



AGRICULTURAL ENGINEERING

MAGAZINE 2023-2024

**EXCEL ENGINEERING COLLEGE
(AUTONOMOUS)**

**Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NBA (AERO, CSE, ECE & MECH), NAAC with "A+"
and Recognised by UGC (2f & 12B)
KOMARAPALAYAM**

DEPARTMENT VISION MISSION

VISION

To be a global leader in Agricultural Engineering, pioneering innovative solutions, fostering creativity and inspiring lifelong learning, all while embracing social responsibility to enhance agricultural sustainability and nourish the world.

MISSION

1. Provide an exceptional teaching and learning experience that integrates Experimental learning with practical skills and knowledge in agriculture engineering.
2. Advance cutting-edge research and comprehensive training, stringing to be at the forefront of innovations and knowledge dissemination in our field.
3. Emphasis on skill development, value addition and hand-on field work, to make students academically proficient.
4. Foster technological advancements and create abundant career opportunities, to ensure graduates are well prepared for successful careers and become industry leaders.

PROGRAMME EDUCATIONAL OBJECTIVES

- Graduates will demonstrate comprehensive technical proficiency as agricultural engineers, applying knowledge and skills to design, implement, and manage innovative agricultural systems effectively
- Graduates will cultivate an entrepreneurial mindset, showcasing the ability to identify, evaluate, and implement sustainable agricultural solutions, contributing to the growth and viability of agricultural enterprises.
- Graduates will champion sustainable development in agriculture by integrating environmentally conscious practices, promoting resource efficiency, and engaging in initiatives that address the socio-economic needs of communities
- Graduates will embrace a culture of creative learning, continuously adapting to emerging technologies and contributing to the advancement of agricultural sciences. Furthermore, they will actively serve society by applying their expertise to address agricultural challenges and promote community well-being.

PROGRAMME SPECIFIC OUTCOMES

- PSO1: To develop the skills in the field of Agriculture Engineering to become well versed in farm Mechanization, Food and Dairy Processing, Soil and Water Conservation, Bio Energy and IoT in Agriculture.
- PSO2: To imbibe the skills on supervising, coordinating, guiding, leading and decision making in the minds of Agriculture Engineering students for completing crop production projects in time

MESSAGES

CHAIRMAN'S MESSAGE



Agricultural Engineering is one of the essential branches of Engineering which demands innovation. With the rapid advancement of technology, Agricultural Engineering is becoming more important to tackle challenges in the global food market. The future of Agricultural Engineering is to integrate technology with biology and the social aspects of agriculture to create sustainable environment. I congratulate the Department of Agricultural Engineering for their initiatives to introduce department newsletter and also I wish the students to shine in their career.

VICE CHAIRMAN'S MESSAGE



Agricultural engineers' main role is to solve problems found in agricultural production. Goals may include designing safer equipment for food processing. Agricultural engineers must creatively apply the principles of engineering. Agricultural engineer solve problems concerning power supplies, machine efficiency, the use of structures and facilities, pollution and environmental issues, and the storage and processing of agricultural products. I congratulate the Department of Agricultural Engineering for their initiatives to introduce department newsletter.

**DR. N. MATHAN
KARTHICK, M.B.B.S.,
M.H.SC.
(DIABETOLOGY), AKS**

Agricultural Engineering is highly job oriented discipline especially in India where agriculture plays a major role in the economy of the country. I congratulate all the students and faculty members in publishing the department newsletter portraying the academic activities, student and faculty participation and achievements.



The Department of Agriculture Engineering started during the Academic Year 2018-19 with an intake of 60 students. We have well established laboratories, well qualified and multi-disciplinary faculty members from various specializations such as Soil and Water Conservation Engineering, Farm Machinery and Power, Bio Energy Resources and IoT in Agriculture, Agricultural Process Engineering, Food and Dairy Engineering, Water Resources Engineering. Since agriculture started from ancient period, nowadays modern methods are being used. Also it requires much contribution from engineers to improve the economic wellbeing of the farmers through efficient mechanization. We are proud to create the entrepreneurs in agriculture field. I congratulate all the students also members of GRAES association to launch the newsletter for the Academic year 2022-2023.

