SOUTH ASIA BIOTECHNOLOGY CENTRE

MAYEE AT 80



A Scientist Never Retires

by

BHAGIRATH CHOUDHARY

Mayee at 80

A Scientist Never Retires

Dr Charudatta Digambar Mayee

Eight decades of life
Science, leadership and service to agriculture
1946–2026

By Bhagirath Choudhary

South Asia Biotechnology Centre

Published to celebrate his eightieth year and Sahastra Chandra Darshan.

A commemorative biography and photographic chronicle

AUTHOR'S PREFACE

A life measured by its contribution

The story of Dr Charudatta Digambar Mayee is also a story of Indian agricultural science. Born in a cotton-growing family in rural Vidarbha in 1946, he entered the profession when India was building the foundations of modern agricultural research. His journey connects a village childhood with university laboratories, dryland farms, national institutions and international scientific forums.

Across these settings, his work returned to a practical question: how can scientific knowledge reduce the risks faced by farmers? His contributions to plant pathology, disease forecasting, cotton biotechnology, institutional leadership and public communication provide the thread of this tribute.

I have had the privilege of learning from Dr Mayee as a colleague and mentee. I consider myself one of the greatest beneficiaries of his mentorship, guidance and generosity of spirit. This publication places his professional milestones in their human and institutional context, celebrating the researcher, teacher, administrator and friend.

His seventy-fifth birthday celebrations in Nagpur in July 2021 brought together family, colleagues, scientists, farmers and public leaders. The years since have shown how much remains possible after formal retirement. The photographic chronicle in this volume follows that continuing engagement, from cotton fields and farmer meetings to scientific conferences and public debate.

Published for his eightieth year and Sahastra Chandra Darshan, this book celebrates a life still engaged with the questions that first drew him to agricultural science. The journey continues through the students, scientists and farmers who learn from him and carry the work forward.

Bhagirath Choudhary
Founder and Director
South Asia Biotechnology Centre

IN THIS VOLUME

Contents

A life measured by its contribution 03
From Sakharkherda to the world 05
Milestones 06
A village childhood 08
Education as an opening 09
Discovering plant pathology 10
Punjab and professional beginnings 11
Homecoming to Maharashtra 12
Learning beyond borders 13
Dryland crops and disease 14
Leadership in the university 15
Cotton enters the centre 16
Agriculture at national scale 17
Science in public life 18
The long walk continues 19
The enduring contributions 20
A scientist never retires 21
Mayee beyond 75 22
2021 A new chapter of service 23
2022 Partnerships and the farmer 36
2023 Science and public dialogue 50
2024 Farmers and national recognition 62
2025 Cotton science in the field 67
2026 Recognition and continuing work 71
The work carries forward 80

OPENING

From Sakharkherda to the world

On 15 July 1946, Dr Mayee was born in Sakharkherda, Buldana district, Maharashtra. His father, Sh Digambar Dinkar Mayee, was a cotton farmer. In his own recollections, the village was not merely the setting of childhood but the school in which he first learned about the dignity of work, the fragility of farm livelihoods and the value of education.

Decades later, the son of a cotton farmer would lead India's Central Institute for Cotton Research (ICAR-CICR) and contribute to the public evaluation of a transformative cotton technology. The distance between these two worlds was immense, yet the connection remained unbroken. The field was never far from the laboratory, and the farmer was never far from the policy discussion.

His remarkable journey from a remote Maharashtra village to international scientific institutions captures the transformative possibilities of education, inquiry and service.



A journey reaching the international stage: the ICAC International Researcher of the Year 2025 recognition, presented in Bremen, Germany, on 23 March 2026.

MILESTONES 1946–2000

The formative decades

1946

Born on 15 July in Sakharkherda, Buldana district, Maharashtra, into a cotton-farming family.

1965 AND 1967

Completes BSc and MSc degrees in agriculture at Nagpur University.

1972

Earns a PhD at the Indian Agricultural Research Institute, New Delhi.

1972–1975

Begins his professional appointments at Punjab Agricultural University, including work at Kapurthala.

1975 ONWARD

Returns to Maharashtra for teaching, research and departmental leadership in plant pathology.

1980–1982

Alexander von Humboldt Fellow at the University of Hohenheim, Germany; returns as a visiting professor in 1986.

1997–2000

Vice-Chancellor of Marathwada Agricultural University, Parbhani.

MILESTONES 2000–2026

National responsibility and continuing service

2000–2003

Director, ICAR-Central Institute for Cotton Research, Nagpur; leads public-sector evaluation of Bt cotton during a defining technological transition.

2003–2004

Agricultural Commissioner, Government of India.

2004–2011

Chairman, Agricultural Scientists Recruitment Board, New Delhi.

2015 ONWARD

Founding President of the South Asia Biotechnology Centre; continuing engagement with farmers and agricultural innovation.

2015–2022

Chairman of the Board, AFC India Limited. Serves as Vice President of NAAS during 2015–2018.

2019–2022

Board Member, APEDA, Ministry of Commerce and Industry, Government of India.

2021–2026

Sustained field engagement, scientific communication and recognition, including the ICAC International Researcher of the Year 2025 award, presented in March 2026.

2026

Celebrates eighty years and Sahastra Chandra Darshan.

THE JOURNEY / 01

A village childhood

Family and the lessons of scarcity

In Sakharkherda, a village in Maharashtra's Buldana district, childhood was shaped by limited means and a large household. Clothing, transport and electricity were not taken for granted. The family placed education above comforts, and the young Charudatta learned early that opportunities had to be made rather than awaited.

His father, late Digambar Dinkar Mayee, cultivated cotton in Vidarbha. Farming was not a distant abstraction but the livelihood around which family decisions revolved. The boy who grew up amid cotton fields would eventually devote some of his most consequential professional years to cotton research and its practical application.

The modest beginnings of 1946 are essential to understanding his later public service. They gave him an instinctive appreciation for the vulnerability of farmers and for the difference that dependable scientific advice could make to an agricultural household.

A large extended family gave young Charudatta an early education in cooperation, negotiation and shared responsibility. Daily life required resourcefulness: the same objects served many people, and family relationships were sustained through mutual adjustment.

The distance between village life and higher education was considerable. Travel was difficult, information moved slowly and modern conveniences arrived late. Yet these constraints also encouraged discipline and an enduring curiosity about the wider world.

The values he carried forward were practical: respect for learning, generosity toward colleagues and an ability to work with people from different backgrounds.



The connection with farmers endures: Ekpala, Wardha, 12 August 2024.

THE JOURNEY / 02

Education as an opening

Discipline and the courage to leave home

Education opened the first decisive door. Charudatta Mayee completed his BSc in Agriculture at Nagpur University in 1965 and an MSc in Agriculture in 1967. His academic interests gradually moved toward the study of crop diseases and the science of protecting harvests.

He went on to earn his PhD from the Indian Agricultural Research Institute, New Delhi, in 1972. At IARI, training in research methods and plant pathology helped transform a village student into a scientist capable of investigating agricultural problems systematically.

His academic journey illustrates a recurring theme in Indian agricultural development that talent from rural communities can make national contributions when educational institutions provide access to rigorous scientific training.

Leaving familiar surroundings for advanced study required adaptability. The move from Vidarbha to national institutions exposed Dr Mayee to new scientific disciplines, mentors and professional expectations.

The transition sharpened his appreciation for evidence. Crop diseases could not be understood through anecdote alone; their causes, environmental conditions and pathways of spread needed to be studied and tested.

That habit of asking how an observation could be turned into an actionable recommendation would remain visible throughout his career from university research to national crop policy.



A later academic honour: the honorary DSc at MPKV Rahuri, 6 January 2023.

THE JOURNEY / 03

Discovering plant pathology

The making of a researcher

Plant pathology became the scientific foundation of Dr Mayee's career. Diagnosis was only the beginning. His work explored epidemiology, pathogen interactions and the conditions under which damaging outbreaks could be anticipated.

This emphasis on prediction was particularly important for rainfed agriculture. Farmers with limited resources could not afford repeated, unnecessary interventions. A credible warning system could help them act at the right time and reduce avoidable losses.

He helped build a body of applied knowledge in dryland crop health, connecting laboratory investigation with field observations and the realities of smallholder production.

Dr Mayee's research addressed crop diseases affecting groundnut, sunflower, pearl millet, sorghum and cotton. His contributions included disease forecasting approaches and investigations into interactions among pathogens.

His work on sunflower downy mildew was associated with the development of resistant hybrids, while groundnut disease prediction informed field-oriented demonstration efforts. Dr Mayee has often credited his research with advancing understanding of nutrition-related disease management.

These were not isolated academic achievements. Their significance lay in the possibility of replacing uncertain, reactive crop protection with diagnosis, prevention and more precise decisions.



Recognition in plant protection: the PPAI Award of Distinction, Hyderabad, November 2023.

THE JOURNEY / 04

Punjab and professional beginnings

Research and a growing public voice

After early research assignments, Dr Mayee joined Punjab Agricultural University (PAU) as Assistant Virologist in 1972. He subsequently served as Plant Pathologist for rice at its regional research station in Kapurthala.

Punjab provided an important contrast to the dryland systems of Maharashtra. Working in different cropping environments broadened his view of agricultural problems and reinforced the need to adapt recommendations to local conditions.

The early appointments established a professional pattern: close attention to the crop, a willingness to investigate unfamiliar challenges and respect for the extension systems through which farmers encounter scientific advice.

The formative years in Punjab gave Dr Mayee experience in research teams and institutional programmes. Scientific credibility came from the quality of observations, the reproducibility of findings and the usefulness of conclusions.

He learned to communicate technical problems across disciplines and to connect the language of the laboratory with the questions raised by field officers and cultivators.

The ability to explain complex plant health issues clearly later became a defining asset in leadership roles that demanded decisions far beyond a single experiment.



Scientific exchange at ICAR-CICR, Nagpur, 16 September 2021.

THE JOURNEY / 05

Homecoming to Maharashtra

The educator and the family man

In 1975 Mayee returned to Maharashtra, beginning a long association with Marathwada Agricultural University (MAU), Parbhani, as Professor and Head of Department of Pathology. The region's dryland agriculture presented urgent questions about yield instability and disease risk.

His university years linked teaching, research and field engagement. Students were trained not only to identify pathogens but also to understand the conditions that make crop losses likely and the interventions that farmers can realistically adopt.

The professional legacy of this period is found as much in the scientists he mentored as in the research findings he produced.

A successful agricultural university depends on teachers who see students as future problem-solvers. Dr Mayee's work at Parbhani placed mentorship alongside research, helping create capacity for crop protection across institutions.

Family life remained a constant through transfers, research responsibilities and travel. His journey combined professional ambition with relationships that gave continuity to a mobile career.

Like me, those who worked with him encountered a scientist who valued personal bonds and collaborative learning, not merely the authority of office.



Dr Mayee and Mrs Heema Mayee with the SABC team in Jodhpur, 21 March 2022.

THE JOURNEY / 06

Learning beyond borders

Hohenheim and international friendships

An Alexander von Humboldt Fellowship took Dr Mayee to the University of Hohenheim in Germany during 1980-82. He returned as a visiting professor in 1986. The experience widened his scientific network and brought new methods and perspectives into his work.

International exposure did not displace his focus on Indian agriculture. Instead, it provided comparative insight into how research institutions organize inquiry, validate results and translate science into practical recommendations.

The fellowship marked the beginning of sustained professional engagement abroad, eventually extending across several continents.

Scientific collaboration thrives on relationships built over time. Dr Mayee’s international visits involved universities, research organizations, meetings and discussions with specialists in crop health and cotton.

He travelled widely across Asia, Africa, Europe, the Americas and Australia, sharing Indian experience while learning from different production systems. I accompanied Dr Mayee on many assignments abroad, experiences that strengthened my own scientific approach to identifying problems and seeking practical solutions.

His global engagement reflects the international character of agricultural challenges. Pests, pathogens, seed technologies and climate pressures cross borders, even while solutions must remain sensitive to local farmers.



Continuing international engagement in Taipei, September 2026.

THE JOURNEY / 07

Dryland crops and disease

Understanding epidemics and making forecasts useful

In rainfed Central India, the timing and severity of disease can determine whether a crop succeeds. Dr Mayee concentrated on understanding those risks before they became irreversible losses.

His research encompassed forecasting approaches for groundnut diseases, studies on sunflower downy mildew, and disease resistance and balanced nutrition in dryland cropping systems.

Such work matters because it shifts attention from routine treatment to knowledge-based management to identify the threat, establish the conditions that favour it and intervene when evidence warrants action.

The LAGOFTAN groundnut programme, associated with ICRISAT demonstrations during the 1980s and early 1990s, illustrated how disease prediction and integrated crop practices could be tested beyond research plots.

The LAGOFTAN demonstrations linked productivity and cultivation costs with integrated crop practices. The wider methodological contribution was to make scientific models useful at farm level and to treat resource efficiency as part of crop protection.



Examining dryland innovation at ICAR-CAZRI, Jodhpur, 21 March 2022.

THE JOURNEY / 08

Leadership in the university

Education and institutional responsibility

Dr Mayee’s responsibilities broadened from departmental leadership to university administration. He served as Associate Dean at PDKV, Akola, Associate Director of Research at Aurangabad and Vice-Chancellor of Marathwada Agricultural University from 1997 to 2000.

Each position required a different balance of scientific judgment, personnel development and institutional planning. Research priorities had to be matched with regional needs, funding realities and the long-term development of students and faculty.

His administrative progression demonstrated how a research career could grow into the stewardship of an entire agricultural education system.

