fraction of the resources required by conventional farming.



Through our sister company, **Aerobic Technologies**, we have introduced aerobic biogasifiers that convert organic food waste into **irrigation-ready greywater** for landscaping and a precursor fertilizer. The input and output of this process are monitored in real time. This innovation effectively **closes the loop between food production, waste management, and water recovery**—creating a circular ecosystem that benefits the environment and local communities alike. These solutions offer a clean, efficient, and sustainable approach to waste reduction and environmental compliance, transforming waste into a valuable resource for agricultural irrigation.



Taurus has joined forces with **Mayee** to redefine how the region experiences high-demand water access. By integrating Mayee’s advanced atmospheric water systems, we provide **a localized, environmentally conscious solution that delivers unlimited, high-purity water straight from the air.** This clean source is ideal not only for sustainable agricultural irrigation but also for critical industrial applications like cooling systems, boiler feed, cleaning processes, and other high-volume water consumption, where purity reduces scaling and maintenance. It’s innovation with purpose—a partnership built for future water resilience across all sectors.



By uniting knowledge and practice, we ensure that innovation successfully reaches the field – **where it matters most.**

Research & Development: Knowledge Transfer & Collaboration

True transformation depends on **education and shared expertise.** Taurus continuously invests in research and development, farmer training, and policy advocacy to build regional capacity and ensure long-term resilience.

We work closely with universities, research institutions, and policy-makers to:

- **Develop and test new food-production** methods tailored specifically to arid climates.
- **Equip farmers and stakeholders** with sustainable, modern practices.
- **Support governments** in shaping effective regulations that foster food and water security.
- **Collaborate with private-sector** innovators to design customized, scalable solutions.





The Taurus Principle: Comprehensive Greenhouse & Vertical Farming Solutions

Taurus partners with global leaders in controlled-environment technology to deliver turnkey agribusiness systems, covering every stage from feasibility to logistics.

Advantages of Our Systems

- Substantial water and energy efficiency gains
- Year-round resilience to heat, cold, and wind
- Lower production and operational costs
- Environmentally responsible design and operation
- Seamless logistics and post-harvest support

Integrated Capabilities

- Market analysis and commercialization planning
- Engineering, procurement, and construction (EPC)
- Energy-efficient environmental control
- Smart irrigation and fertigation systems
- Pest and disease prevention strategies
- Training and capacity building for local teams
- Marketing and distribution strategy development

Our Controlled Environment Agriculture (CEA) expertise empowers clients to operate successfully anywhere – from the deserts of the Middle East to the polar extremes – turning climate challenges into competitive advantages.



Agriculture is entering a new era – one defined not by “more inputs, more outputs,” but by **smart productivity**: higher yields with optimized resource use.

Technology Triumphs Over Constraints: Controlled Environment System

CEA innovative adiabatic cooling technology, used to overcome challenges and optimize greenhouse operations, maintains a stable and consistent environment for plant growth, reduces heat transfer between the greenhouse and the surrounding environment, minimizes water and energy consumption and allows year-round cultivation. It also optimizes resource usage, functions as efficient disease and pest prevention and reduces labor costs.

Taurus integrates genetic advances, optimized crop nutrition, precision agronomy, and cutting-edge smart technologies into cohesive systems that enhance output without increasing environmental strain.

Advantages of Taurus Technology: Efficiency Through Affordability

Our mission is simple yet profound: to bring high-tech, Controlled Environment Agriculture (CEA) to the forefront of regional food security. We achieve this by ensuring that affordability is the main driver of efficiency and technology adoption, leading to superior performance and commercial viability.

Our technology delivers measurable advantages by focusing on cost-effective resource optimization:

- **Greater Yield per Square Meter:** Maximize output from minimal physical footprint.
- **Reduced Operational Cost per Unit of Production:** Direct consequence of efficiency, making high-tech farming commercially viable and scalable.
- **Optimized Use of Water and Energy:** Significant resource savings translate directly into lower utility costs and enhanced sustainability.
- **Higher Efficiency with Existing Manpower:** Smart systems and automation reduce labour intensity and optimize human resource output.



We are redefining farming for a sustainable and profitable future.



We share! Training and Learning by Doing

At Taurus, we believe that innovation succeeds only when it is shared. Training and capacity-building are at the heart of our mission to empower individuals, institutions, and entire communities to thrive in the age of sustainable agriculture.

Our programs are structured around applied learning, bridging theory with practice through supervised production cycles, pilot farms, and research collaborations.