**DR. K. BOMMANNA
RAJA, PH.D.**



**DR.K.P.VISHALAKSHI,
M.E., PH.D.,**

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MAGAZINE

" Harvest Hub with Technology "

Dharani R and Ramya K ,3rd Year, Agri,EEC



In the ever-evolving landscape of agriculture, technology plays a vital role in increasing efficiency, productivity, and sustainability. HarvestHub is a pioneering platform that leverages innovative solutions to streamline farm-to-table processes, empowering farmers, distributors, and consumers alike. HarvestHub is a comprehensive digital platform designed to optimize agricultural supply chains. By connecting farmers, distributors, and buyers, it ensures seamless communication, efficient logistics, and fair pricing.

Key Features:

1. Farm Management: Tools for farmers to track crop yields, monitor weather conditions, and manage resources.
2. Marketplace: A digital platform for buying and selling produce, ensuring transparent pricing and fair trade practices.

3. **Logistics Management:** Streamlined transportation and storage solutions to reduce waste and increase efficiency.
4. **Data Analytics:** Insights and trends to inform decision-making, improve crop yields, and reduce costs.

Benefits of HarvestHub:

1. **Increased Efficiency:** Automation and streamlined processes reduce administrative burdens.
2. **Improved Profitability:** Fair pricing, reduced waste, and optimized logistics increase earnings.
3. **Enhanced Sustainability:** Data-driven decisions promote environmentally friendly practices.
4. **Stronger Connections:** Direct communication between farmers, distributors, and consumers fosters trust and collaboration.

The Future of Agriculture:

HarvestHub is poised to transform the agricultural landscape, promoting a more sustainable, efficient, and equitable food system. By embracing technology and innovation, we can ensure a brighter future for farmers, communities, and the planet.

Join the HarvestHub Community:

Be part of the revolution that's changing the face of agriculture. Sign up for HarvestHub today and experience the power of technology in farming.

AgroBiz: Empowering Sustainable Agriculture

Karthiga Devi G and Ajith, 3rd Year, Agri,EEC



AgroBiz: Empowering Sustainable Agriculture through Innovation

In the rapidly evolving agricultural landscape, AgroBiz is pioneering a new era of sustainable farming practices, leveraging cutting-edge technology and innovative solutions to optimize crop yields, reduce waste, and promote eco-friendly methods.

Vision:

AgroBiz aims to revolutionize the agricultural sector by providing farmers, distributors, and consumers with a comprehensive platform that integrates:

1. Precision Farming: AI-driven tools for data analysis, soil monitoring, and weather forecasting.
2. Supply Chain Optimization: Streamlined logistics, warehousing, and transportation management.
3. Marketplace Connectivity: Direct links between farmers, buyers, and consumers for fair trade practices.
4. Sustainability Initiatives: Resources and support for environmentally friendly farming methods.

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Benefits of AgroBiz:

1. **Increased Efficiency:** Automation and data-driven insights reduce costs and enhance productivity.
2. **Improved Sustainability:** Eco-friendly practices and reduced waste promote a healthier environment.
3. **Enhanced Profitability:** Fair pricing, reduced transportation costs, and increased market access.
4. **Stronger Connections:** Direct communication between stakeholders fosters trust and collaboration.

AgroBiz in Action:

1. **Farmer Empowerment:** Training and resources for adopting sustainable practices.
2. **Innovative Solutions:** Development of new technologies and tools for precision farming.
3. **Industry Partnerships:** Collaborations with organizations promoting sustainable agriculture.