Leadership at a university brings decisions that affect laboratories, classrooms, research stations and the careers of young scientists. Dr Mayee’s experience as Vice-Chancellor placed him at the intersection of knowledge creation and public responsibility.

The measure of institutional leadership is not simply the number of initiatives launched, but whether people and systems are better equipped to serve agriculture after a leader moves on.

This period prepared him for subsequent national assignments in which scientific evidence, public policy and institutional coordination would become inseparable.



Institutional cooperation at PDKV Akola, 7 July 2022.

THE JOURNEY / 09

Cotton enters the centre

Evaluating a technological turning point

In August 2000, Mayee became Director of ICAR–Central Institute for Cotton Research (CICR) at Nagpur. The appointment returned him to the crop that had sustained his father's household in Vidarbha.

Indian cotton cultivation was approaching a technological turning point. New insect-resistant biotechnology required rigorous public-sector field evaluation, biosafety scrutiny and a credible framework for farmer adoption.

At CICR, his responsibilities involved both the immediate scientific assessment of cotton technologies and the broader challenge of strengthening crop research for diverse cotton growing regions.

Under Dr Mayee's directorship, public-sector trials evaluated the efficacy and field performance of insect-resistant Bt cotton. Approximately 55 trials were conducted or monitored through public institutions during 2000–2003. It was during this period that I met Dr Mayee in New Delhi.

India approved its first Bt cotton hybrids for commercial cultivation in 2002. That regulatory decision involved multiple institutions and authorities and Dr Mayee's role was an important part of the public research and evaluation process.

The introduction of Bt cotton changed pest management options for many growers. Its longer-term experience also underlines the need for stewardship, resistance management and continued innovation rather than reliance on any single technology which was advocated vigorously by Dr Mayee.



Reviewing cotton demonstration plots at KVK Kharpudi, Jalna, 26 October 2025.

THE JOURNEY / 10

Agriculture at national scale

Policy and the scientific workforce

Later, Dr Mayee served as Agricultural Commissioner, Government of India, from July 2003 to December 2004. This role moved him from institute-level leadership into national coordination of agricultural programmes and policy.

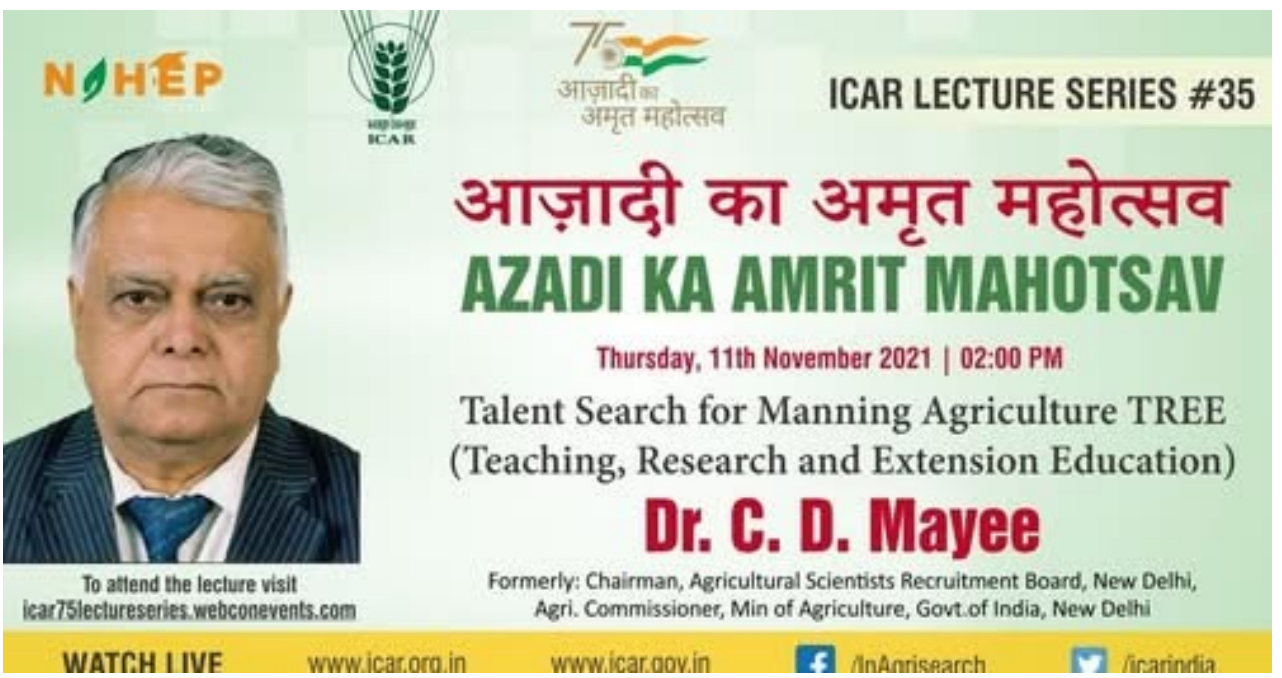
Cotton productivity, technology adoption and the relationship between research and extension were central concerns during this period. The Technology Mission on Cotton (TMC) offered an important platform for disseminating improved practices.

His experience illustrates why science policy requires more than laboratory excellence. Evidence must be accompanied by institutions capable of reaching farmers and responding to changing field realities.

From December 2004 to July 2011, Dr Mayee chaired the Agricultural Scientists Recruitment Board (ASRB) of the Government of India. The assignment placed him at the centre of talent selection and the future capacity of India's agricultural research system.

Recruitment is a quiet but consequential form of nation building. The calibre and integrity of scientific appointments shape research institutions for decades.

Across these roles, Dr Mayee's career increasingly involved creating the conditions in which others could pursue useful science through leadership, mentoring, selection and institutional reform.



Addressing scientific talent development through the ICAR lecture series, 11 November 2021.

THE JOURNEY / 11

Science in public life

A voice for farmers and a mentor to institutions

Retirement from full-time government service did not end Dr Mayee's engagement with agriculture. He continued to contribute through scientific societies, advisory bodies, universities, industry-facing initiatives and public discussions.

His later roles included involvement with the National Academy of Agricultural Sciences (NAAS), APEDA, agricultural university boards, crop research advisory committees and international biotechnology networks.

These assignments reflect a sustained conviction that science should remain in dialogue with policymakers, entrepreneurs, farmers and civil society.

As a Founding President of the South Asia Biotechnology Centre (SABC), Dr Mayee has supported a platform devoted to bridging scientific knowledge and society. The organization's work connects biotechnology, technology transfer, sustainable crop production and farmer-oriented field demonstrations.

His continuing engagement has included discussions on cotton stewardship, pest management, sustainable agriculture and emerging technologies, with an emphasis on practical relevance.

The central lesson of his mentorship is continuity. Scientific progress depends on enabling younger colleagues and building institutions that can carry the work forward.



Cotton Innovation Day at SABC's High-Tech R&D Station, Sirsa, 26 August 2026.

THE JOURNEY / 12

The long walk continues

Friends and family and purpose

Recognition continued as he approached eighty, including honours for plant protection, cotton science and agricultural leadership. These awards document the breadth of his influence, but they are not its only measure.

What remains striking is his continued interest in new agricultural questions. Cotton's pest pressures, the responsible use of biotechnology and the challenge of translating innovation into farmer benefit still demand scientific attention.

At eighty, the story is not merely retrospective. It is also an invitation to future researchers to combine scientific curiosity with patience, public service and commitment to the farmer.

Behind the formal chronology is a lifetime sustained by family, teachers, colleagues, students and friends. His professional journey was never solitary: institutions, affiliations and relationships made each transition possible.

His example suggests that humility and scientific ambition need not conflict. The best researchers remain open to learning, acknowledge others' contributions and treat uncertainty as a reason for investigation rather than a weakness.

The celebration of his eightieth year and "SAHASTRA CHANDRA DARSHAN" is therefore a tribute not only to individual accomplishment, but to the many communities of learning and service that his career has helped strengthen.



The fifth Dr C.D. Mayee Agri Expert Award ceremony, Nagpur, 18 July 2026.

A LIFE IN SCIENCE

The enduring contributions

PLANT PATHOLOGY AND FORECASTING

Pioneering research on disease epidemiology, forecasting and management of dryland crop diseases including groundnut, sunflower, pearl millet and cotton.

CROP IMPROVEMENT

Research on sunflower downy mildew and disease-tolerant hybrids, alongside contributions to disease management practices for rainfed production systems.

COTTON BIOTECHNOLOGY

Leadership of ICAR-CICR during public-sector field evaluation and biosafety assessment of Bt cotton in the period preceding commercial introduction in 2002.

INSTITUTIONAL LEADERSHIP

Vice-Chancellor, director of a national institute, Agricultural Commissioner and Chairman of the Agricultural Scientists Recruitment Board (ASRB).

GLOBAL ENGAGEMENT

Scientific exchange through the Alexander von Humboldt Fellowship and subsequent international cotton and crop protection networks of ABNE & ISAAA.

FARMERS AND SCIENTIFIC COMMUNICATION

Continuing engagement through South Asia Biotechnology Centre (SABC), Agrovision Foundation and field-oriented scientific outreach after formal public service.

THE JOURNEY CONTINUES

A scientist never retires

At eighty, the most meaningful tribute to Dr Mayee is the recognition of a lifelong habit of connecting scientific enquiry with public purpose. His work has traversed the laboratory, the classroom, the university, the research institute, the ministry, international meetings and farmers' fields.

Through each transition, the questions remained practical: what is the problem, what does the evidence show, and how can knowledge improve a farmer's choices? His life also reveals gratitude to teachers, family, friends and colleagues, and an appreciation of the encounters that shape a scientific career.

The following photographic chronicle records his scientific curiosity, engagement with agricultural policy and commitment to farmers after his seventy-fifth birthday. It shows a scientist continuing to participate in the national conversation through field visits, public writing, mentorship and scientific exchange.

This is a celebration of continuity: from childhood in Sakharkherda to the generations of students, scientists and farmers who draw inspiration from his work and carry it forward.

I consider myself one of the greatest beneficiaries of his invaluable mentorship, unwavering guidance and extraordinary generosity of spirit.

Bhagirath Choudhary

A PHOTOGRAPHIC CHRONICLE / JULY 2021–OCTOBER 2026

Mayee beyond 75

The journey continues in farmers’ fields, research institutions, public forums and the company of colleagues. These photographs follow the work, conversations and recognitions of five active years.

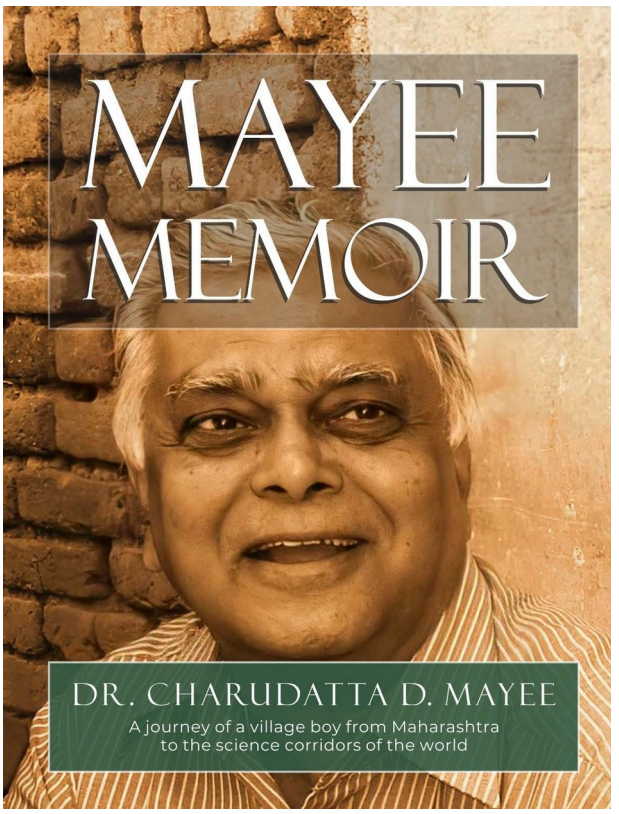


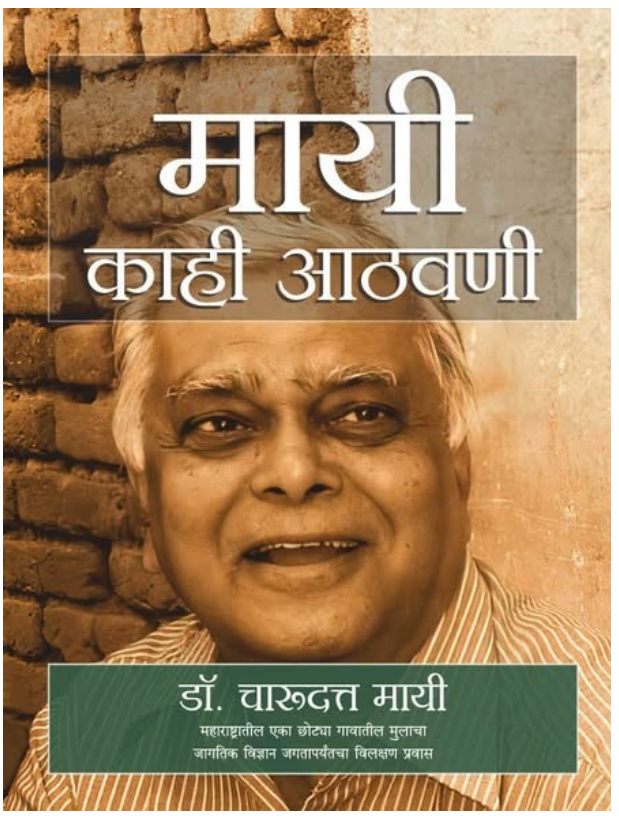
With cotton farmers at Ekpala, Deoli tehsil, Wardha, 12 August 2024.

