Vadamalai Media Group

# Agriculture & Industry Survey

India's Leading Business Magazine for Agriculture



Ajit Ingle **CEO of Atuofert** Agrimations **Equipments OPC Pvt** Ltd in Nashik, Maharashtra, His interests lie in irrigation, fertigation system, precise fertigation system, and nutrient management in agriculture crops. He explains the entire process of fertigation, how it is useful for farmers and the benefits.

Surajit Vice President, Farmsio AgriTech, Chennai, Tamil Nadu, interested in product development, climate smart agriculture, traceability, and value chain development. He discusses at length about climate smart and sustainable agriculture practices in a recent interview.

## AgriTech

Need for a scalable model to deepen the penetration

**October 2021 - ₹80** 

•••

• •

Dr. Kavitha Sairam CEO and Co-founder, FIB-SOL Life Technologies Chennai, Tamil Nadu explains about Eco-Friendly farming with less chemical input and using biotechnology as an intervention tool.



Aruneswar MGB Founder - Grow Your Farms, Tiruchirapalli, Tamil Nadu talks about the scenario of farming in India and how farmers can be turned from mere producers to entrepreneurs.

### AGRICULTURE INFORMATION Connecting Growers, Buyers & Experts



## PREMIUM MEMBERSHIP

Premium membership allows you to attend online meetings. View calendar of forthcoming meetings.

In these online meetings you will gather new agriculture related information and meet new people.

Premium membership is valid for one year. The benefits of membership are:

- You will have immediate access to recordings of previous online meetings.
- You will receive email invites to join every meeting for the next one year.
- You can join the meetings from your mobile phone using mobile app or from your computer/laptop.
- You will receive PDF version of the magazine "Agriculture & Industry Survey". This is an English monthly magazine with summary of the main discussions on this forum.

Becoming a premium member is like enrolling for a one-year online education program. Just attending one online meeting during the year that changes your thinking is worth this membership fee!

> www.agricultureinformation.com support@agricultureinformation.com / 9620-320-320

## Contents



Pg # 30

12

#### AgriTech - Need for a scalable model to deepen the penetration

#### Agri Startup

12 Aruneswar MGB -- Founder - Grow Your Farms, Tiruchirapalli, Tamil Nadu

#### **Multi Cropping**

16 Ms. Sheelu Francis, President of Women's Collective Chennai, Tamil Nadu.

#### **Eco-friendly Farming**

*20* Dr. Kavitha Sairam, CEO and Co-founder, FIB-SOL Life Technologies Chennai, Tamil Nadu

#### **Bee Keeping**

Parth Tripathy, CEO - Beehively Group , Ahmedabad, 44 Gujarat

#### Agri Equipments

*30* Ajit Ingle -- CEO of Atuofert Agrimations Equipments OPC Pvt Ltd in Nashik, Maharashtra

#### Sustainable Agriculture

Surajit, Vice President, Farmsio AgriTech Chennai, Tamil Nadu

#### India Agtech

- BharatAgri
- GramCover
- Proeon

#### **Micro Greens**

Trendy microgreens could help feed the world

#### **Crowd Farming**

What is Airbnb farming and could it improve the wasteful food supply chain?

#### Foreign Agriculture

- How the agricultural sector can win the war on waste
- UK football club is trialling edible coffee cups
- Investing in trees Global companies are restoring forests

## AGRITECH

### Need for a scalable model to deepen the penetration

Imost after a year of passing the farm bill amendment laws, India is still divided on the bill. In the politics of states vs. center, the ultimate sufferer is that small and marginal farmer. While, technological advancements are facilitating farmers to eliminate the middlemen with ease and the amendments provided the window wherein they can sell the produce to anyone directly and even enter into the contract manufacturing; however, the reality of this happening seems to be farfetched yet.

One of the biggest fallouts of the pandemic is the digital transformation in every sector across the value chain. This is true of even the agriculture sector. Despite a pandemic-hit year, the volume of venture capital and private equity deals in the sector nearly doubled between 2018 and 2020. Against just 17 deals in 2018 worth USD 69 million, there were 32 deals worth USD 163 million in 2020 according to a data. While the investment in agritech is constantly on the rise, it is still just 1% of the total potential of the segment as reported by E&Y in their August 2020 report. Yet, the data further analysed, suggests that the penetration at the root level is just 9-10%. The sector which contributes 16% to the GDP and employs ~45% of the Indian workforce is far from leveraging the benefits of technological innovations offered by these start-ups.

Three major reasons for limited penetration are lack of awareness at the grassroot level, issues of land ownership that prevail in India, and limited channelized efforts leading to fragmented results for the diverse market.