AgriInnovate in Agriculture

Rohini V and sibiya L, 2nd Year, Agri,EEC

AgriInnovate in Agriculture: Catalyzing Modern Agricultural Advancements

Agriculture is no longer just the traditional practice of tilling land and harvesting crops. The sector has transformed significantly, driven by technological advancements and innovative practices that aim to increase efficiency, sustainability, and productivity. One of the key drivers of this transformation is **AgriInnovate**, an initiative focused on fostering innovation in agriculture.



AgriInnovate is a program designed to accelerate the commercialization, adoption, and/or demonstration of innovative agricultural products, technologies, processes, or services. It is an initiative by governments or private entities aimed at supporting the agri-food sector by providing resources, expertise, and funding to develop and bring innovative solutions to market. The goal is to enhance competitiveness, ensure food security, and address challenges such as climate change, resource scarcity, and population growth.

1. ***Precision Agriculture***: Precision farming involves using technologies like GPS, sensors, drones, and data analytics to optimize field-level management. AgriInnovate supports innovations that enable farmers to apply the right inputs (water, fertilizer, pesticides) at the right time and place, thus reducing waste and increasing yield.

2. ***Sustainable Practices***: With a growing emphasis on sustainability, AgriInnovate promotes the development of eco-friendly farming practices. These include innovations in organic farming, water conservation, soil health improvement, and reducing greenhouse gas emissions from agriculture.

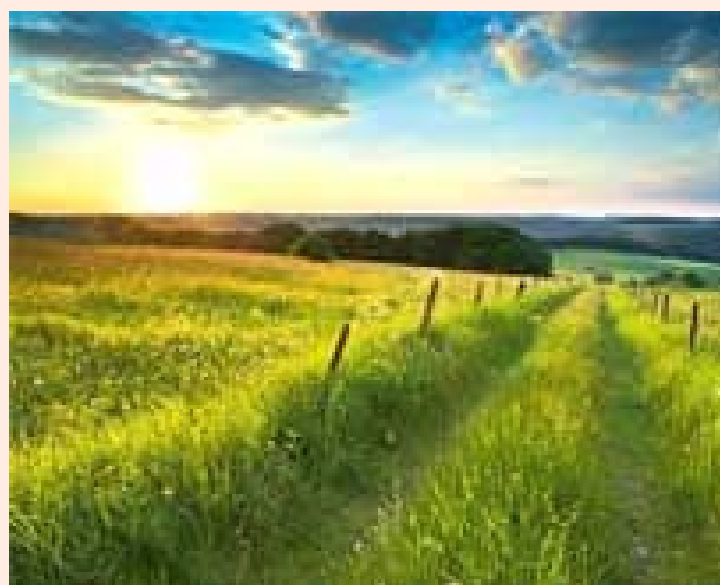
3. ***Digital Agriculture***: The digital transformation of agriculture is another critical area supported by AgriInnovate. This includes the development of platforms for farm management, supply chain optimization, and market access. Digital tools help farmers make data-driven decisions, connect with buyers, and manage their operations more efficiently.

The Impact on Farmers

Farmers are at the forefront of benefiting from AgriInnovate initiatives. By adopting innovative practices and technologies, they can improve their productivity, reduce costs, and access new markets. Moreover, the support from AgriInnovate helps de-risk the adoption of new technologies, making it easier for farmers to experiment with and integrate innovations into their operations.

Challenges and the Future

Despite its successes, AgriInnovate faces challenges such as the need for significant investment, regulatory hurdles, and the slow pace of adoption among some farming communities. However, the future of AgriInnovate is promising, with increasing interest from both public and private sectors to push the boundaries of agricultural innovation.



Future of Farming: Innovations Shaping Agriculture

Nithya kalyani M and Deepika P, 4th Year, Agri,EEC

The future of farming is poised to undergo a radical transformation, driven by advancements in technology, shifts in consumer demand, and the urgent need to address global challenges like climate change and food security. Agriculture, one of humanity's oldest practices, is now at the forefront of innovation, paving the way for a more sustainable, efficient, and resilient food system. This article explores the key trends and technologies that will define the future of farming.