THE JOURNEY CONTINUES / 2021

A story in two languages

The English and Marathi editions of Mayee Memoir, published by SABC for Dr Mayee's seventy-fifth birthday, 15 July 2021.





THE JOURNEY CONTINUES / 2021

A milestone shared in Nagpur

Shri Nitin Gadkari releases Mayee Memoir in the presence of Parampujya Swami Jitendranath Ji Maharaj at the seventy-fifth birthday celebrations organised by SABC, the Mayee family and Agrovision Foundation. Hotel Centre Point, Nagpur, 17 July 2021.











THE JOURNEY CONTINUES / 2021

The story reaches the public

Print and digital coverage of Mayee Memoir across Maharashtra, 17–20 July 2021.



मायी यांनी शेती संशोधनाला दिशा दिली

माजी केंद्रीय कृषिमंत्री शरद पवार यांचे गौरवोद्गार : कामामुळे जागतिकस्तरावर नावलौकिक

नागपूर : केंद्रीय मंत्री नितीन गडकरी यांच्या हस्ते 'मायी मेमायर' या पुस्तकाचे प्रकाशन करण्यात आले. या वेळी जितेंद्रनाथ महाराज, रवी बोरटकर, डॉ. सी. डी. मायी उपस्थित होते.

'मायी मेमायर'चे प्रकाशन

या वेळी केंद्रीय मंत्री नितीन गडकरी यांच्या हस्ते मायी यांच्या जीवनावर आधारित 'मायी मेमायर' या पुस्तकाचे प्रकाशन करण्यात आले. मायी यांनी साखरखेर्डा (बुलडाणा) या छोट्याशा गावातून येत देशपातळीवर लौकिक प्राप्त केला. त्यांचे हे कार्य इतरांसाठी देखील प्रेरणादायी असल्याचे मत व्यासपीठावरील मान्यवरांनी या वेळी व्यक्त केले.



सी.डी. मायी यांनी बीज उत्पादकता वाढविण्याच्या 'मिशन'वर काम करावे

केंद्रीयमंत्री नितीन गडकरी यांचे आवाहन : 'मायी मेमोअर' पुस्तकाचे प्रकाशन



बीज उत्पादकता में वृद्धि डॉ. मायी के लिए होगा 'मिशन' : गडकरी



बीजोत्पादकता वाढविणे डॉ. मायींसाठी मिशन : गडकरी

डॉ. मायी यांच्या वाढदिवसानिमित्त पुस्तकाचे प्रकाशन

नागपूर : सरकारी संस्थांमध्ये सुरू असलेले संशोधनकार्य फारसे परिणामकारक नाही. डॉ. सी. डी. मायी यांनी केलेल्या संशोधनाने कृषी क्षेत्रात क्रांती झाली. आता त्यांनी बीज उत्पादकता वाढविण्याच्या मिशनवर काम करावे, असे आवाहन केंद्रीय मंत्री नितीन गडकरी यांनी केले.

साउथ एशिया बायोटेक्नॉलॉजी सेंटर (एसएबीसी), मायी कुटुंबीय व ॲग्रोव्हिजन फाउंडेशनच्या संयुक्त वतीने नुकतेच कृषितज्ज्ञ डॉ. सी. डी. मायी यांच्या ७५ व्या वाढदिवसानिमित्त कार्यक्रम आयोजित करण्यात आला होता. सेंटर पॉइंट येथे झालेल्या कार्यक्रमाला जितेंद्रनाथ महाराज, डॉ. सी. डी. मायी, रवी बोरटकर, भागीरथ चौधरी उपस्थित होते. जितेंद्र महाराज व नितीन गडकरी यांच्या हस्ते डॉ. मायी यांचा पत्नी हेमा मायी यांच्यासह शाल व श्रीफळ देऊन सत्कार करण्यात आला. याप्रसंगी डॉ. मायी यांच्या जीवनावर आधारित 'मायी मेमोअर' या पुस्तकाच्या इंग्रजी व मराठी आवृत्तीचे प्रकाशन करण्यात आले. सत्काराला उत्तर देताना डॉ. मायी यांनी शेतकऱ्यांमध्ये आत्मविश्वास निर्माण करण्यासाठी त्यांच्याबरोबर काम करणे गरजेचे असल्याचे मत व्यक्त केले. राधा सावदेकर, तनुश्री सावदेकर, इदांत मायी यांनीही आपल्या भावना व्यक्त केल्या. या पुस्तकाचे लेखन नीलिमा पाठक यांनी तर मराठी अनुवाद मंजूषा जोशी यांनी केला आहे. संचालन प्रतीक्षा मायी यांनी केले. आभार रवी बोरटकर यांनी मानले.

THE JOURNEY CONTINUES / 2021

The story reaches the public continued

Print and digital coverage of Mayee Memoir across Maharashtra, 17–20 July 2021.



नागपूर दिनांक

डॉ. मायी यांनी बीज उत्पादकता वाढवण्यासाठी काम करावे - गडकरी

'मायी मेमोअर' या पुस्तकाचे प्रकाशन

लोकसत्ता प्रतिनिधी

नागपूर : सरकारी संस्थांमध्ये सुरू असलेले संशोधन कार्य फारसे परिणामकारक नाही. पण डॉ.सी.डी. मायी यांनी खासगीरित्या केलेल्या संशोधनाने कृषी क्षेत्रात क्रांती झाली. आता त्यांनी बीज उत्पादकता वाढवण्याच्या 'मिशन' वर काम करावे, असे आवाहन केंद्रीय परिवहन मंत्री नितीन गडकरी यांनी केले.

साऊथ एशिया बायोटेक्नॉलॉजी सेंटर (एसएबीसी), मायी कुटुंबीय व ॲग्रोकिजन फाऊंडेशनच्या संयुक्त वतीने ज्ञानियांची कृषीतज्ज्ञ डॉ. सी.डी. मायी यांच्या ७५ व्या वाढदिवसानिमित्त विशेष कार्यक्रमाचे आयोजन केले होते. सेंटर पॉईंट येथे झालेल्या कार्यक्रमाला जितेंद्रनाथ महाराज, डॉ. सी. डी. मायी, ॲग्रोकिजन फाऊंडेशनचे संचालक रवि बोरटकर व एसएबीसी नवी दिल्लीचे भागीरथ चौधरी उपस्थित होते. यावेळी प्रमुख अतिथींच्या हस्ते डॉ. सी. डी. मायी व पत्नी हेमा मायी यांचा शाल व श्रीफळ देऊन सत्कार करण्यात आला. त्यानंतर डॉ. मायी यांच्या जीवनावर आधारित 'मायी मेमोअर' या पुस्तकाच्या इंग्रजी व मराठी आवृत्तीचे प्रकाशन करण्यात आले. यावेळी गडकरी यांनी डॉ. मायी यांच्या ॲग्रोकिजनमधील त्यांच्या कामाचे कौतुक करताना म्हणाले, भारतीय कृषी क्षेत्रात खूप समस्या असून खते, कीटकनाशकांचे दर प्रचंड वाढले आहेत. तुलनेत पिकांना भाव मिळत नसून उत्पादन खर्च मोठ्या प्रमाणात वाढला आहे. सिंचन, पाणी व्यवस्थापनासोबतच कृषी क्षेत्रात मोठ्या प्रमाणात संशोधन होणे आवश्यक असून त्यासाठी विद्यापीठे, संशोधन संस्था, संशोधकांना स्वातंत्र्य देण्याची आज खरी गरज आहे. डॉ. मायींसारख्या शास्त्रज्ञांनी त्यासाठी पुढे यावे, असे गडकरी म्हणाले.

जितेंद्रनाथ महाराजांनी डॉ. मायी हे कृषी क्षेत्रातील 'फरिश्ते' आणि 'स्कूल ऑफ थॉट' आहेत असे म्हटले. सत्काराला उत्तर देताना डॉ. मायी यांनी शेतकऱ्यांमध्ये आत्मविश्वास निर्माण करण्यासाठी त्यांच्याबरोबर काम करण्याची गरज असल्याचे मत व्यक्त केले. एसएबीसी नवी दिल्लीचे भागीरथ चौधरी यांनी प्रास्ताविक केले.

या पुस्तकाचे लेखन दिल्लीच्या नीलिमा पाठक यांनी तर मराठी अनुवाद मंजुषा जोशी यांनी केला. संचालन प्रतीक्षा मायी यांनी केले तर रवि बोरटकर यांनी आभार मानले.



Memoir released to mark CD Mayee's 75th birthday

South Asia Biotechnology Centre (SABC), Mayee Family and Agrovision Foundation organized a special event to mark agronomist CD Mayee's 75th birthday recently.

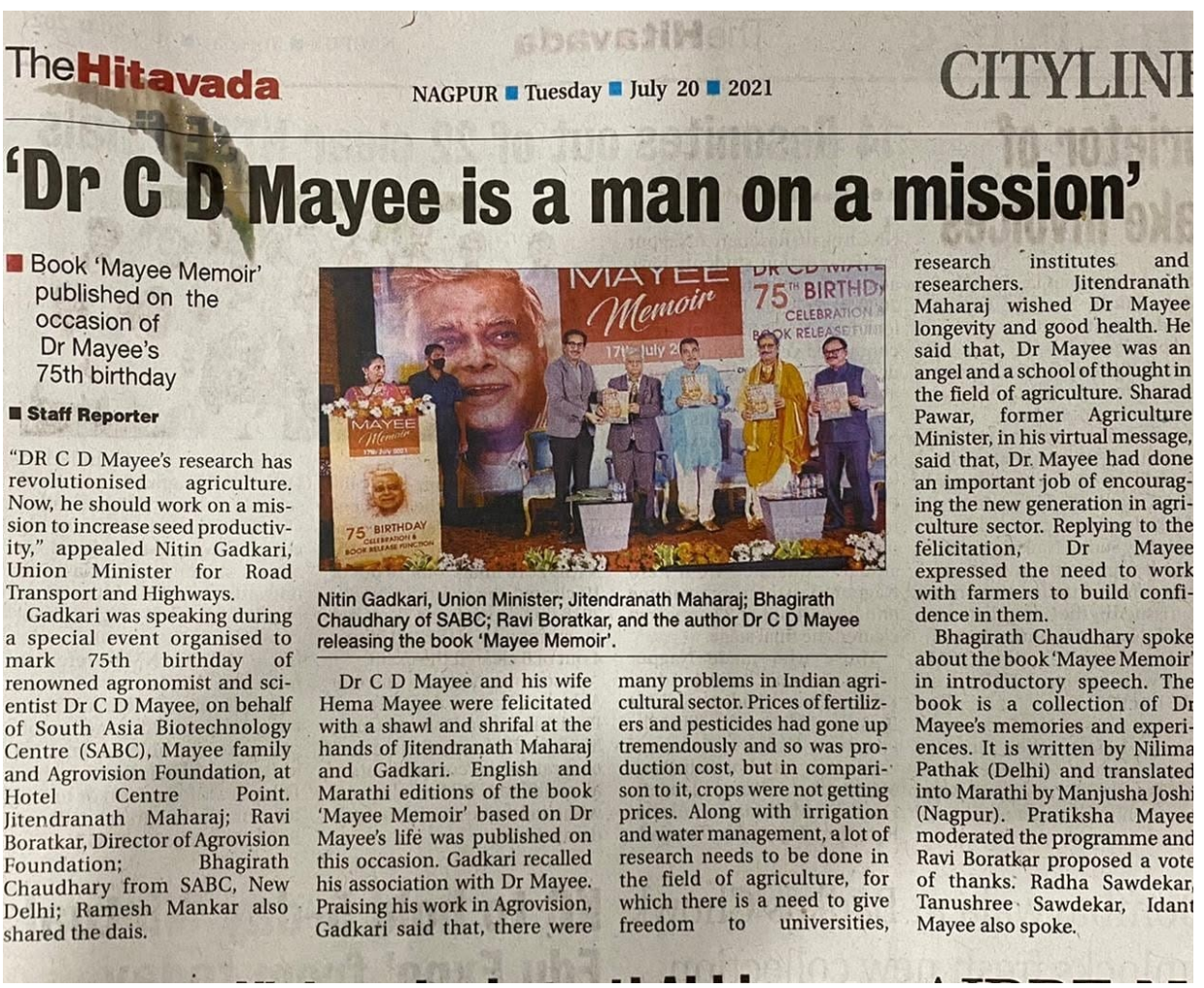
Union minister Nitin Gadkari was the chief guest of the event where Jitendranath Maharaj, director of Agrovision Foundation Ravi Boratkar and SABC's Bhagirath Chaudhary were present as special guests. CD Mayee and his wife Hema were felicitated with shawl and shrifal by Jitendranath Maharaj and Gadkari. English and Marathi editions of the book 'Mayee Memoir' based on Mayee's life were released on the occasion. Gadkari said, "CD Mayee's research revolutionized agriculture. Now, he should work on a mission to increase seed productivity." Replying to his felicitation, Mayee expressed the need to work with farmers to build confidence in them. The book is a collection of Mayee's memories and experiences and has been written by Nilima Pathak of Delhi and translated into Marathi by Manjusha Joshi of Nagpur. The programme was moderated by Pratiksha Mayee while Boratkar proposed a vote of thanks.