Innovations are successful when they reach actual users. Some fantastic innovations have happened in the agriculture space and many new developments are still happening. Things like near to accurate weather predictions facilitating the seed sowing, crop management and yield improvement, water table mapping, rain harvesting, soil condition analysis, all are possible today using artificial intelligence (AI), machine learning (ML) tools, and other such technological advancements. IoT is the latest. However, there is a need to simplify and convert all these analysis into a usable language that farmers can utilize and put to application. Explaining the science behind the analysis is essential to enhance the acceptability of the farmers. And lastly, they need to be equipped and educated with tech-enabled devices.

Traceability, which is one of the best solutions to assure the quality of the products and increase the acceptability of the product in the international market, is possible today through various means including RFID tagging, blockchain-based tools, and distributed ledger techniques (DLT). Even, food factories that grow plants in greenhouses, under hydroponics and other media, completely controlled by IoT exist in this country. But they are far and few; for farmers to invest in these, there is no real incentive.

At OmniActive, we are working with 10,000+ farmers on a contract farming basis to grow the specific quality of marigold flowers to produce Lutein. We have set up a close community group of these farmers and designed an internal app called CropIn. Through this app, farmers receive updates on different weekly activities including GEO tagging, area mapping, crop management advisories, and so on. Good Agriculture Practices are explained by our Agriculture Field team and regular training is provided to the farmers. Cloud-based programs are configured within this application making even reporting easy for the farmers.

Read full article @ https://bit.ly/3ai6jtf

Source : TOI



Vol. XXXI No. 10 October 2021

#### Founder Chairman V. Isvarmurti

**Managing Editor** Kartik Isvarmurti editor@agricultureinformation.com

**Magazine Coordination** A. Kavitha kavitha@agricultureinformation.com

Website Coordination Rajani Jain rajani@agricultureinformation.com Dhanalakshmi S

Dhanalakshmi@agricultureinformation.com

Contact Number and Email 9620-320-320 support@agricultureinformation.com

To subscribe visit the website www.agricultureinformation.com

Online Version www.agricultureinformation.com

> Office Address: Vadamalai Media Group C-2/286, 2 C Cross, Domlur II Stage Bangalore 560071 India

#### Published by Vadamalai Media Private Limited

Regd Office: Pichanur, Coimbatore, Tamil Nadu Printed, Published & Edited by Mrs. Shenbi on behalf of Vadamalai Media (P) Ltd. Published from C-2/286, 4th Main, 2-C Cross, BDA Layout, Domlur II Stage, III Phase, Bangalore - 560 071 and Printed at Print-o-Graph, No.124, Sultanpet, Bangalore. \* Copyright-Vadamalai Media (P) Ltd.



## Five indigenous crops that are disappearing from Indian farm



gro-biodiversity suffers significantly when crops disappear. Several indigenous crops are disappearing in India's south, central, east, and north-east regions. Some are being phased out of community usage due to monoculture cultivation's dominance, while others are being phased out due to hybrid varieties' popularity. Also to blame is the government's lack of support for indigenous types.

When particular crop types become extinct, so does the mini-ecosystem of insects, animals, birds, and plants that they support.

## FIVE CROPS THAT ARE ON THE VERGE OF EXTINCTION

#### **Karhani Rice**

Location: Gaurela-Pendra-Marwahi district of Chhattisgarh

Reasons for the fall include the government's promotion of hybrid paddy, low yields, and the lack of a minimum support price (MSP).

The Gonds cultivated this black rice type, which has a blackish husk and pink rice. For many years, the adivasis have been nurturing it. It grows on upland plots and thrives even in places with little rainfall. It is extremely nutritious, but it is becoming increasingly uncommon as the government is pushing hybrid paddy types.

The yield is 1-1.5 quintals per acre, which is lower than paddy and also less expensive. When seeded in the monsoon, it matures in two months. Most farmers choose to plant crops that earn the government's minimum support price.

#### **Moth Bean**

Location: Arid and semi-arid areas, particularly in Karnataka's central and northern regions. Consumers moving to toor dal, shifting rainfall patterns, and a change from multi-cropping to mono-cropping are all contributing to the drop.

Moth bean, also known as matki dal, has been displaced in fields and on menus by toor or arhar dal, which has become a staple despite its higher cost. The nutritious bean has been overlooked by even agriculture institutions. The government has been pushing toor and moong to the disadvantage of matki. Because of BT cotton, maize, and sunflower, moth bean farming is declining in Karnataka. Moth beans were cooked in dals or sprouted and used in recipes like misal from Maharashtra.

#### **Meher Dhan**

Location: Dantewada district of Chhattisgarh.

Reasons for decrease include a lack of a market and merchants' rejection of this black rice type. Farmers attempted to revive this red rice with a black husk in 2016, as meher dhan is a dryland paddy type that requires less water.

Farmers attempted to sell it two years ago, but traders refused to buy it because it was black. It is an early cultivar that is available in October after being seeded in June-July. There is little incentive to expand a market if there isn't one. Farmers returned to paddy last year and increased their output and earnings.