1. Precision Agriculture: Optimizing Resources

Precision agriculture is revolutionizing how farming is done by using advanced technologies like GPS, drones, sensors, and data analytics. These tools allow farmers to monitor and manage crops and livestock with unparalleled accuracy.

- ***Precision Farming Techniques***: For example, variable rate technology (VRT) enables the precise application of inputs like water, fertilizer, and pesticides based on the specific needs of each part of a field. This not only maximizes yield but also minimizes waste and environmental impact.

- ***Data-Driven Decisions***: Advanced data analytics platforms aggregate data from various sources—soil sensors, weather forecasts, satellite imagery—allowing farmers to make informed decisions on planting, irrigation, and harvesting schedules.

2. Sustainable Practices: Farming with the Environment in Mind

As the global population grows, the demand for food increases, putting pressure on natural resources. Sustainable farming practices are essential to ensure that future generations can continue to produce food without depleting the earth's resources.

- **Regenerative Agriculture***: This approach focuses on restoring soil health through techniques such as crop rotation, cover cropping, and reduced tillage. Healthy soils are more resilient to climate extremes and can sequester carbon, contributing to the fight against climate change.



3. Biotechnology and Genetic Engineering: Enhancing Crop Resilience

Biotechnology and genetic engineering are playing a pivotal role in developing crops that can withstand the challenges posed by climate change, pests, and diseases.

- ***Drought-Resistant Crops***: Advances in genetic engineering have led to the development of crop varieties that can thrive in arid conditions, helping to secure food supplies in regions prone to drought.

- ***Nutrient-Enriched Crops***: Biofortification efforts are creating crops with enhanced nutritional profiles, such as rice with higher levels of vitamins and minerals, addressing malnutrition in developing countries.

- ***CRISPR Technology***: The CRISPR-Cas9 gene-editing tool is being used to create crops with improved traits, such as increased yield, pest resistance, and reduced need for chemical inputs.

The Future of Precision Seeding

Rajakavi S and Ramya K , 3rd Year, Agri,EEC

As the global population continues to rise, the demand for food production is increasing at an unprecedented rate. Agriculture is at the heart of meeting this challenge, and innovation in seeding technology is playing a crucial role in maximizing crop yields, enhancing sustainability, and improving the overall efficiency of farming practices. This article explores the future of precision seeding, its benefits, and how it is transforming the agricultural landscape.

The Evolution of Seeding Practices

Seeding is one of the most critical stages in the crop production process. Traditionally, farmers relied on manual or mechanical methods to sow seeds, often leading to uneven distribution, wastage, and suboptimal plant growth. However, advancements in technology have led to the development of precision seeding, a practice that ensures seeds are planted at the right depth, spacing, and rate to optimize germination and growth.

Precision seeding refers to the use of advanced machinery and technology to plant seeds with high accuracy. It involves the integration of GPS, sensors, and data analytics to control various aspects of the seeding process. This approach allows for precise placement of seeds, minimizing waste and ensuring that each plant has the best possible conditions for growth.

The Future of Precision Seeding*

The future of precision seeding is bright, with ongoing research and development aimed at further enhancing the capabilities of this technology. Emerging trends include the integration of artificial intelligence (AI) and machine learning to improve decision-making, the use of drones for aerial seeding, and the development of more affordable and scalable solutions for smallholder farmers.

As precision seeding becomes more widely adopted, it will play a pivotal role in the sustainable intensification of agriculture, helping to ensure food security for future generations while minimizing environmental impact.



FarmSmart: Revolutionizing Agriculture through Technology

Balakumaran M and Alex V , 2nd Year, Agri,EEC

Agriculture, the backbone of global food security, is undergoing a digital transformation. As farmers seek new ways to increase productivity, sustainability, and profitability, FarmSmart is emerging as a game-changer in the agricultural sector. This article delves into the impact of FarmSmart, its key features, and how it is empowering farmers to make smarter decisions and optimize their operations. FarmSmart is an integrated digital platform designed to provide farmers with real-time data, insights, and tools to manage their farms more efficiently. Combining cutting-edge technologies like data analytics, satellite imagery, and mobile applications, FarmSmart offers a holistic approach to modern farming. The platform caters to the diverse needs of farmers, whether they are managing small family farms or large commercial operations.