बीजोत्पादन वाढ हेच मिशन ठेवावे

नितीन गडकरी यांचे आवाहन

डॉ. मायी यांच्या 'मायी मेमोअर' पुस्तकाचे प्रकाशन



The Hitavada NAGPUR ■ Tuesday ■ July 20 ■ 2021 CITYLINE

'Dr C D Mayee is a man on a mission'

■ Book 'Mayee Memoir' published on the occasion of Dr Mayee's 75th birthday

■ Staff Reporter

"DR C D Mayee's research has revolutionised agriculture. Now, he should work on a mission to increase seed productivity," appealed Nitin Gadkari, Union Minister for Road Transport and Highways.

Gadkari was speaking during a special event organised to mark 75th birthday of renowned agronomist and scientist Dr C D Mayee, on behalf of South Asia Biotechnology Centre (SABC), Mayee family and Agrovision Foundation, at Hotel Centre Point. Jitendranath Maharaj; Ravi Boratkar, Director of Agrovision Foundation; Bhagirath Chaudhary from SABC, New Delhi; Ramesh Mankar also shared the dais.

Nitin Gadkari, Union Minister; Jitendranath Maharaj; Bhagirath Chaudhary of SABC; Ravi Boratkar, and the author Dr C D Mayee releasing the book 'Mayee Memoir'.

Dr C D Mayee and his wife Hema Mayee were felicitated with a shawl and shrifal at the hands of Jitendranath Maharaj and Gadkari. English and Marathi editions of the book 'Mayee Memoir' based on Dr Mayee's life was published on this occasion. Gadkari recalled his association with Dr Mayee. Praising his work in Agrovision, Gadkari said that, there were many problems in Indian agricultural sector. Prices of fertilizers and pesticides had gone up tremendously and so was production cost, but in comparison to it, crops were not getting prices. Along with irrigation and water management, a lot of research needs to be done in the field of agriculture, for which there is a need to give freedom to universities, research institutes and researchers. Jitendranath Maharaj wished Dr Mayee longevity and good health. He said that, Dr Mayee was an angel and a school of thought in the field of agriculture. Sharad Pawar, former Agriculture Minister, in his virtual message, said that, Dr. Mayee had done an important job of encouraging the new generation in agriculture sector. Replying to the felicitation, Dr Mayee expressed the need to work with farmers to build confidence in them.

Bhagirath Chaudhary spoke about the book 'Mayee Memoir' in introductory speech. The book is a collection of Dr Mayee's memories and experiences. It is written by Nilima Pathak (Delhi) and translated into Marathi by Manjusha Joshi (Nagpur). Pratiksha Mayee moderated the programme and Ravi Boratkar proposed a vote of thanks. Radha Sawdekar, Tanushree Sawdekar, Idant Mayee also spoke.

THE JOURNEY CONTINUES / 2021

Project Bandhan begins

Launching a pink bollworm mating-disruption project in Waroda and Adasa villages, Kalmeshwar taluka, Nagpur district, 1 August 2021.





THE JOURNEY CONTINUES / 2021

Sharing the journey with scientists

Copies of Mayee Memoir shared with members of the scientific community in Delhi, 4 August 2021.







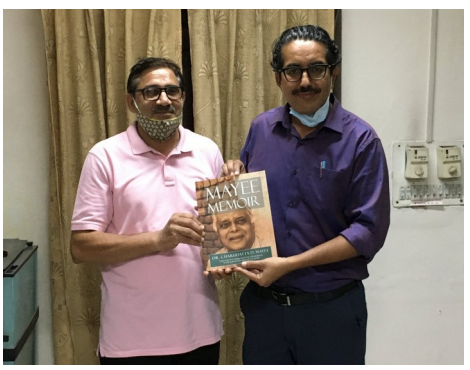


THE JOURNEY CONTINUES / 2021

Sharing the journey with scientists continued

Copies of Mayee Memoir shared with members of the scientific community in Delhi, 4 August 2021.







THE JOURNEY CONTINUES / 2021

New tools for crop protection

Dr Mayee's article on using drones to spray pesticides against locusts, published in The Hindu BusinessLine, 17 August 2021.

THE HINDU

Drones to be used to spray pesticides in fight against locusts

Issues surrounding logistics, costs, energy and environmental impact, apart from lack of guidelines, hinder their use

BHAGIRATH CHOUDHARY/ YASHIKA KAPOOR/ CD MAYEE

The deadly Covid-19 has posed a great challenge to public health and pushed us all under a lockdown.

In this unusually difficult time, another group of troublemakers has emerged in the countryside, threatening crop health. It is the exotic desert locust, a polyphagous gregarious pest, which travels in swarms and has a substantial appetite.

Locusts cause significant damage by devouring leaves, fruits, seeds and growing points of plants, and even bring down trees with their weight. In India, desert locusts are typically spotted in Rajasthan, Haryana and Gujarat from time to time during the kharif season. They were also reported for the first time during the rabi season last year.

Even 2018-19 was not particularly sympathetic to Indian agriculture, as the invasive Fall Armyworm (FAW) landed in the country and impacted maize production significantly. Knowledge about integrated pest management dissipated using digital media, and large-scale farmer education programmes, helped equip the farmers in the fight against FAW.

innovative solutions

The blows from such adverse events, along with the shortage of labour for carrying out weeding and harvesting operations apart from other farm activities, demand innovative solutions for the agriculture sector. The pandemic that has caused significant loss of workdays and capital, too, has hit the agricultural sector hard. Thus, to control exotic pests, step up surveillance and overcome the challenges of farming amid the pandemic, the innovative technology of flying drones is now poised to support agriculture.

Multiple prospects await drone applications in Indian agriculture, which faces a burgeoning population, increasing the cost of agricultural inputs and the need to achieve sustainable development goals. Accordingly, the Centre aims to introduce drones, also termed as unmanned aerial vehicles (UAV), to agriculture, beginning with the present-day problem of desert locusts.



The Ministry of Agriculture & Farmers Welfare has rolled out an e-procurement tender to involve UAVs in aerial spraying of pesticides which could be a revolutionary step AFP

The development comes with the Ministry of Agriculture & Farmers Welfare (MoA&FW) rolling out an e-procurement tender to involve UAVs in aerial spraying of pesticides. It could be a revolutionary step for pesticide application in India, where many farmers lose their lives during the process. A practice already prevalent in countries like the US, Australia, Japan and China, the use of UAVs in agriculture propagates the ideas of targeted application and precision agriculture.

UAVs in precision agriculture are not only limited to pesticide application but also in remote sensing, pest surveillance, analysis of field and soil and estimating crop heights, among others. However, the research and development operations for UAVs are still at a nascent stage in India.

Pesticide application using UAVs comes with its own set of requirements. These include the logistic issues related to drone and spraying units. While the cost measures for drones need adjustments, the varying weight of payload during spraying also needs to be accommodated for in designing such drones. Besides, the energy issues to support drone operations for 3-4 hours persist.

Standard guidelines

Now that the pests are evolving, expanding their host and geographical range, the availability of standard guidelines can help speed up controlling them with the highest efficacy.

Just as Prime Minister Narendra Modi recently underlined the importance of self-sufficiency in fighting the pandemic, standard guidelines for the operation of drones can help farmers become self-sufficient in utilising UAVs.

The intelligent use of technology can help fight invasive pests such as FAW and desert locusts with mettle, prevent them from becoming endemic, and reduce the cost of production while maintaining high agricultural productivity. Ironically, the draft standard guidelines for UAV-based pesticide application prepared by the Indian Council of Agricultural Research (ICAR) are pending approval by the MoA&FW for some time now.

One major challenge to guideline approval is the 'No Permission, No Take-off' clause for each UAV flight through India's digital sky platform.

This clause proves cumbersome and impractical for the use of UAVs in agricultural operations, where multiple consecutive flights remain necessary for aerial pesticide application.

To overcome this obstacle, MoA&FW ought to work jointly with the Ministry of Civil Aviation (MoCA) for developing suitable provisions in the digital sky platform.

A possible solution could be for MoA&FW to create a platform in ICAR to monitor and control drone application in agriculture in conjunction with the Directorate General of Civil Aviation (DGCA).

The writers are with the South Asia Biotechnology Centre, New Delhi. Views are personal

THE JOURNEY CONTINUES / 2021

Taking knowledge to the village

With Maharashtra minister Shri Sunil Chattrapal Kedar, flagging off a pink bollworm knowledge campaign at the APMC yard, Kalmeshwar, 5 September 2021.





Explaining Project Bandhan

Discussing Project Bandhan and pink bollworm management on UCN Vishesh News, 15 September 2021.



THE JOURNEY CONTINUES / 2021

A dialogue at CICR

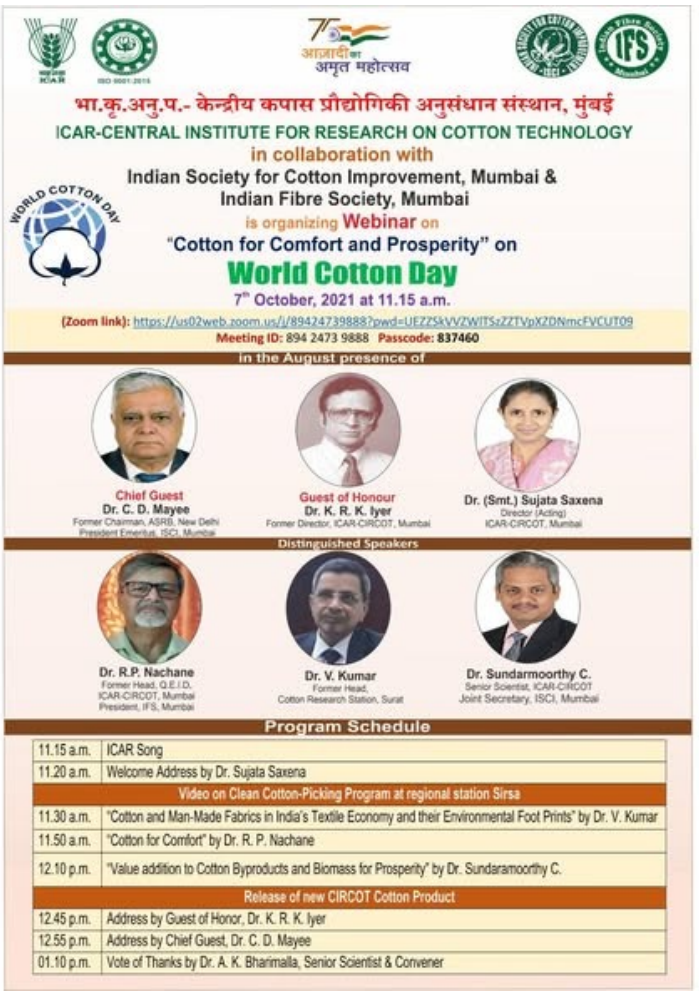
Interacting with cotton scientists at a farmers' workshop on pink bollworm management, ICAR-CICR, Nagpur, 16 September 2021.





The future of white gold

Sharing insights at the online seminar World Cotton Day — The Future of White Gold, organised by CIRCOT, the IMC Chamber of Commerce and FSII, 7 October 2021.



आज़ादी का अमृत महोत्सव

भा.कृ.अनु.प.- केन्द्रीय कपास प्रौद्योगिकी अनुसंधान संस्थान, मुंबई

ICAR-CENTRAL INSTITUTE FOR RESEARCH ON COTTON TECHNOLOGY

in collaboration with

Indian Society for Cotton Improvement, Mumbai &

Indian Fibre Society, Mumbai

is organizing Webinar on

"Cotton for Comfort and Prosperity" on

World Cotton Day

7th October, 2021 at 11.15 a.m.

(Zoom link): https://us02web.zoom.us/j/89424739888?pwd=UEZZSkVVZWITSzZZTVpXZDNmcFVCUT09

Meeting ID: 894 2473 9888 Passcode: 837460

in the August presence of

Chief Guest
Dr. C. D. Mayee
Former Chairman, ASRB, New Delhi
President Emeritus, ISCI, Mumbai

Guest of Honour
Dr. K. R. K. Iyer
Former Director, ICAR-CIRCOT, Mumbai

Dr. (Smt.) Sujata Saxena
Director (Acting)
ICAR-CIRCOT, Mumbai

Distinguished Speakers

Dr. R.P. Nachane
Former Head, Q.E.I.D.
ICAR-CIRCOT, Mumbai
President, IFS, Mumbai

Dr. V. Kumar
Former Head,
Cotton Research Station, Surat

Dr. Sundarmoorthy C.
Senior Scientist, ICAR-CIRCOT
Joint Secretary, ISCI, Mumbai

Program Schedule

11.15 a.m.	ICAR Song
11.20 a.m.	Welcome Address by Dr. Sujata Saxena
	Video on Clean Cotton-Picking Program at regional station Sirsa
11.30 a.m.	"Cotton and Man-Made Fabrics in India's Textile Economy and their Environmental Foot Prints" by Dr. V. Kumar
11.50 a.m.	"Cotton for Comfort" by Dr. R. P. Nachane
12.10 p.m.	"Value addition to Cotton Byproducts and Biomass for Prosperity" by Dr. Sundaramoorthy C.
	Release of new CIRCOT Cotton Product
12.45 p.m.	Address by Guest of Honor, Dr. K. R. K. Iyer
12.55 p.m.	Address by Chief Guest, Dr. C. D. Mayee
01.10 p.m.	Vote of Thanks by Dr. A. K. Bharimalla, Senior Scientist & Convener

THE JOURNEY CONTINUES / 2021

A public voice for science

An editorial advocating space for science and technology, published in Agrowon, 7 October 2021.



विज्ञान-तंत्रज्ञानाला घेऊ द्या मोकळा श्वास

सकाळ अग्रोवन

Learning together in Wardha

Presenting at a farmers' workshop on pink bollworm management at KVK Wardha, 13 October 2021.