#### Kangu, Gathia and Janaha

Location: Niyamgiri hills in Odisha, encompassing the districts of Rayagada

#### and Kalahandi

Lack of seeds, monoculture, and commercial farming are all factors contributing to the decrease.

Odisha's Dongria Kondhs have long grown a variety of indigenous crops such as janaha (sorghum), gathia (pearl millet), and kangu (foxtail millet). Many of the Dongria Kondh adivasis' favorite crops are becoming extinct. Pineapple, ginger, turmeric, and eucalyptus monoculture plantations for economic interests are driving these crops to extinction. These crops and tribals have a synergistic connection. When they lose a crop, they also lose a piece of their culture. The Dongria Kondhs, for example, rejoice when finger millet is harvested. The event is not held without the crop.

#### Khaw Pnah Saw

Location: The Jaintia Hills and Ri-Bhoi district in Meghalaya

Reasons for decrease include a preference for white, non-sticky rice and labor-intensive farming.

The Bhoi, Khasi, Jaintia, and Garo tribes of Meghalaya produce this red sticky rice, or Oryza sativa glutinosa, on a small scale, and it is currently only offered at weddings, funerals, and festivities. People nowadays choose softer, less sticky types for everyday meals. Growing this paddy is similarly labor demanding, and the market demand is low. To ensure the crop's survival, the community saves the seeds. Folk rice varieties are beneficial to the environment because they adapt well to local conditions, are high in micronutrients, and help to diversify agricultural yields.

Source : krishijagran.com



of India. India exported 12.84 million tonnes of rice in the first seven months of 2021, up 65% from a year ago, according to provisional data from the commerce ministry.

At least one million tonnes of rice would be shipped from the deepwater port in 2021, said M Muralidhar, chief operating officer of Kakinada Seaports Ltd.

#### SHIPPING SHAKEUP

Despite extra port capacity, Kakinada's loading rate still lags well behind Southeast Asian ports due to a lack of dedicated rice-handling infrastructure.

"Here in Kakinada, it takes nearly a month to load around 33,000 tonnes of rice from the time we drop the anchor. In Thailand it takes only 11 days for the

## India may corner nearly half of global rice trade as exports soar to record

ndia could account for as much as 45% of global rice exports in 2021 as expanded port-handling capacity allows the world's second largest rice grower after China to ship record volumes to buyers across Africa and Asia.

The world's top exporter could ship as much as 22 million tonnes of rice this year, or more than the combined exports of the next three largest exporters Thailand, Vietnam and Pakistan, said Nitin Gupta, vice president of Olam India's rice business.

"Along with traditional buyers, this year China, Vietnam and Bangladesh are also making purchases from India," he said. India's exports in 2020 jumped 49% from the year before to a record 14.7 million tonnes, as shipments of non-basmati rice spiked 77% to a record 9.7 million tonnes. In 2021, non-basmati rice shipments could nearly double from a year ago to 18 million tonnes, while premium basmati rice exports are seen steady at 4 million tonnes, Gupta said.

The U.S. Department of Agriculture projects global rice exports of 48.5 million tonnes in the 2021-22 season.

#### LOGISTICAL BOTTLENECK

Indian rice has been consistently cheaper than supplies from Thailand and Vietnam since last March, while global demand for rice has scaled record highs. However, limited infrastructure at Kakinada Anchorage, India's main rice port, led to persistent congestion and lengthy loading delays last year, prompting some buyers to switch suppliers.

India was offering a discount of more than \$100 per tonne over other exporters, but much of the discount was wiped out by higher demurrage charges tied to the delays,

says exporter Brahmananda Gudimetla.

To ease the congestion, the southern state of Andhra Pradesh in February allowed the use of an adjoining deepwater port at Kakinada for rice shipments.

"Vessel waiting period has gone down after the deepwater port started handling rice. Demand that could have shifted to other countries remained with us," said B.V. Krishna Rao, president of the Rice Exporters Association

- Rice exports seen at 22
  mln T vs 14.7 mln T yr ago
- Deepwater port helps India to export more rice
- Exports cap global prices amid thin supplies from rivals



same quantity," says Fahim Shamsi, caption of a ship that was loading rice at Kakinada this month.

Strain on the Kakinda port has increased after the cost of shipping rice by container surged, forcing rice shippers to switch from containers to bulk vessels, said Gupta of Olam.

Kakinada can export an additional 2 million tonnes of rice if infrastructure was upgraded and the process mechanized, Rao said.

India's exports of non-basmati rice go mainly to African and Asian countries, while premium basmati rice goes to the Middle East, the United States and Britain.