Key Features of FarmSmart

1. ***Precision Farming Tools***: FarmSmart equips farmers with precision agriculture tools that enable them to monitor and manage their crops with unparalleled accuracy. By using GPS, remote sensing, and data analytics, farmers can optimize planting, irrigation, fertilization, and harvesting practices. This leads to increased yields and reduced waste, contributing to higher profitability.
2. ***Real-Time Weather Data***: Weather plays a critical role in farming success. FarmSmart provides real-time weather forecasts and alerts tailored to specific farm locations. This allows farmers to make informed decisions about planting, irrigation, and harvesting, reducing the risk of crop loss due to adverse weather conditions.

Challenges and the Way Forward*

While FarmSmart offers numerous benefits, its adoption may be hindered by challenges such as limited internet connectivity in rural areas, the cost of technology, and the need for training. However, these challenges are being addressed through initiatives to improve rural connectivity, government subsidies, and training programs that help farmers transition to digital farming.

Looking ahead, the future of FarmSmart lies in continuous innovation and the integration of emerging technologies like artificial intelligence, blockchain, and the Internet of Things (IoT). These advancements will further enhance the platform's capabilities, making agriculture smarter, more sustainable, and more profitable.



Green Thumb in Sustainable Agriculture"

Lokesh M and Mohanraj S ,4th Year, Agri,EEC

As the world grapples with the challenges of climate change, environmental degradation, and food security, sustainable agriculture has become a critical component of a greener future. At Green Thumb, we're committed to exploring the latest innovations and techniques that are revolutionizing the way we grow, produce, and consume food.

Regenerative Agriculture: A New Paradigm

Regenerative agriculture is an approach that prioritizes soil health, biodiversity, and ecosystem services. By using practices like no-till farming, cover cropping, and integrating livestock grazing, farmers can sequester carbon, reduce synthetic inputs, and promote ecological balance.

Vertical Farming: The Future of Urban Agriculture

Vertical farming is transforming urban spaces into productive agricultural hubs. Using hydroponics, aeroponics, and LED lighting, growers can cultivate a wide range of crops in vertically stacked layers, minimizing land use and environmental impact.

Precision Agriculture: Technology for a Greener Tomorrow

Precision agriculture leverages advanced technologies like drones, satellite imaging, and data analytics to optimize crop management, reduce waste, and promote resource efficiency. By applying precise amounts of water, fertilizer, and pesticides, farmers can minimize environmental harm.

SAgroforestry involves integrating trees into farming systems to promote ecological interactions, improve soil health, and enhance biodiversity. This approach can help mitigate climate change, reduce soil erosion, and create more resilient farming systems.

At Green Thumb, we believe that sustainable agriculture is the key to a greener future. By embracing innovations like regenerative agriculture, vertical farming, precision agriculture, and agroforestry, we can cultivate a more resilient, productive, and environmentally conscious food system. Join us in exploring the latest trends and techniques in sustainable agriculture.



AgriSpectrum in agriculture

Sweatha R and Sushant kumar , 3rd Year, Agri,EEC

Precision agriculture is revolutionizing the way farmers grow crops, raise livestock, and manage resources. By leveraging advanced technologies like GPS, drones, satellite imaging, and data analytics, farmers can optimize yields, reduce waste, and promote sustainability. In this article, we explore the latest trends and innovations in precision agriculture and their potential to transform the agricultural landscape.

The Rise of Precision Farming

Precision farming involves using precise amounts of inputs like water, fertilizer, and pesticides to maximize crop yields and minimize environmental impact. This approach relies on advanced sensors, GPS guidance, and data analysis to create detailed maps of soil conditions, crop health, and weather patterns.