THE JOURNEY CONTINUES / 2021

Farmers and scientists in conversation

At the Farmers–Scientists Interaction organised by the Ginning Training Centre of ICAR-CIRCOT, Nagpur, 28 October 2021.





THE JOURNEY CONTINUES / 2021

Research leadership in the field

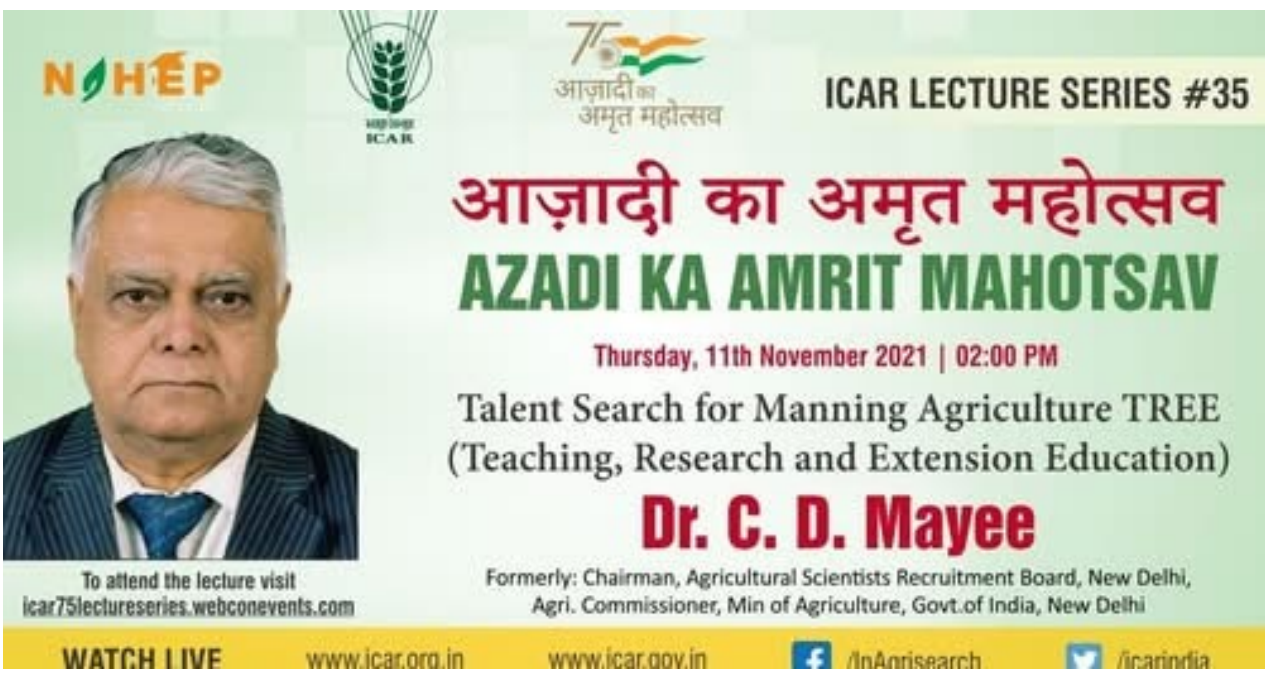
Facilitating a visit by senior ICAR officials to PBKnot mating-disruption demonstrations at Methpanjara, Katol, Maharashtra, 8 November 2021.





Finding the next scientific generation

Delivering Talent Search for Manning TREE as part of the Azadi Ka Amrit Mahotsav ICAR Lecture Series, Lecture 35, New Delhi, 11 November 2021.



THE JOURNEY CONTINUES / 2021–2022

Industry meets the field

Facilitating a seed-industry visit to PBKnot mating-disruption demonstrations at Methpanjara, Katol, Maharashtra, 12 November 2021.





PBKnot in the public conversation

An article on PBKnot technology published in Agrowon, 20 January 2022.



संपादकीय

सकाळ अग्रोवन

विषमता मारकच

कापूस उत्पादकांना वाचवेल 'पीबी नॉट'

THE JOURNEY CONTINUES / 2022

At home with SABC in Jodhpur

Dr Mayee and Mrs Heema Mayee visit SABC's field office and R&D facility in Jodhpur, 21 March 2022.









THE JOURNEY CONTINUES / 2022

Learning from the desert

Reviewing agrivoltaics, solar farming, sewage treatment, low-cost protected cultivation and agribusiness incubation at ICAR-CAZRI, Jodhpur, 21 March 2022.







THE JOURNEY CONTINUES / 2022

A partnership at Jobner

Signing an MoU for SABC with SKNAU, Jobner, during the International Conference on Plant Pathology: Retrospect and Prospects, 23–26 March 2022.



Two decades of Bt cotton

An article reflecting on two decades of Bt cotton, published in Agrowon, 29 March 2022.



संपादकीय

सकाळ अग्रोवन

वणवा महागाईचा

बीटी कापसाची दोन दशके

THE JOURNEY CONTINUES / 2022

Challenges and technological choices

Presenting Indian Agriculture: Current Challenges, New Opportunities and Technological Options at MPKV's fifty-fourth Foundation Day, Rahuri, 29 March 2022.

दैनिक दिव्यमराठी ✍ राजेंद्र वाडेकर

स्थापना दिन • नवी दिल्ली येथील कृषि शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष डॉ. सी. डी. मायी यांचे प्रतिपादन

हवामानातील बदल, अन्नाच्या गरजेवर उपाय शोधावा लागेल

प्रतिनिधी | राहुरी

भारत जमीन, सूर्यप्रकाश, पाणी, हवामान व मजुर या गोष्टींच्या बाबतीत जगाच्या मानाने समृध्द आहे. गेल्या ४० वर्षात जमिनीचे तुकडे पडल्यामुळे खातेदारांची संख्या वाढली. परंतु, सरासरी जमिनीचे प्रमाण कमी झाले. वाढते शहरीकरण, वाढती साक्षरता व शेतीतील आधुनिक तंत्रज्ञानाचा वापर यामुळे भारतीय शेतीचा चेहरा बदलला आहे. शेतीमध्ये दिवसेंदिवस मजुरांच्या उपलब्धतेचा प्रश्न वाढत आहे. अशा प्रकारे भारताच्या कृषि क्षेत्रात दोलायमान परिस्थिती निर्माण झाली आहे. वाढती लोकसंख्या, हवामानातील बदल, लोकांत निर्माण झालेली वैविध्यपूर्ण अन्नाची गरज या प्रश्नांवर उपाय शोधावा लागणार आहे. अन्नाच्या सुरक्षेबरोबरच पौष्टीक सुरक्षेसाठी शेतीला जैवतंत्रज्ञानाची जोड देणे गरजेचे आहे, असे प्रतिपादन नवी दिल्ली येथील कृषि शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष डॉ. सी.डी. मायी यांनी केले.



महात्मा फुले कृषि विद्यापीठ, राहुरी येथे विद्यापीठाच्या ५४ व्या स्थापना दिनाच्या कार्यक्रमात बोलताना कृषि शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष डॉ. सी. डी. मायी.

महात्मा फुले कृषि विद्यापीठ, राहुरी येथे विद्यापीठाच्या ५४ व्या स्थापना दिनाच्या कार्यक्रमात प्रमुख पाहुणे म्हणून डॉ. मायी बोलत होते. अध्यक्षस्थानी कुलगुरु डॉ. पी.जी. पाटील होते. याप्रसंगी परभणी येथील वसंतराव नाईक मराठवाडा कृषि विद्यापीठाचे कुलगुरु डॉ. अशोक ढवण, विद्यापीठ कार्यकारी परिषदेचे सदस्य श्री. दत्तात्रय उगले, महात्मा फुले कृषि विद्यापीठाचे माजी कुलगुरू डॉ. एस. एन. पुरी, डॉ. आर. बी. देशमुख, डॉ. टी. ए. मोरे, दापोली येथील बाळासाहेब सावंत कोकण कृषि विद्यापीठाचे माजी कुलगुरु डॉ. एस. एस. मगर, डॉ. के. ई. लवांडे, परभणी येथील वसंतराव नाईक मराठवाडा कृषि विद्यापीठाचे माजी कुलगुरू डॉ. व्ही. एम. पवार, संशोधन तथा विस्तार शिक्षण संचालक डॉ. शरद गडाख, अधिष्ठाता डॉ. प्रमोद रसाळ, कुलसचिव प्रमोद लहाळे, नियंत्रक सुखदेव बलमे, विद्यापीठ अभियंता मिलिंद ढोके उपस्थित होते. स्वागत व प्रास्ताविक डॉ. शरद गडाख यांनी केले. कार्यक्रमाचे सूत्रसंचालन डॉ. भगवान देशमुख यांनी तर आभार डॉ. प्रमोद रसाळ यांनी मानले.

५०० एकर पडीक जमीन सिंचनाखाली येणार

अन्नधान्याचा प्रचंड तुटवडा असण्याच्या काळात या विद्यापीठाची स्थापना झाली. तेव्हापासून गेल्या ५३ वर्षांत विद्यापीठाने संशोधनाबरोबरच शिक्षण व विस्तार कार्यामध्ये भरीव योगदान दिले आहे. विद्यापीठ प्रक्षेत्रासाठी मुळा धरणावरुन स्वतंत्र पाईपलाईन करुन पाणी आणण्याचे काम पूर्ण झाले आहे. यामुळे ५०० एकर पर्यंत पडीक जमीन सिंचनाखाली येऊन विद्यापीठाच्या महसुलात वाढ होणार आहे, असे कुलगुरू डॉ. पाटील म्हणाले.

Renewing the ICAR partnership

Signing an MoU for SABC with ICAR at Krishi Bhawan, New Delhi, 20 April 2022.



THE JOURNEY CONTINUES / 2022

Stakeholders at the same table

Engaging stakeholders at PDKV College of Agriculture, Nagpur, 20 June 2022.





Partnership at Akola

Signing a tripartite agreement with PDKV Akola on behalf of Agrovision Foundation and SABC, 7 July 2022.





THE JOURNEY CONTINUES / 2022

An award that honours expertise

The first Dr C.D. Mayee Agri Expert Award is presented to Dr Sudhir Bhogale by Shri Sharad Pawar and Shri Nitin Gadkari, Nagpur, 15 July 2022.







THE JOURNEY CONTINUES / 2022

Listening to smallholders

Interacting with smallholder cotton farmers in Samada village, Daryapur tehsil, Amravati, 6–7 August 2022.



Independence Day in the cotton fields

Celebrating Azadi Ka Amrit Mahotsav with smallholder cotton farmers in Deulgaon Raja and Sindkhed Raja, Maharashtra, 14 August 2022.









THE JOURNEY CONTINUES / 2022

Making the case for genetic technology

Give Genetic Technology a Chance, an article published in The Hindu BusinessLine, 15 August 2022.



Indian agriculture: Give genetic tech a chance

With pests and climate change eating into farm output, there is clamour among growers and manufacturers alike to tap genetic technology for enhanced yield

Collective action in cotton

Agrowon features Dr Mayee's advocacy of collective cotton farming, 21 August 2022.



THE JOURNEY CONTINUES / 2022

Taking Indian experience to Cairo

Presenting Innovation for Transfer of Technology to Smallholder Farmers at the Seventh World Cotton Research Conference, Cairo, Egypt, 4–7 October 2022.





THE JOURNEY CONTINUES / 2022

World Food Day in Wardha

Stakeholder interactions at a World Food Day programme in Wardha, 16 October 2022.





Recognition from the cotton community

Receiving the Best Cotton Scientist Award during the Cotton Association of India's centenary celebrations, Mumbai, 17–18 October 2022.



THE JOURNEY CONTINUES / 2022

A gathering in Masrul

Engaging a large gathering of cotton farmers at Masrul, Buldana district, Maharashtra, 3 November 2022.



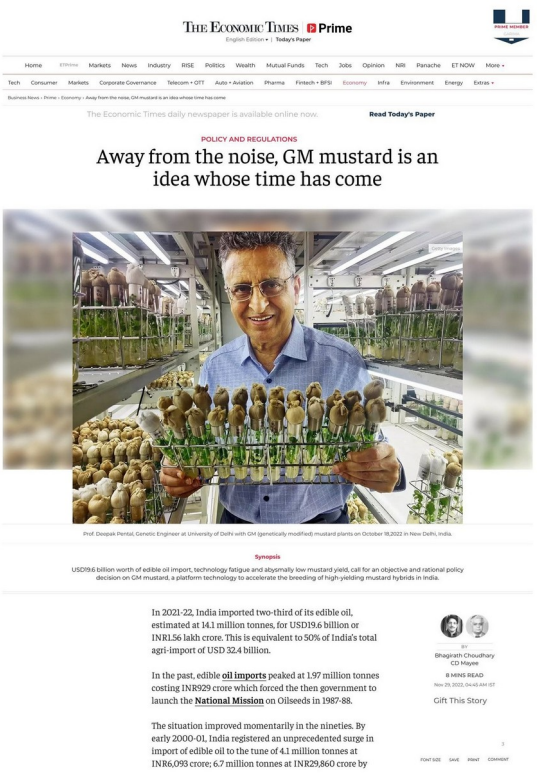




THE JOURNEY CONTINUES / 2022

GM mustard in public debate

Away from the Noise, GM Mustard Is an Idea Whose Time Has Come, published in ET Prime, 1 December 2022.