By Rajendra Jadhav

Source : www.reuters.com



## Cinnamon cultivation introduced in Himachal

ommercial cinnamon cultivation can cut down India's import of cinnamon that amounts to a whooping ₹909 crores per annum The CSIR's institute of Himalayan

Bioresource Technology (IHBT) has introduced cinnamon cultivation in Himachal Pradesh on pilot basis.

If successful, it will be launched on a commercial scale, eventually cutting down India's import of cinnamon that amounts to a whooping ₹909 crores per annum. The cultivation was launched on Wednesday with state agriculture minister Virender Kanwar planting the first sapling in Una district.

Cinnamon, popularly known as dalchini, is an evergreen bushy tree whose bark is primarily used as a spice, said IHBT director Dr Sanjay Kumar. In addition to its culinary uses in Asian and European recipes, cinnamon has critical applications in medicine and in boosting immunity. The true cinnamon is derived from Cinnamomumverum.

Cinnamomum cassia is yet another species used in place of true cinnamon, but has high coumarin content which



is not good for health and the variety is banned in the United States of America, Ireland and the European Union.

True cinnamon or Cinnamomumverum is grown mainly in Sri Lanka, while minor producing countries include Seychelles, Madagascar, and India, said Kumar, adding that India imports 45,318 tonnes of cinnamon annually from China, Sri Lanka, Vietnam, Indonesia and Nepal.

#### Can India mend its frayed cotton sector in time?

World Cotton Day is celebrated on October 7 following a resolution adopted by the General Assembly of the United Nation (UN) in 2019. Countries across the world celebrate the day by focusing on sustainable cotton production and recognising the contribution of 27 million smallholder cotton growers, cotton scientists, ginners, spinners, yarn manufacturers and businesses to the cottontextile value chain and economic development.

In 2019, during the UN-organised global celebration of cotton and its stakeholders, the World Trade Organization (WTO) collaborated with multiple agencies such as Food and Agriculture Organization (FAO), United Nations Conference on Trade and Development (UNCTAD), International Trade Centre (ITC) and International Cotton Advisory Committee (ICAC) as part of the initiative by four African countries — Benin, Burkina Faso, Chad and Mali (known as the Cotton Four or C-4 countries) — that led to the institution of 'World Cotton Day'. Since then, the rise of African countries is reflected in the growing importance of cotton as a global commodity, and their quest to unshackle cotton production by adopting innovation and technologies.

Read full @ https://bit.ly/3FqYxM4 Source : www.thehindubusinessline.com

No organised cultivation in India Of the total imports, 37,166 tonnes of C cassia are imported from Vietnam, China and Indonesia. There is no organised cultivation and processing of cinnamon in the country.

"Realising the large import of cinnamon in the country and that the one imported in India is C cassia and not C verum, it was envisioned to extend its production after identifying the potential areas for cultivation," said Kumar. Our data suggested, he said, districts of Una, Bilaspur, Kangra, Hamirpur and Sirmour in Himachal Pradesh that have potential areas for cinnamon cultivation.

"Accordingly, we made efforts for introduction and processing of C verum in Himachal Pradesh. This project has been conceived by CSIR-IHBT and is being implemented in association with ICAR's Indian Institute of Spice Research, Calicut, Kerala and Department of Agriculture, Himachal Pradesh," said he. Earlier this year, the IHBT had successfully launched cultivation of monk fruit in Kullu of Himachal for the first time in India.

Source : www.hindustantimes.com

ews Dairy.com

#### America's largest independent dairy supply chain technology provider, enters India with the acquisition of Mr.Milkman

merica's leading dairy technology, services, and intelligence provider, Dairy.com, has made its first investment in India with the acquisition of Mr.Milkman, India's leading last-mile dairy supply chain SaaS platform. The company has acquired a 100% stake in Mr.Milkman to strengthen its integrated supply chain solution offerings for dairies worldwide.

The two companies will use their combined agribusiness technologies, development resources, and industry expertise to enable and innovate last-mile dairy supply chain solutions for markets in India and abroad.

Dairy.com India is the world's largest producer and consumer of milk and dairy products. Dairy is one of the most sizable agribusinesses in India, and the industry is valued at Rs.11,357 billion. Rs. 11, 357 billion-Additionally, there is huge growth potential with value-added products such as cheese, vogurt, probiotic drinks, flavored milk, ice cream, and other products in the segment. Dairy. com and Mr.Milkman are positioned to thrive in India as their solutions are ideally suited to successfully supporting the country's exponential rise of ecommerce and its increasing consumer demand for convenience, value, food safety, ease of payment, and product variety from the industry.

"Indian dairy sector and milk brands in India will need to employ technology at every level, right from procurement of milk to last delivery mile in order to grow and be successful. Milk brands in India and around the world operate on slim margins, and since milk prices

have a cap, the only way to grow profits is to become more efficient - which can only happen through the implementation of technology," said Mr.Milkman Chief Executive Officer and Co-founder Samarth Setia. "Our entire company is proud to be joining the talented Dairy. com team to accelerate the development of our last-mile delivery solution to meet the rising customer needs. We also look forward to providing some

In addition to being cost-effective to implement, Mr.Milkman is a pre-built alternative to food delivery aggregator apps and includes payment processing capabilities.