Drone Technology: A Game-Changer for Agriculture

Drones equipped with high-resolution cameras and sensors are being used to monitor crop growth, detect pests and diseases, and analyze soil moisture levels. This allows farmers to respond quickly to emerging issues and make data-driven decisions.



Hydroponics Revolutionizing Agriculture with Soilless Cultivation

Sanjay Arul S and Akshaya S V ,2nd Year, Agri,EEC

Hydroponics, a method of growing plants in a nutrient-rich solution rather than soil, is transforming the agricultural landscape. By providing precise control over nutrient levels, pH, and temperature, hydroponics enables farmers to increase crop yields, reduce water consumption, and promote sustainability.

History of Hydroponics

Hydroponics has its roots in ancient civilizations, where plants were grown in water rather than soil. Modern hydroponics emerged in the 1920s, with the first commercial hydroponic farm established in the 1970s.

Principles of Hydroponics

Hydroponics involves suspending plant roots in a nutrient-rich solution, providing essential micronutrients and macronutrients. This approach allows for:

- Precise control over nutrient levels
- Increased crop yields
- Reduced water consumption
- Improved crop quality

Types of Hydroponic Systems

- Nutrient Film Technique (NFT)
- Ebb and Flow (Flood and Drain)
- Drip Irrigation
- Aeroponics

Advantages of Hydroponics

- Increased crop yields
- Water conservation
- Reduced land use
- Improved crop quality
- Reduced soil erosion

Challenges and Future Directions

While hydroponics offers many benefits, challenges include high initial investment costs, energy consumption, and limited crop selection. Ongoing research aims to address these challenges and improve the efficiency of hydroponic systems.



The Power of CropBytes

Shobana S and Sanjai R ,2th Year, Agri,EEC

In today's agriculture, technology plays a vital role in increasing crop yields, reducing waste, and promoting sustainability. CropBytes, a cutting-edge agricultural platform, is leading the charge by providing farmers with data-driven insights to optimize their operations.

CropBytes is an innovative platform that leverages advanced technologies like AI, IoT, and data analytics to provide farmers with real-time insights on soil health, weather patterns, crop growth, and more.

Key Features:

1. **Precision Farming:** CropBytes enables farmers to make data-driven decisions on irrigation, fertilization, and pest control.
2. **Crop Monitoring:** Real-time monitoring of crop health, growth, and development.
3. **Weather Forecasting:** Accurate weather predictions to plan planting, harvesting, and other farm activities.
4. **Soil Analysis:** In-depth soil health analysis to optimize nutrient application.

Benefits:

1. **Increased Yields:** Data-driven insights lead to optimized farming practices.
2. **Water Conservation:** Precise irrigation management reduces water waste.
3. **Reduced Chemical Use:** Targeted application of fertilizers and pesticides minimizes environmental impact.
4. **Improved Decision Making:** Real-time data enables informed decisions on farm operations.



Success Stories:

- Increased crop yields by up to 25% for participating farmers.
- Water savings of up to 30% through optimized irrigation management.
- Reduced chemical usage by up to 20% through targeted application.

Conclusion:

CropBytes is revolutionizing agriculture by empowering farmers with data-driven insights. By adopting this innovative platform, farmers can optimize their operations, increase yields, and promote sustainability. Join the CropBytes community today and discover the power of data-driven farming!

Transforming Agriculture with TechTerra

Dharani R and Moulitharan C , 3rd Year, Agri,EEC

Agriculture is undergoing a technological revolution, and TechTerra is at the forefront. This innovative platform is harnessing the power of technology to increase crop yields, reduce waste, and promote sustainability. TechTerra is an agricultural technology platform that combines advanced technologies like AI, IoT, drones, and data analytics to provide farmers with actionable insights and precision farming capabilities.