THE ECONOMIC TIMES Prime

English Edition | Today's Paper

Home ETPrime Markets News Industry RISE Politics Wealth Mutual Funds Tech Jobs Opinion NRI Panache ET NOW More

Tech Consumer Markets Corporate Governance Telecom + OTT Auto + Aviation Pharma Fintech + BFSI Economy Infra Environment Energy Extras

Business News > Prime > Economy > Away from the noise, GM mustard is an idea whose time has come

The Economic Times daily newspaper is available online now. Read Today's Paper

POLICY AND REGULATIONS

Away from the noise, GM mustard is an idea whose time has come

Prof. Deepak Pental, Genetic Engineer at University of Delhi with GM (genetically modified) mustard plants on October 18,2022 in New Delhi, India.

Synopsis

USD19.6 billion worth of edible oil import, technology fatigue and abysmally low mustard yield, call for an objective and rational policy decision on GM mustard, a platform technology to accelerate the breeding of high-yielding mustard hybrids in India.

In 2021-22, India imported two-third of its edible oil, estimated at 14.1 million tonnes, for USD19.6 billion or INR1.56 lakh crore. This is equivalent to 50% of India's total agri-import of USD 32.4 billion.

In the past, edible **oil imports** peaked at 1.97 million tonnes costing INR929 crore which forced the then government to launch the **National Mission** on Oilseeds in 1987-88.

The situation improved momentarily in the nineties. By early 2000-01, India registered an unprecedented surge in import of edible oil to the tune of 4.1 million tonnes at INR6,093 crore; 6.7 million tonnes at INR29,860 crore by

BY

Bhagirath Choudhary

CD Mayee

8 MINS READ

Nov 29, 2022, 04:40 AM IST

Gift This Story

FONT SIZE SAVE PRINT COMMENT

Busting the myths

Edible oil derived from GM sources has a history of safe use for over 25 years. Like any other country, India annually consumes a sizable quantity of edible oil derived from genetically modified crops, legally imported soybean and canola oil and domestically produced cotton oil derived from GM sources.

In 2020-21, India consumed around 5.5 million metric tons of edible oil derived from GM sources without any adverse health impact. Similarly, there is no evidence of harmful impact on livestock consuming oilmeal cake for more than two decades in many countries across the world.

Concerns about herbicide tolerance and its impact on pollinators and bees are exaggerated and misrepresented. Mustard farmers routinely apply herbicides, such as *oxadiargyl* and *pendimethalin* already approved by CIBRC for killing unwanted vegetation and manual weeding before flowering.

Pollinators such as honeybees visit mustard at the flowering stage for foraging, hence ruling out any adverse impact on pollinators.

In real-life situation, GM mustard is likely to have beneficial effects on honeybee population based on their relatively enhanced foraging behavior that could result in increasing honey production and income of beekeepers in mustard growing areas.

Honey, being a sugar constituent, remains free from protein and hence there will be no impact on the quality and export of honey derived either from CMS or GM mustard hybrids.

The environmental release of GM mustard technology is a decisive moment for India's edible oil sector and a ray of hope for biotechnological interventions struck into the imbroglio of Bt brinjal moratorium imposed in 2010.

(Bhagirath Choudhary is the founder-director of the South Asia Biotechnology Centre, Jodhpur. He has also been associated as a board member of Agricultural and Processed Food Products Export Development Authority , New Delhi, and the Council of Scientific and Industrial Research, New Delhi.

CD Mayee is a renowned cotton scientist currently serving as president of South Asia Biotechnology Centre, Jodhpur. In the past, he served as chairman of the Agricultural Scientists Recruitment Board, Agricultural Commissioner of Government of India, director of ICAR-Central Institute for Cotton Research, and vice-chancellor of Marathwada Agriculture University, Parbhani.)

The latest from ET Prime is now on Telegram. To subscribe to our Telegram newsletter click here.

THE JOURNEY CONTINUES / 2022

Cotton and global competitiveness

Future Cotton Farming: Technologies for Increasing Global Competitiveness, published in AgroSpectrum India, 3 December 2022.



AGROSPECTRUM | DECEMBER 2022 | www.agrospectrumindia.com CONTENT 7

CONTENT

ANIMAL FEED
24 Can Tech Bail Out Animal Feed Sector?
27 Future Technologies for Increasing Aquaculture Export — Devleena Bhattacharjee, Chair, FICCI Committee on Fishtech and Founder & CEO, Numer8 Analytics
30 Farm-to-Fuel Ecosystem: Circular Economy for Agri-waste — Suhas Baxi, Co-Founder and CEO, BiofuelCircle
32 Can Protective Farming Tech Reduce Risks and Increase Farmers' Income? — Saurabh Agarwal, Director and CEO, GROWIT India
34 How Insects Have Transformed From Pest to Valuable By-product — Ankit Alok Bagaria, Co-Founder, Loopworm
36 Future Cotton Farming Technologies for Increasing Global Competitiveness — Dr C D Mayee-, President, South Asia Biotechnology Centre, New Delhi; President Emeritus, Indian Society for Cotton Improvement, Mumbai and Secretary, Agrovision Foundation, Nagpur; Bhagirath Chaudhary -, Founder Director, South Asia Biotechnology Centre (SABC), Jodhpur
39 How Pomegranate Genome Breakthrough is Ushering New Dawn for Industry & Farmers — Dr R A Marathe, Director, ICAR-National Research Centre on Pomegranate (NRCP), Solapur, Maharashtra

REGULARS
Editorial 05
Your Views 08
Policy News 10
Finance News 14
Livestock news 16
Startups News 18
People News 41
Academic News 42
Technology News 44
Agri-Inputs news 46
Supply chain news 48
Let's Talk Agri 50



36 TECHNOLOGIES AGROSPECTRUM | DECEMBER 2022 | www.agrospectrumindia.com

DR C D MAYEE- President, South Asia Biotechnology Centre, New Delhi; President Emeritus, Indian Society for Cotton Improvement, Mumbai and Secretary, Agrovision Foundation, Nagpur

BHAGIRATH CHAUDHARY- Founder Director, South Asia Biotechnology Centre (SABC), Jodhpur

Future Cotton Farming Technologies for Increasing Global Competitiveness

Recent efforts of the Government of India to strengthen the farmer-trade-industry connect is one the most positive steps in the cotton value chain in India to fulfil the dream of our Prime Minister of Five F's- Cotton from Farm to Fibre to Factory to Fashion to Foreign. Naturally this will depend on productivity, quality and collaboration between all stakeholders and synergy amongst producers, researchers and processors for the facilitative framework of the natural fibre, cotton. The primary link in the cotton value chain is the seed cotton production at farm level by the farmers.

India is the largest producer with 25 per cent share in the world cotton production with more than 38 per cent area of the world. However, the yields per unit of area is amongst the lowest. The turnaround story of cotton production and productivity is always referred to the introduction of the first genetically insect resistant Bt cotton in 2002. The production which was stagnant at 156 lakh bales and yield at 280 kg per hectare in late nineties and early twenties to 398 lakh bales and yield to 550 kg lint per hectare in 2013-14. In the rapidly changing cotton landscape, India was net importer of raw cotton to the tune of 25 lakh bales prior to 2000 has become net exporter in the 21st century exporting between 40 and 90 lakh bales per year.

However, since 2013-14 the yield in India has trended downward by approximately 6 kg per hectare reaching an average of 450 kg lint per hectare during the last three years ending in 20021-22. If this situation is not reversed the position of Indian cotton in the global market will not remain competitive and sustainable. Improving and strengthening the link between the value chain stakeholders of cotton should be of the top-most priority. There are many known reasons for the declining trend in cotton yields which have been discussed time and again, however some of them which fall in policy perspectives and implementation strategies can be immediately useful in halting the declining trend

THE JOURNEY CONTINUES / 2023

An honorary doctorate at Rahuri

Maharashtra Governor Shri Bhagat Singh Koshyari confers an honorary DSc on Dr Mayee at the thirty-sixth convocation of MPKV, Rahuri, 6 January 2023.





/news 020/67639900

अहमदनगर

अहमदनगर, शनिवार, ७ जानेवारी २०२३ ३

शेतकऱ्यांच्या उन्नतीसाठी ज्ञानाचा उपयोग करा

राज्यपाल भगतसिंह कोश्यारी; महात्मा फुले कृषी विद्यापीठाचा ३६ वा पदवीदान समारंभ

राहुरी : पुढारी वृत्तसेवा

शेतकऱ्यांना हवामानाचा अचूक अंदाज देण्यासाठी शास्त्रज्ञांसह विद्यार्थ्यांनी अधिक काम करावे. विद्यार्थ्यांनी आपल्या ज्ञानाचा उपयोग शेतकऱ्यांच्या उन्नतीसाठी करावा, असे प्रतिपादन राज्यपाल भगतसिंह कोश्यारी यांनी केले.

महात्मा फुले कृषी विद्यापीठाच्या ३६ व्या पदवीदान समारंभात राज्यपाल कोश्यारी बोलत होते. व्यासपीठावर कृषी विद्यापीठाचे प्रतिकुलपती तथा कृषी मंत्री अब्दुल सत्तार, प्रमुख पाहुणे डॉ. अनिल काकोडकर, नवी दिल्ली येथील कृषी शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष डॉ. चारुदत्त मायी व महाराष्ट्र राज्याचे आदर्श गाव संकल्प व प्रकल्प समितीचे कार्याध्यक्ष पद्मश्री पोपटराव पवार, कुलगुरू डॉ. पी. जी. पाटील, परभणी कृषी विद्यापीठाचे कुलगुरु डॉ. इंद्रमणी, अकोला येथील डॉ. पंजाबराव देशमुख कृषी विद्यापीठाचे कुलगुरु डॉ. शरद गडाख, विद्यापीठ कार्यकारी परिषद् सदस्य आ. चिमणराव पाटील, दत्तात्रय उगले, डॉ. प्रदिप इंगोले, गणेश शिंदे, संजीव भोर, अधिष्ठाता (कृषी) डॉ. उत्तम चव्हाण, संशोधन संचालक डॉ. सुनील गोरंटीवार, विस्तार शिक्षण संचालक डॉ. तानाजी नरुटे, कुल सचिव प्रमोद लहाळे, नियंत्रक डॉ. बापुसाहेब भाकरे, कृषी अभियांत्रिकी महाविद्यालयाचे सहयोगी अधिष्ठाता डॉ. दिलिप पवार आणि विद्या शाखेच्या उपकुलसचिव आशा पाडवी उपस्थित होते.

डॉ. चारुदत्त मायी, पद्मश्री पोपटराव पवार यांना 'डॉक्टर ऑफ सायन्स' प्रदान

राज्यपाल कोश्यारी म्हणाले, भारतात हरितक्रांती कृषी शास्त्रज्ञांमुळे आली. यानंतर आपला देश अन्न-धान्यांमध्ये स्वयंपूर्ण झाला. जगात ज्यावेळी दुष्काळ पडतो, तेव्हा इतर देश भारताकडे अन्न-धान्यासाठी बघतात. यामुळे कृषी क्षेत्र महत्वाचे गणले जाते. या क्षेत्रात पदवी घेतली, याचा आपण अभिमान बाळगावा, असे सांगत

राहुरी : महात्मा फुले कृषी विद्यापीठाच्या ३६ व्या पदवीदान समारंभात स्नातकांना पदवी प्रदान करताना कृषी विद्यापीठाचे प्रतिकुलपती तथा कृषी मंत्री अब्दुल सत्तार आदी.

रासायनिक खतांच्या अतिवापरामुळे शेतीचे आरोग्य खालावले आहे. ते सुधारण्यासाठी शेतकऱ्यांनी सेंद्रिय खतांचा जास्तीत- जास्त वापर करावा. भरडधान्य गरीबांचे धान्य म्हणुन गणले जायचे, पण त्यामधील पोष्टीकता लक्षात घेता या धान्यांना जगात मान्यता मिळाली आहे. त्यांचा आहारामध्ये जास्तीत- जास्त वापर करणे गरजेचे आहे.

राजीव गांधी विज्ञान व तंत्रज्ञान आयोगाचे अध्यक्ष, पद्मविभूषण डॉ. अनिल काकोडकर म्हणाले, ग्रामीण भारतांचा विकास कृषी शिक्षण घेतलेले विद्यार्थीच करु शकतात. तंत्रज्ञानाची अंमलबजावणी, त्याचा प्रसार, नवे तंत्रज्ञान मिळण्यासाठी आवश्यक वातावरण तयार केल्यास ग्रामीण भागाचे सशक्तीकरण होवू शकते. कुलगुरू डॉ. पी.जी. पाटील विद्यापीठ अहवाल सादर करताना म्हणाले, विद्यापीठ विविध विषयांमध्ये पदविका, कृषी पदवी, पदव्युत्तर आणि आचार्य पदव्यांमध्ये विद्यार्थ्यांना शिक्षण देते. विद्यापीठाने कास्ट प्रकल्पाच्या माध्यमातुन ड्रोन तंत्रज्ञानाबरोबरच देशी गायींवरील संशोधन प्रकल्प हाती घेतला आहे. गेल्यावर्षी विद्यापीठाने विविध पिकांचे ६ वाण, ४ कृषी यंत्रे व औजारे तर ७० तंत्रज्ञान शिफारशी विकसित करुन शेतकऱ्यांसाठी प्रसारीत केल्याचे कुलगुरु डॉ. पाटील म्हणाले.

कृषी मंत्री अब्दुल सत्तार व कुलगुरु डॉ. पी.जी. पाटील यांच्या हस्ते कृषी शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष डॉ. चारुदत्त मायी व महाराष्ट्र राज्याचे आदर्श गाव संकल्प व प्रकल्प समितीचे कार्याध्यक्ष पद्मश्री पोपटराव पवार यांनी कृषी क्षेत्रात केलेल्या उल्लेखनीय कार्याबद्दल त्यांना 'डॉक्टर ऑफ सायन्स' या मानद पदवीने सन्मानित केले.