In the future, the combined entity will look to optimize and digitize several areas of the agriculture supply chain in India, North America, and Europe. Dairy.com has extensive experience in multiple agribusiness areas and sectors, including first mile, plant operations, payments, quality control, risk management and transportation, and employs over 200 people worldwide.

#### About Dairy.com

Dairy.com is the leading provider of technology, services, and intelligence platforms to the dairy industry. Our mission is to enable the supply chain to feed a growing world. Every day, we help our clients deliver nutritious and delicious dairy products to consumers worldwide, connecting every stakeholder in the

of the most advanced solutions Dairy. com has to offer to the milk brands in India."

Mr.Milkman's Dairy.com colleagues are equally enthusiastic about the future for their joint efforts, including Dairy.com Chief Executive Officer Scott Sexton. "We are very excited to invest in the continued success and incredible growth at Mr.Milkman," he said. "Our entire global team is committed to developing innovative solutions that empower supply chains to feed a growing world, and Mr.Milkman is a natural addition to our AgTech solution portfolio."

Already used by over 60+ Indian dairy brands, Mr.Milkman enables dairy food product companies to efficiently manage multiple aspects of dairy distribution, supply chain, customer subscriptions and delivery requests.

supply chain from farm to table.

#### About Mr.Milkman

Mr.Milkman is a state-of-the-art SaaS platform that empowers dairies and other industries to manage customer subscriptions and deliveries with unrivaled efficiency. From the farm all the way to the end consumer, the realtime analytics platform easily tracks all sales data, provides a complete performance overview, and enables informed business decisions.

U.S. Contact Sarah Wallach Sarah.Wallach@dairy.com

India Contact Latika Srivastava latika@jefferiesandbain.com hello@milkmanindia.com

Source : Dairy, LLC (www.ky3.com)

## **Online Meetings**

## www.agricultureinformation.com

### **Upcoming events**

#### OCTOBER 11, 2021

#### 3:00 pm

Dr. R. Chitra on "Cultivation of tamarind trees" -- Assistant Professor (Hort.) at Tamil Nadu Agricultural University in Periyakulam, Tamilnadu.

#### 05.00 PM

Mr. Sudhanshu Kumar on "Use of modern technology in banana" -- Owner of Orchards of Nayanagar in Samastipur, Bihar. He says when we do any agricultural work without the use of technology we always miss out on the real profits. By real profits I mean minimum input maximum profit. The use of technology works like a double edged sword.

#### **OCTOBER 12, 2021**

#### 3.00 PM

Mr. Kishan Makani on "Opportunity and Government incentives for food industry" -- Co-Founder of Alliance Engineering Consultant in Gandhinagar, Gujarat.

#### 05.00 PM

Ms. Kritika on "Mushroom cultivation as an commercial enterprise" -- Student of Lovely Professional University in New Delhi.

#### OCTOBER 18, 2021

#### 3:00 pm

Mr. Thiruvikram CS on "Domestic market for cut flowers" -- Proprietor of Avanthika Flowers in Hosur, Tamilnadu. His interest is on opportunities and challenges in flowers.

#### 05.00 PM

Mr. Rameshwar Shirsath on "Talk on innovative agarwood cultivation" -- Founder Chairman of Agarwood Agro , Hi-Tech Agro Associates and GreenX Solutions. His interest is on innovative farming and agarwood cultivation.

#### OCTOBER 19, 2021

#### 3:00 pm

Mr. Jitender Choudhary on "Business opportunities in freshwater pearl culture" -- Proprietor of Biva Pearl Farm in Ghaziabad, Uttar Pradesh. To know more https://bit.ly/3Bo6rDr

#### OCTOBER 22, 2021

#### 3:00 pm

Dr. Ambika H D on "The role of algae in agriculture" -- Entrepreneur from Germany.

#### 05.00 PM

Mr. C. Thatchinamoorthy on "Climate change and climate smart agriculture practices" -- A Ph.D. Research Scholar and Faculty of Agriculture at Annamalai University in Chidambaram, Tamilnadu

#### OCTOBER 25, 2021

#### 3:00 pm

Dr. K. Prasad on "Postharvest technology of horticultural crops" -- Assistant Professor cum Scientist at Dr. Rajendra Prasad Central Agricultural University in Pusa, Muzaffarpur.