Key Features:

1. Precision Farming: TechTerra enables farmers to optimize irrigation, fertilization, and pest control.
2. Crop Monitoring: Real-time monitoring of crop health, growth, and development.
3. Weather Forecasting: Accurate weather predictions to plan planting, harvesting, and other farm activities.
4. Soil Analysis: In-depth soil health analysis to optimize nutrient application.

Benefits:

1. Increased Yields: Data-driven insights lead to optimized farming practices.
2. Water Conservation: Precise irrigation management reduces water waste.
3. Reduced Chemical Use: Targeted application of fertilizers and pesticides minimizes environmental impact.
4. Improved Decision Making: Real-time data enables informed decisions on farm operations.



Success Stories:

- Increased crop yields by up to 30% for participating farmers.
- Water savings of up to 40% through optimized irrigation management.
- Reduced chemical usage by up to 25% through targeted application.

Conclusion:

TechTerra is transforming agriculture by empowering farmers with cutting-edge technology. By adopting this innovative platform, farmers can optimize their operations, increase yields, and promote sustainability. Join the TechTerra community today and discover the future of farming!

Weeding Out Waste

Aadithya P K and Deepika P, 4 th Year, Agri,EEC



The article "Weeding Out Waste: Innovative Solutions for Crop Management" explores the latest technologies and strategies aimed at reducing waste in agriculture.

Agriculture faces a significant challenge: waste. From excess water usage to inefficient crop management, waste can lead to reduced yields, environmental damage, and economic losses. However, innovative solutions are emerging to tackle this issue.

Section 1: Precision Irrigation

- Advanced irrigation systems using sensors, drones, and AI optimize water usage.
- Case study: Farm X reduces water waste by 30% using precision irrigation.

Section 2: Crop Monitoring

- Real-time monitoring using satellite imaging, IoT sensors, and machine learning detects issues early.
- Example: Farm Y identifies pests and diseases 20% faster using crop monitoring.

Section 3: Autonomous Farming

- Autonomous tractors and drones streamline crop management, reducing labor waste.
- Testimonial: Farmer Z increases efficiency by 25% with autonomous farming.

Section 4: Data-Driven Decision Making

- Advanced analytics and data platforms inform crop decisions, minimizing waste.
- Success story: Farm W reduces fertilizer waste by 15% using data-driven insights.

Conclusion:

Innovative solutions are revolutionizing crop management, enabling farmers to "weed out waste" and optimize resources. By embracing these technologies, agriculture can become more sustainable, efficient, and productive.

Semi-automatic cashew extractors

Shyamalapriya R and Rupesh kumar ,3rdYear, Agri,EEC

Cashew processing is a labor-intensive and time-consuming task, particularly when it comes to extracting the nut from its shell. Semi-automatic cashew extractors offer a solution to this challenge, increasing efficiency and productivity while reducing manual labor. In this article, we'll explore the benefits and advantages of semi-automatic cashew extractors.

Benefits:

1. Increased Efficiency: Faster extraction rates and reduced processing time
2. Improved Accuracy: Consistent and precise extraction, minimizing waste
3. Reduced Labor: Decreased manual labor requirements, saving time and resources
4. Enhanced Safety: Reduced risk of injury from manual shelling and extraction
5. Cost-Effective: Lower operating costs and increased profitability



How it Works:

1. Sorting and Grading: Cashews are sorted and graded according to size and quality
2. Shelling: Cashews are fed into the extractor, which removes the shell
3. Separation: Nuts and shells are separated, with nuts collected for further processing
4. Quality Control: Extracted nuts are inspected for quality and purity

Types of Semi-Automatic Extractors:

1. Mechanical Extractors: Using mechanical forces to crack and extract nuts
2. Pneumatic Extractors: Utilizing air pressure to remove shells
3. Hydraulic Extractors: Employing hydraulic pressure for efficient extraction

Semi-automatic cashew extractors offer a significant improvement in cashew processing, enhancing efficiency, accuracy, and safety while reducing labor and costs. By investing in a semi-automatic extractor, cashew processors can increase productivity, competitiveness, and profitability.