पदवीदान समारंभात सन २०२१-२२ मध्ये बी.एस्स.सी (कृषी) पदवीत प्रथम आलेली अपुर्वा वामन, बी.एस्स.सी (उद्यान विद्या) मध्ये प्रथम सिध्दम्मा हलोली, कृषी अभियांत्रिकीमध्ये प्रथम शालिनी आभाळे यांना सुवर्णपदक तर इतर यशस्वी विद्यार्थ्यांना पदके प्रदान करण्यात आली.

या समारंभासाठी माजी कुलगुरु डॉ. तुकाराम मोरे, डॉ. अशोक ढवण, माजी आ. चंद्रशेखर कदम, माजी अधिष्ठाता डॉ. प्रमोद रसाळ, पुणे येथील कृषी परिषद विस्तार संचालक डॉ. विठ्ठलराव शिर्के, कृषीभूषण सुरसिंग पवार व विष्णू जरे, जिल्हा अधिक्षक कृषी अधिकारी शिवाजी जगताप, विद्यापीठ अभियंता मिलिंद ढोके, सहयोगी अधिष्ठाता, विभाग प्रमुख, अधिकारी, शास्त्रज्ञ, विद्यार्थी व विद्यार्थीनी उपस्थित होते. सूत्रसंचालन डॉ. आनंद चवई यांनी केले.

६,८३२ पदव्या प्रदान..!

६२ विद्यार्थ्यांना पीएच. डी., ३८२ पदव्युत्तर पदवी व ६,३८८ विद्यार्थ्यांना पदवी अशा ६,८३२ पदव्या प्रदान करण्यात आल्या.

शेतकरी, शेतमजूर व गोरगरिबांसाठी काम करा!

कृषी मंत्री अब्दुल सत्तार म्हणाले, तुमच्यावर भविष्यात शेतकऱ्यांना सक्षम करण्याची मोठी जबाबदारी आहे. शेतकऱ्यांसह शेतमजुर व गोरगरीबांसाठी काम करा.

THE JOURNEY CONTINUES / 2023

Confronting invasive black thrips

Addressing a brainstorming meeting on integrated management of invasive black thrips in chilli in Telangana and Andhra Pradesh, PJTSAU, Hyderabad, 28 January 2023.







THE JOURNEY CONTINUES / 2023

A national dialogue on productivity

Delivering Overview of the Cotton Scenario in India at the national workshop on technological and policy interventions for cotton productivity, jointly organised by TAAS and NAAS, New Delhi, 25 February 2023.





Cotton crying out for change

Cotton: Crying Out for Change, published in The Hindu BusinessLine, 2 March 2023.

CHENNAI
businessline.
THURSDAY - MARCH 2 - 2023

Cotton: Crying out for change

CRISIS TIME. From a fundamental change in cropping pattern to pricing of seeds, there is a host of policy measures that are needed now



NAGARA GOPAL

CD Mayee
Dilip Monga
Bhagirath Choudhary

Two months from now, cotton farmers in Northern India, who suffered heavy losses in the last kharif, will commence cotton sowing for forthcoming Kharif 2023.

The cotton productivity estimate was reported to be at its lowest in the North zone comprising of Punjab, Haryana and Rajasthan at 518.4 kg lint per hectare. North zone cotton, which recorded the highest cotton yield at 678.3 kg lint per hectare in 2019-20 is now down by over 30 per cent.

The losses are mounting due to the rising cost of cultivation, climate induced change in pest dynamics and rampant sale of unauthorised seeds and unchecked pesticides sprays.

The boom and tractor mounted sprayers are back with unimaginable consequences on human health and environment.

Declining cotton productivity is threatening the income and livelihood of farmers in vast stretches of North zone which has a favourable cotton-wheat cropping system.

The story is similar for other 60 lakh smallholder cotton growers in Central and Southern cotton growing zones. Climate change induced weather aberration, widespread infestation of boll devouring pink bollworm, new tobacco streak virus disease and boll rot have recently threatened cotton farmers.

The white fly transmitted severe cotton leaf curl virus and sudden outbreak of para wilt have worsened the situation for North zone farmers.

The impact is visible in cotton-based textile industry compounded by surge in domestic market price, hoarding and trade related developments emanating from the US ban on import of fashion and textile products from China's Xinjiang region, which mostly source raw cotton from India and the earthquake-hit Turkish textile manufacturing.

DOWN-DOWN COTTON

According to the Agriculture Ministry's second advance estimates, cotton output is estimated at 322 lakh bales (of 170 kg each), down by 48 lakh bales from the target of 370 lakh bales in 2022-23.

Cotton productivity, which peaked at 566 kg lint per hectare in 2013-14, has continuously been decelerating since then, causing imbalance in demand-supply of cotton and uncertainty in the cotton textile industry.

In 2021-22, cotton yield reduced to 445 kg lint per hectare, down by 121 kg lint per hectare, an estimated loss of 85.4 lakh bales in 2021-22 alone over the optimal yield level of 2013-14.

This dip in cotton production has forced the textile industry to rely on imports, which increased to 35.3 lakh bales worth ₹8,339.26 crore in 2018-19.

The relaxation in import duty structure would hit the balance of trade in cotton, which remained favourable over the last two decades.

On the other hand, cotton exports, which peaked at 116.96 lakh bales worth ₹23,153.24 crore in 2014-15, have since declined to 47 lakh bales worth ₹8,731.32 crore in 2020-21.

The cotton sector seems to be dogged by some serious structural deficiencies.

THREE-PRONGED STRATEGY

First, the cropping system of cotton must gradually undergo a systematic change to high density planting system (HDPS), which is a new cropping system of accommodating more plants per unit area supported by technological inputs for weed management, defoliation and mechanical picking.

Currently our farmers practice dibbling based sowing of bushy-type, long duration hybrid cotton seeds at a large spacing accommodating fewer plants per acre and harvest seed cotton 3-4 times in a season spanning 180 to 280 days in different cotton growing zones. New erect type hybrid cotton genotypes have been introduced to optimise plant population, however, but this forms just one-fourth of what is being practiced under HDPS in countries with high cotton yield.

Cotton output has been declining continuously over the last decade creating serious imbalance in the textile sector

CROPPING PATTERN CHANGE

The new cropping system requires an entirely new plant type, shifting from hybrid to varietal seeds coupled with new age technologies for machine sowing, weed management, defoliation and mechanical picking. HDPS cotton must be brought in soon which requires a coherent approach driven by robust public-private partnership.

Second, the government-led policy paradigm on cotton must give way to progressive evidence-based policies on pricing of seeds and safeguarding intellectual property, not only for biotech traits under Indian Patent Act but also ensuring the rights of breeders and farmers under PPVFRA.

Enforcement of IPR on new varieties suitable for HDPS while ensuring farmers' rights must be strengthened to attract investment in R&D and breeding of high-density suitable genotypes. Exchange of pre-breeding germplasm under material transfer agreement (MTA) and access and benefit sharing (ABS) mechanism for cross border material transfer must be prioritised.

The unending price control of cotton seeds under the Cotton Seed Price (Control) Order, 2015 has discouraged breeding activities and stalled introduction of much needed technologies for weed management and fuelled the growth of illegal market for herbicide tolerant (HT) cotton.

An exhaustive analysis by International Cotton Advisory Committee (IAC) shows that based on the cost of cultivation in 2002, the increase in seed cost is just 35 per cent as against the 237 per cent increase in labour cost in 2021-22, forcing farmers to take illegal route to HT cotton.

Finally, the 2023-24 Budget, expected to launch the Technology Mission on Cotton 2.0, announced a minor sop for enhancing the productivity of speciality extra-long staple cotton (ELS) by promoting a cluster-based and value chain approach through public-private partnerships (PPP). India is traditionally deficit in ELS cotton production and the textile industry imports around one million bales annually.

The cotton and textile industry was hoping that the Budget would launch an ambitious TMC 2.0 to transform ailing cotton sector, but even that would have been like clutching at the straws for the cotton and textile industry.

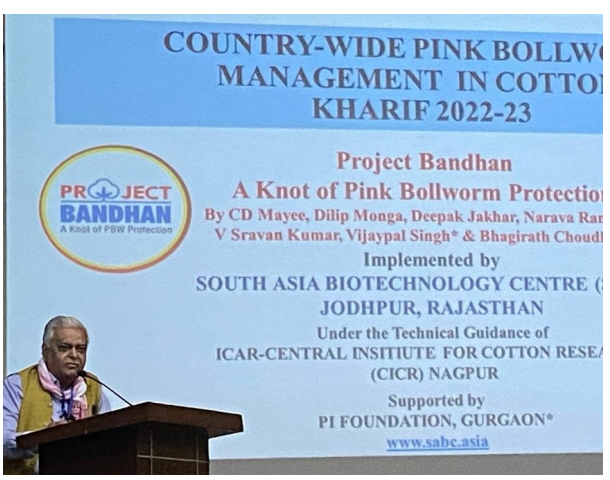
The writers are from the South Asia Biotechnology Centre, Jodhpur

THE JOURNEY CONTINUES / 2023

Project Bandhan before the research community

Presenting Project Bandhan findings at the All India Coordinated Research Project on Cotton Annual Group Meeting, jointly organised by ICAR-CICR and PAU, Ludhiana, 6–7 April 2023.







THE JOURNEY CONTINUES / 2023

Agriculture and unseasonal weather

Writing on protecting agriculture from unseasonal weather in Divya Bhaskar, 16 April 2023.

दिव्य मराठी रसिक 16-04-2023

जागतिक हवामानात सतत बदल होत आहेत, याचे प्रमाण देण्याची आता गरज नाही. महाराष्ट्राने गेल्या खरिपामध्ये ३०-७० टक्के जास्त पावसाचे प्रमाण पाहिले आणि नंतर रब्बी हंगामात वादळासह अवकाळी पावसाचा मारादेखील अनुभवला. आता तापमानात सर्वसाधारण वाढ होणार, हेही जगभर मान्य केले गेले आहे. त्यामुळे यापुढे हवामान बदल गृहीत धरून पीक पद्धती, कृषी संशोधन आणि तंत्रज्ञानात आमूलाग्र बदल करावे लागतील.

रसिक स्पेशल



डॉ. चारुदत्त मायी
mayeecharu@gmail.com

'अवकाळी'तून शेती वाचवण्यासाठी...



गेल्या महिनाभरात सातत्याने कुठे ना कुठे पाऊस पडत आहे. त्याबरोबर वादळ-वाऱ्याचाही मारा पडत आहे. शेती हा व्यवसाय पूर्णपणे उघड्यावर आहे. म्हणूनच अशा अवकाळी नैसर्गिक आपत्तींमुळे सगळ्यात जास्त अवकाळा शेतीला आणि पर्यायाने शेतकऱ्यांच्या आयुष्याला येते. हवामान बदलामुळे या गोष्टी ज्या प्रमाणात आता दिसू लागल्या आहेत, त्यांची तीव्रता बघता भविष्यात शेतीव्यवसाय पूर्णपणे धोक्यात येऊ शकतो. देशातील अनेक राज्यांत अवकाळी पाऊस आणि गारपिटीचा तडाखा बसला आहे. त्यातही सर्वांत जास्त नुकसान नेमके महाराष्ट्रात झाले आहे. त्यातच आता 'स्कायमेट'ने केलेल्या भाकितानुसार भर पडली आहे. या वेळी मान्सून सरासरीपेक्षा कमी राहणार असल्याचा अंदाज या संस्थेने वर्तवल्यामुळे रब्बीतील हानीच्या दुःखावर किमान खरिपात तरी फुंकर घातली जाईल, ही अपेक्षाही फोल ठरण्याची शक्यता आहे.

तातडीने काय करायला हवे?

सद्यस्थितीत राज्यातील शेतकऱ्यांना अवकाळी पाऊस, गारपीट, वादळामुळे झालेल्या नुकसानीची भरपाई देताना काही गोष्टी प्राधान्याने कराव्या लागतील. या आपत्तीत राज्यातील साधारण ४२ हजार हेक्टरवरील पिके नष्ट झाली आहेत. त्यातल्या त्यात फळबागांचे मोठे नुकसान झाले आहे. रब्बीच्या पिकांपैकी गहू, हरभरा, तूर, रब्बी-ज्वारीला फटका बसला आहे. फळबागांमध्ये सर्वाधिक नुकसान डाळिंब, द्राक्ष, आंबा, संत्रा, केळी आणि काजू या पिकांचे झाले आहे. प्राथमिक अंदाजानुसार, राज्यातील २४ जिल्ह्यांमध्ये मिळून झालेले नुकसान जवळपास पाच हजार कोटींच्या घरात आहे. नुकसानीचा हा आकडा निश्चित करून धान्य पिके आणि फळपिकांसाठी प्रति हेक्टरी मदत तातडीने दिली जाणे आवश्यक आहे. दुसरीकडे, बँकांकडून शेतकऱ्यांना तात्पुरते कर्ज मिळवून देण्याबरोबरच थकीत कर्जाच्या परतफेडीला मुदतवाढ देण्याचीही गरज आहे. त्याशिवाय, शेतीतील रोजचा खर्च भागवण्यासाठी शेतकऱ्यांना बँकांकडून कमी किंवा शून्य व्याजदराने कर्ज देण्याची व्यवस्था केंद्र आणि राज्य सरकार करू शकते. यासोबतच आगामी खरीप हंगामासाठी शेतकऱ्यांना लागणारे बी-बियाणे, खते यांची तरतूद वेळेवर करण्याचीही गरज आहे. अर्थसाह्य आणि अन्य मदतीचे असे काही उपाय केल्यास शेतकरी या 'अवकाळी'च्या संकटातून सावरू शकेल.