#### OCTOBER 26, 2021

#### 3:00 pm

Ms. Keerthi Tanneeru on "My experience in se0ing-up Farmer Producer Organisation(FPO) " -- Director of Operations at Future AgriNest Farming Solutions Private Limited

#### OCTOBER 27, 2021

#### 5:00 pm

Dr. Devesh Thakur on "Desired traits needed to become successful agro entrepreneur" -- Assistant Professor at CSKHPKV Palampur in Himachal Pradesh.

#### OCTOBER 28, 2021

#### 3:00 pm

Mr. Gade Ramana Reddy on "Services of Agri-Clinics to the farmers" -- Agri-Clinics are envision to provide expert advice, support and services to the farmers ..

#### OCTOBER 29, 2021

#### 3.00 PM

Ms. Meghna Singh on "Different methods of managing farm waste" -- Ms. Meghna Singh is Senior Assistant Professor at IMS Engineering College in Ghaziabad, Uttar Pradesh.

#### 05.00 PM

Ms. Jeevitha on "Herbal Soap manufacturing and marketing" -- Proprietor of Newlookherbs in Pondicherry. Her interest is on herbal soaps.

#### To participate in these online meetings please visit www.agricultureinformation.com and click on BECOME PREMIUM MEMBER

**Online** Meetings

## www.agricultureinformation.com

## **Recently Completed Meetings**

#### Mr. Jitendrasingh Rao on "Everything about shade net agriculture"

Mr. Jitendrasingh Rao is the Concept Promoter at Aatreyas Agro Organic Pvt. Ltd. in Gandhinagar, Gujarat. To know more view https:// bit.ly/3EBNPBS

## Mr. Samiuddin S.Kazi on "Crop nutrition management for fruit pruning in grape"

Mr. Samiuddin S.Kazi is the General Manager & Head Agronomy of Fertis India Pvt. Ltd. in Hyderabad, Telangana. His interests are crop nutrition ,crop management , farm mechanization, horticultural operations.

#### Mr. Arvind V on "Amla softwood grafting"

Mr. Arvind V is the Proprietor of AVR Nursery in Salem, Tamilnadu.

#### Dr. Priya P on "Improved agronomic practices in Safflower"

Dr. Priya P is an Assistant Professor (Agronomy) at College of Agriculture (University of Agricultural Sciences, Dharwad) in Haveri District, Karnataka. Her interests are Nutrient Management, Organic Farming, Precision Farming & Nanotechnology and Integrated Farming Systems.

#### Dr. Rajeshnallaiah on "Farming on terrace"

Dr. Rajeshnallaiah is the Director & CEO at RNR Agri Developers in Madurai, Tamilnadu. He is into providing terrace garden training. To know more view https://bit.ly/3vvPKCc

## Mr. Ameya Padma & amp; Ms. Jyoti Padma on "Indian breed cow farming & amp; its uplifting (with business model)"

Mr. Ameya Padma & Ms. Jyoti Padma are the Proprietors of Sree Balkrishna Dairy Farm ( BKD MILK ) in Thane, Maharashtra. To know more view https://bit.ly/2VAM9Hg

### Mr. Yogesh Thite on "What are the modern and commercial aspects in dairy farming?"

Mr. Yogesh Thite is the CEO of Meticulous Business Plans in Pune, Maharashtra. To know more view https://bit.ly/3xOKBb1

#### Ms. Saroj Patel on "Satavari (Queen of herbs) medicinal properties and its commercial benefits for farmers"

Ms. Saroj Patel is the Managing Director of Amritanjali Ayurved (Opc) Pvt. Ltd. in Udaipur, Rajasthan. To know more view https://bit. ly/3800WRK

#### Mr. Nitin Singhal on "Soil borne disease management"

Mr. Nintin Singhal is the Director of Huntin Organics Pvt. Ltd., in Faridabad, Haryana. To know more view https://bit.ly/3y1nlke

## Dr. Sivalingam Elayabalan on "Artificial intelligence powered smartphone banana app(TUMAINI) for pest and disease detection"

Dr. Sivalingam Elayabalan is the Technical Director / Agriculture Scientist at Sankar Bio-Tech in Hosur, Tamilnadu. His interests are on Agricultural Biotechnology (Plant cell, Tissue culture and Molecular Plant Virology); Al technology for banana pest and disease detection; Mass production of bioinoculants and plant cell line development; Promotion of organic banana cultivation; Import and Export of planting materials ,fruits .