We focus on:

- **Maximizing Yield with EnviroDome Technology**, implementing supervised crop cycles to ensure measurable improvements.
- **Building Farming Capacity** through practical, hands-on education.
- **Comprehensive Agricultural Program Development** for both government and private sector initiatives.
- **University and Technical Institute Partnerships** that merge academic knowledge with real-world application.
- **Experimental and Research Farms** where innovation is demonstrated, tested, and refined under authentic conditions.
- **Project Management and Feasibility Studies**, ensuring every concept is supported by data and operational strategy.

By fostering collaboration between academia, government and private enterprise, Taurus transforms training into transformation – equipping the region's next generation of agricultural leaders.



Facilitating knowledge: Innovation comes through collaboration

Our **Experimental & Research Farm** serves as a testing ground for next-generation technologies and agricultural best practices. Here, we trial advanced systems for soil enhancement, irrigation, and bio-tech integration to deliver scalable, repeatable, and climate-resilient results.

We also design and implement **Comprehensive Agricultural Programs** that align public and private objectives, guiding policy frameworks and creating measurable progress toward national food-security goals.

Taurus acts as a facilitator of collaboration-**linking universities, research institutes, and scientific hubs** worldwide to share knowledge and bring cutting-edge innovation directly to the field. Through these partnerships, we accelerate technology transfer and ensure that sustainability is not a concept but a working reality.

Bio-Science and the Power of Nature: Biological solutions = sustainable performance

In partnership with **MAFA Bioscience S.A.**, Spain's leader in plant ecobiology since 1969, Taurus provides advanced biological products that harness nature's power to enhance productivity safely and sustainably.

These **bioscience solutions** – probiotics, prebiotics, biostimulants, and growth regulators – strengthen plant's natural defenses, reduce chemical dependency, and improve yield quality.

Applied in precise, low-dose formulations, they help crops withstand both biotic and abiotic stress, increasing uniformity, quality, and resilience without harmful residues.

They deliver measurable gains in productivity while protecting pollinators, soil health, and human safety—ensuring that progress and preservation go hand in hand.





Our proof of concept: Where Innovation Meets the Field

Al Foah Farm Research Station, UAE

Under the framework of a cooperation agreement with the College of Agriculture at **UAE University**, Taurus successfully conducted summer-season trials on sweet melons under extreme temperatures. Treatments using amino acids and biostimulants significantly enhanced the melons' resistance to heat, pests, and disease. This resulted in extended harvest periods and improved texture, flavor, and color—proof that **sustainability can deliver premium quality**.

Al Batinah Province, Oman

Working with the Ministry of Agriculture & Livestock, Taurus introduced amino-acid-based treatments that boosted tomato yields from 8 kg to 27 kg per square meter- without controlled-environment conditions. The treatment reduced harvest time and improved crop uniformity, setting a new regional benchmark for efficiency and scalability.

Red Palm Weevil Control, Kuwait & UAE

The red palm weevil is among the world's most destructive agricultural pests. Through non-invasive endotherapy techniques developed with our Spanish partner INAGROSA, Taurus achieved re-

markable success in halting infestations and restoring palm health without trunk injection.

Trials supervised by Kuwait's **Public Authority for Agriculture and Fisheries** confirmed complete elimination of larvae and recovery of previously infected palms within three months -a cost-effective, sustainable alternative to conventional methods.

Soil and Salinity Recovery, Al Ain (UAE)

At Al Ain Green Mazzara Park, Taurus revitalized grass and soil heavily affected by salinity exceeding 5,000 ppm. Using biofertilizers enriched with microorganisms, we restored nutrient balance and root vitality. Ornamental trees treated with low-dose foliar sprays showed rapid recovery from nutrient deficiencies and abiotic stress, demonstrating the regenerative capacity of bioscience solutions.



Each project reinforces our mission: to make sustainability profitable, practical, and measurable!



What Taurus offers: A Shared Vision for the Future

Agrotech is more than just technology—it is the vital **bridge between today's resource challenges and tomorrow's sustainable abundance.**

At Taurus, we envision a region where every drop of water, every watt of energy, and every square meter of land works in harmony to maximize output and minimize impact.

Through deep collaboration and a commitment to affordable innovation, we can harness the power of Agrotech to secure **sustainable and abundant food production for generations to come.**

Taurus Environmental Consulting LLC

Abu Dhabi World Trade Center
United Arab Emirates

connect@taurusenvironmental.com
www.taurusenvironmental.com

+971 2 654 3500
+971 54 473 8854