#### Dr. Madhumita Dash on "AI and IoT in solving major agricultural challenges of today"

Dr. Madhumita Dash is the Principal AI Research Engineer of Fasal / Wolkus Technology Solutions Limited in Bengaluru, Karnataka. To know more view https://bit.ly/3kXSgy3

#### Dr. Sheshagiri Gubbi on "Soil health as a means to make agriculture a profitable business"

Dr. Sheshagiri Gubbi is the Co-founder of Sirisamashti Krushi Pvt Ltd., Koppal, Karnataka. To know more view https://bit.ly/3zNd69v

#### Mr. Shaji GR on "Scope of Jack fruit value added products after pandemic"

Mr. Shaji GR is the Director of Prapancha Greenmart Chakkamukku in Kollam, Kerala. To know more view https://bit.ly/3BA7SP1

#### Mr. Chinmay Rajwade on "Whole process of setting-up a hydroponics farming business"

Mr. Chinmay Rajwade is the Head of Projects at Hyperfarms Private Limited in Bengaluru, Karnataka. To know more view https://bit. ly/3h6GUqz

#### Mr. R S Venkatraman on "Tamarind : Demand and uses - Domestic and export markets"

Mr. R S Venkatraman is the Proprietor of Natura Food Products in Bengaluru, Karnataka. To know more view https://bit.ly/3t08uu8

## Mr. R. Kantharaj and Ms. Sunitha H R on "How to get organic certification for the farm produce and processing units"

Mr. R. Kantharaj is the CEO and Ms. Sunitha H R is the GM of Grameena Unnathi in Bengaluru, Karnataka.

#### Mr. Anant Harihar Bhakare on "New technology in horticultural crops"

Mr. Anant Harihar Bhakare is the Director of Shree Krushi Hub in Nashik, Maharashtra. His interest are New technology in horticultural crops; High yielding and early to start; High density plants;...

#### Mr. Ramakoti K.Venkataramana on "Low budget natural farming"

Mr. Ramakoti K.Venkataramana from Ongole, Prakasam Dist in AndhraPradesh is a retired Scientist from CSIR-Indian Institute of Chemical Technology, Dept.of Science and Technology, Hyderabad, Telagana.

#### Ms. Archana Agrawal on "Aloevera gel extraction and marketing"

Ms. Archana Agrawal is the Proprietor of CitSpray Aroma Sciences MANGALAM AGRO in Nagpur, Maharashtra. Her interest is on uses of essential oils which are produced from aromatic farming like eucalyptus oil lemongrass oil tulsi basil oil lavender oil etc. To know more view https://bit.ly/2WsXXvH

#### Mr. Surajit Sinha on "Achieving food traceability through technology"

Mr. Surajit Sinha is the Head – Agritech at Farmsio in Chennai, Tamilnadu. He is into

 Market linkage through digital technologies and a professional over more than 16 + years of success in achieving revenue, market expansion, profit and business growth.

 Reshaping agriculture through digitization and impact into a single platform to the millions of smallholders

- Worked on input marketplace integration, market linkage and direct advisory

#### Mr. Sumeet Deshmukh on "Use of solar fencing in farming"

Mr. Sumeet Deshmukh is the CTO of Krushi Store Enterprises in Amravati, Maharashtra. He says solar fencing is a modern technique to fence a farm in low budget but using high-tech components at the same time. A lot of farmers are moving towards it because of higher reliability, low cost and cost to benefit ratio.

## Mr. Anjil Anvin Jain on "Precision farm machines which allow farmers to work in a smart and fast way"

Mr. Anjil Anvin Jain is the Founder of Vinglob Greentech (I) Private Limited in Ahmedabad, Gujarat. They are into manufacturing precision farm machine which allow farmers to work in smart and fast way. To know more view https://bit.ly/3jgNVpW

#### Dr. Yugraj Yadava on "Value chain in marine fisheries in India"

Dr. Yugraj Yadava is the Director of Bay of Bengal Programme Inter-Governmental Organisation in Chennai, Tamilnadu. To know more view https://bit.ly/3sLLEWU

## Dr. Prasanna Kolar on "Growth performance of oilseeds among leading states in India"

Dr. Prasanna Kolar from Bengaluru, Karnataka has done his PhD(Agricultural Economics) at Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur. He says, his study includes soybean, groundnut and rapeseed-mustard crops as major edible oilseeds among leading states of India. Data on area, production and productivity for these oilseeds were collected for the past 23 years. Statistical tools like compound growth rate and cuddy della valle index were used for the analysis of the data.

#### Mr. Devvrat Sharma on "How to make beekeeping a successful venture ?"

Mr. Devvrat Sharma is the Proprietor of Hi-tech Natural Products (I) Ltd. in Dilshad Garden, Delhi. His interest is on beekeeping.

#### Mr. M.G.Sathyanarayana on "Commercial cultivation of different varieties of tissue cultured bamboo (Dandrocalamas Family) plants"

Mr. M.G.Sathyanarayana is the Convener of Farmers Organisation at Bharathiya Kisan Sangha in Puttur, Dakshina Kannada District, Karnataka. Mr. M.G.Sathyanarayana says when greenery coverage of earth decreases climate changes. This leads health disorder in all living beings including human. To cover more greenery, bamboo (Dendrocalamus Family) plants are easily, quickly, economically growing grass.

## Dr. Manoharan Krishna on "Global opportunities for scientific and exportable organic agriculture"

Dr. Manoharan Krishna is an International Organic Agriculture Scientist Agripreneur and Businessman Vellore Tamil Nadu. He is also the Founder & Chairman of Naturaa Agrorganica in Vellore, Tamilnadu. Dr. Manoharan Krishna has done various International Research Projects for NASA, ISRO, WHO, BASF, Merck, Bayer, UNESCO, SPIC & others and now is an International Agriculture Consultant.

## Dr. Shashikant Joshi on "New alternatives for plant growth promoters"

Dr. Shashikant Joshi is the Director of Swakit Biotech Pvt. Ltd. in Bengaluru, Karnataka. To know more view https://bit.ly/3ygvwy4

## Mr. Nesibur Rahman Barbhuyan on "How to grow agarwood plants and their benefits"

Mr. Nesibur Rahman Barbhuyan is the Proprietor of Neria Live Enterprise in Lanka, Assam. To know more view https://bit.ly/3gofBHU

## Mr. Sai Krishna on "How breeding is done for oil quality in mustard"

Mr. Sai Krishna is Jr. Breeder at Mangal Murthi Seeds at East Godavari District in Andhra Pradesh. Mustard oil is intensely concentrated with anti-nutritional components like erucic acid and glucosinolates that makes the oil inedible for human consumption.

#### Mr. Chandrashekhar on "Important organic agriculture inputs"

Mr. Chandrashekhar is the Manager at Karyon Organic Pvt. Ltd., in Ranebennur, Karnataka. His interest is on organic farming.

#### Mr. M. Lakshmi Narayanan on "Value addition in banana"

Mr. M. Lakshmi Narayanan is an Agriprenure and studying M.Sc. (Vegetable Science) at Lovely Professional University in Punjab. His interest is on value addition in various horticultural, agronomic crops for getting more market and credit benefits.

#### Mr. Sachin Bakshi on "How to do agriculture as business"

Mr. Sachin Bakshi is the Proprietor of Roots Agro in Vadodara, Gujarat. Mr. Sachin Bakshi says often people do not take agriculture seriously, while agriculture and related industries contribute a large percentage in our GDP.

#### Online meetings are available only for Premium Members



## Aruneswar MGB

Founder - Grow Your Farms Tiruchirapalli, Tamil Nadu



Mr Aruneswar MGB from Tamil Nadu is a B.Sc (Hons) Agriculture graduate from Lovely Professional University. He is the Founder of Grow Your Farms an AgriTech Startup, based in Tiruchirapalli, Tamil Nadu and an Incubatee of MANAGE CIA, Hyderabad. Grow Your Farms is a new age AgriTech Startup Providing Research based scientific advisory to farmers, FPOs, FPC, Farmer Cooperatives, etc, along with integrating both backward and forward linkages in order to bring down the production costs and bring up more return on investment in synergy with both farm economy and environment. He is of the opinion that sustainability and development are the need of the decade to ensure better and safe future for the agriculture sector and the farmers. Sustainable agriculture is an holistic approach to solve the major existing problems in agriculture and allied sectors. He talks about the scenario of farming in India and how farmers can be turned from mere producers to entrepreneurs.

onventional farming practices make soil infertile, and unfortunately our farmers are habituated to conventional farming. As far as agriculture is concerned, soil gets the first priority. Over a period of time, it has been found that conventional farming is not good for soil and made agriculture as contributor for almost 18% of greenhouse gas emission. Thus the sector while being more vulnerable to climate change threats it is also an one of largest contributor for climate change. When we (his AgriTech Startup team) met farmers, we found that they lack knowledge and skills on good and better agricultural practices which restricts the scale of business and the opportunity of conserving soil biodiversity. There is a widespread lack of extensional services especially to small and marginal farmers. They neither have access to financial support from formal institutions like banks nor have sufficient backup with them. So they are forced to borrow from moneylenders, pay huge interest, and get into debt burden. It requires lot of effort and external support to change this scenario.

About 86% of the farming community comprises of small and marginal farmers. They lack investments and so cannot scale further. Consumers also loosed their trust on conventionally grown produce due to its quality and contamination. Thus, there is huge demand for healthy produce. But the farmers are forced to accept whatever is available in the fertiliser shop or neighbouring farmers. The seeding materials they use are more prone to pest and disease.

There is need to ensure access to quality agriculture inputs to support farmers in adapting to conservation agriculture. Farmers don't have access to market as well. They are forced to sell the produce in the field itself, though the government is taking some steps to curb it. The research institutions across the country somehow address the problems of small and marginal farmers. But it is only the medium and big farmers who are capable of getting easy access to these institutions and get benefited.

Small and Marginal farmers are unable to overcome the risk and vulnerability due to their lack of capacity to address them, to deal with them. During certain periods, the prices