या काही तात्कालिक उपायांबरोबरच, हवामान बदलामुळे 'अवकाळी'सारखी संकटे सतत येत राहतील, हे गृहीत धरून काही दीर्घकालीन उपाययोजना हाती घ्याव्या लागतील. त्यामध्ये; आधुनिक तंत्रज्ञानाचा सक्षम वापर, संशोधनामध्ये नवा विचार, प्रचलित पीक पद्धतीचा फेरविचार, उत्पादन आणि बाजार / वितरण व्यवस्थापनातील सुसूत्रता तसेच नवतंत्रज्ञान व नवसंशोधन वापरातील धोरणात्मक अडचणी या बाबींकडे प्राधान्याने लक्ष द्यावे लागेल.

हानीच्या सर्वेक्षणासाठी ड्रोनचा वापर

आपल्या देशातील रोजगाराच्या ५५-६० टक्के संधी कृषी क्षेत्रावर अवलंबून आहेत. शेतीचा जीडीपी १७-१८ टक्के असला, तरी आजही ५५ टक्के लोक शेतीवरच अवलंबून आहेत. त्यामुळे कुठल्याही निमित्ताने होणाऱ्या पिकांच्या नुकसानीचा परिणाम शेतमाल आणि शेतकरी इथपर्यंत मर्यादित न राहता तो सामान्य जनतेला महागाईच्या आगीत दकलतो. यापूर्वी पाच दिवस स्तत काही मिमीपेक्षा जास्त पाऊस पडला, तर तो एक नैसर्गिक आपत्तीचा भाग समजला जात असे. परंतु, या तंत्रज्ञानाच्या युगामध्ये वस्तुनिष्ठ पंचनामे करणे, बांधावरून राजकीय पुढाऱ्यांनी, अधिकाऱ्यांनी नुकसानीचा आढावा घेऊन त्याप्रमाणे भरपाई ठरवणे ही बाब बऱ्याच अंशी हास्यास्पद वाटते. या काळात आपण ड्रोनचा वापर विविध कामांसाठी होऊ शकतो, हे मान्य केले तर त्याद्वारे पिकांच्या नुकसानीचे सर्वेक्षण का करता येऊ नये? यामुळे नुकसानीचा पंचनामा किंवा आढावा तावडतोब शक्य होईल. तसेच नुकसान भरपाई केवळ पिके किंवा जनावरांची हानी यावर अवलंबून न ठेवता शेतीच्या स्थावर मालमत्तेचे नुकसान लगेच भरून दिल्यास शेतकरी आशेने उभा राहू शकतो. मध्यंतरी शासनाने एक चांगला निर्णय घेतला. नुकसान भरपाईचे प्रचलित नियम बाजूला सारून मदत करण्याचे धोरण स्वीकारले. पुन्हा शेती करण्यासाठी शेतकऱ्यामध्ये उमेद निर्माण करावयाची असेल, तर निश्चित मदतीची रक्कम, बँकेतर्फे व्याजाची सवलत, तसेच तातडीचे कर्ज देणे या गोष्टी सरकार कमी वेळात करू शकले, तर ते आणखी उपयुक्त ठरेल.

संशोधनाची दिशा बदलायला हवी

जागतिक हवामानात सतत बदल होत आहेत, याचे प्रमाण देण्याची आता गरज नाही. महाराष्ट्राने गेल्या खरिपामध्ये ३०-७० टक्के जास्त पावसाचे प्रमाण पाहिले. नंतर रब्बी हंगामात वादळासह अवकाळी पावसाचा मारादेखील अनुभवला. आता तापमानात सर्वसाधारण वाढ होणार, हेही जगभर मान्य केले गेले आहे. त्यामुळे यापुढे वातावरण बदल गृहीत धरून पीक पद्धती, कृषी संशोधन आणि तंत्रज्ञानात आमूलाग्र बदल करावे लागतील. सरकारने यामध्ये कृषी विद्यापीठांना मार्गदर्शक सूचना दिल्या आणि पारंपरिक संशोधनाची दिशा बदलण्यास प्रवृत्त केले, तर निश्चितपणे भविष्यात शेतकरी अशा प्रकारच्या हवामान बदलाला सामोरे जाण्यास सज्ज होईल.

उत्पादन व्यवस्थापनातील विरोधाभास

या सर्व आव्हानांना तोंड देण्यासाठी देशाने माती, पाणी आणि श्रम यांच्या उत्पादकतेत वाढ करण्याची तयारी करायला हवी. कमी कार्बन उत्सर्जन तंत्रज्ञानामुळे हे सर्व शक्य होऊ शकेल. शिवाय, आगामी काळात केवळ पर्यावरणीय पाऊलखुणा ओळखूनच चालणार नाही, तर सध्याच्या उत्पादन प्रणालीचे एक मोठे आव्हान म्हणून उदयास आलेल्या पीक पद्धतीत बदल करून शेतकऱ्यांसाठी शेती किफायतशीर बनवणे आणि त्यांच्या उत्पन्नातही दृष्ट वाढ करणे आवश्यक ठरणार आहे. पण, विरोधाभास असा आहे की एकीकडे देश अतिरिक्त झालेल्या उत्पादनाच्या व्यवस्थापनासाठी योजना आखत आहे, तर दुसरीकडे शेतकऱ्यांना त्यांच्या उत्पादनाचा पुरेसा परतावा मिळू शकत नसल्यामुळे ते दारिद्र्याच्या खाईत आणखी ढकलले जात आहेत.

तंत्रज्ञानाच्या वाटेवरील धोरणांचे अडथळे

हवामान बदलाचे परिणाम कमी करू शकतील, चांगले उत्पादन देऊ शकतील, क्षारता, दुष्काळ, पूर आणि जैविक ताण इत्यादींचे परिणाम कमी होऊ शकतील, अशा तंत्रज्ञानातील नवनवीन कल्पना आणि विकासाची मालिका सध्या कृषी विज्ञानात अनुभवाला येत आहे, उदा. जिनोमिक्सच्या विज्ञानात शोधात्मक बदल दिसून आले आहेत. जिनोमिक्स-साहाय्यित प्रजनन, ट्रान्सजेनिक्सद्वारे अनेक पिकांमध्ये सुधारणा दिसून आली आहे. बीटी कॉटन या पहिल्या ट्रान्सजेनिक पिकामुळे भारतीय कापसाचे उत्पादन जगात वरच्या स्थानावर पोहोचले आहे. असे असले, तरी या तंत्रज्ञानाला आणखी चालना देण्यासाठी आपली धोरणे अडथळा निर्माण करत आहेत. मागील वीस वर्षांत आपण अशा उत्पादनांच्या व्यापारीकरणाला परवानगी दिली नाही. शिवाय, या क्षेत्रात विनामूल्य संशोधनालाही परवानगीही दिली नाही. जिनोम एडिटिंग तंत्रज्ञान हे पीक, प्राणी यांच्यातील सुधारणांसाठीचे एक उपयुक्त आणि नवीनतम असे साधन ठरले आहे. भारतात या संदर्भात अनेक नियम, मार्गदर्शक तत्त्वे आणि धोरणे अधिसूचित करण्यात आली आहेत, तथापि, त्यांच्या अंमलबजावणीमुळे जनुकीय अभियांत्रिकी पिकांच्या वादीस राजकीयदृष्ट्या अडथळा निर्माण झाला. वनस्पती खाद्यतेलांचे क्लासिक प्रकरण सर्वश्रुतच आहे. आपण ७५ हजार कोटी रुपयांचे खाद्यतेल आयात करतो. त्यात प्रामुख्याने जीएम सोयाबीन, जीएम कॅनोला तेल यांचा समावेश असलेले खाद्यतेल आयात करीत आहोत. आरोग्यावर कोणताही विपरीत परिणाम न होता गेल्या २० वर्षांपासून देशात बीटी कॉटन ऑडलचे मुक्तपणे सेवन केले जाते आहे. परंतु, आश्चर्याची बाब ही की आपल्या शेतकऱ्यांना जीएम पिके लावण्याची परवानगीच दिली गेली नाही.

देश स्वातंत्र्याची पंचाहत्तरी साजरी करत आहे. भारतीय शेती क्षेत्राने गेल्या ७५ वर्षांमध्ये उपसमारीपासून देशाला वाचवण्यासाठी, शेतीशी संबंधित जवळपास सर्वच प्रमुख क्षेत्रांमध्ये उत्पादन वाढवत उल्लेखनीय कामगिरी केली आहे. केवळ अन्न सुरक्षित राष्ट्र म्हणून नव्हे, तर शेतमाल निर्यातीतील एक विश्वासनीय भागीदार म्हणून देशाने जागतिक शेतीमध्ये उच्च दर्जा प्राप्त केला आहे. अमृतमहोत्सवी वर्षानंतरचा भारत कसा असेल, असा जेव्हा आपण विचार करतो, तेव्हा नवनवीन आव्हानांचा सामना करण्यासोबतच, शेतकऱ्यांच्या अपेक्षा पूर्ण करण्यासाठीची धोरणे, संशोधन आणि विकास गुंतवणुकीचा सर्वसमावेशक आढावा घेणे आणि त्यानुसार अंमलबजावणी करणे आवश्यक आहे. तसे झाले तर स्वातंत्र्याच्या शतक महोत्सवापर्यंत भारत सर्वांधिने एक समृद्ध राष्ट्र म्हणून पुढे येईल.

(लेखक ज्येष्ठ कृषी-अर्थशास्त्रज्ञ आणि नवी दिल्ली येथील दक्षिण आशिया जैवतंत्रज्ञान केंद्राचे अध्यक्ष आहेत.)

Judicious crop protection

Speaking on judicious pesticide use and an enabling policy framework at the Economic Times conference Futuristic New Technologies in Agriculture, New Delhi, 12 May 2023.





THE JOURNEY CONTINUES / 2023

Honouring agricultural enterprise

Shri Nitin Gadkari presents the Dr C.D. Mayee Krishi Tadnya Puraskar 2023 to Shri Vilas Shinde and Mrs Aarti Shinde of Sahyadri Farms, Nagpur, 15 July 2023.





THE JOURNEY CONTINUES / 2023

Genes and genomes in public debate

An editorial on public opposition to GM and genome technologies, published in Agrowon, 8 August 2023.

अग्रोवन

जीएम असो वा जिनोम : विरोध मात्र कायम



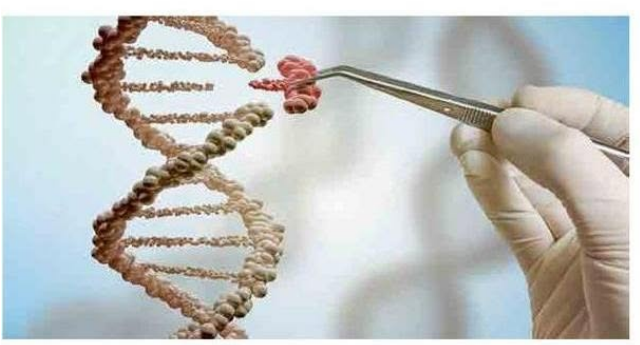
डॉ. सी. डी. मायी
९९७०६१८०६६

जिनोम एडिटिंग तंत्रज्ञान वापरून अद्याप एकाही पिकाला परवानगी दिली नसताना त्याच्या विरोधाचा आवाज अगोदरच दुमदुमत आहे. त्यामुळे सरकारने जीएमच्या बाबतीत घेतलेला नमतेपणा जिनोम एडिटिंगलाही लागू पडेल, अशी भीती शास्त्रज्ञांना वाटत आहे.

अॅग्रोवन १० जुलैच्या अंकात श्रीकांत कुवळेकर यांनी जीएम (जेनेटिकली मॉडिफाइड - जनुकीय सुधारित) तेलबियांच्या बाबतीत घेतलेला कानोसा अत्यंत सुंदर होता. त्यानंतर लगेच 'अॅग्रोवन'च्या १८ जुलैच्या अंकात डॉ. बी. बी. पवार यांचा जीएम नको, जिनोम एडिटिंग हवे, हा लेख प्रसिद्ध झाला. जीएम ते जिनोम एडिटिंग हे एक तंत्रज्ञान विकसित करण्याचा वैज्ञानिक प्रवास आहे. जीएम जर तंत्रज्ञान म्हणून विकसित झाले नसते, तर जिनोम एडिटिंग तंत्रज्ञान विकसित करण्यासाठी प्रयत्नच झाले नसते, हे निश्चित! ज्या देशामध्ये जीएमलाच गेल्या २० वर्षांपासून विरोध होत आहे तेथे जिनोम एडिटिंग मधून बाहेर पडणाऱ्या पिकांना विरोध होणार नाही, हे कसे शक्य आहे. जिनोम एडिटिंगचे बाबतीत नियामक मंडळाने (Regulatory Bodies) नुकतेच शिथिल केलेले नियम जीएम विरोधकांनी अमान्य केले आहेत. खरे म्हणजे जिनोम एडिटिंग तंत्रज्ञान वापरून अद्याप एकाही पिकाला परवानगी दिली नसताना त्याच्या विरोधाचा आवाज अगोदरच दुमदुमत आहे. त्यामुळे सरकारने जीएम च्या बाबतीत घेतलेला नमतेपणा जिनोम एडिटिंगलाही लागू पडेल, अशी भीती शास्त्रज्ञांना वाटत आहे.

जीएम तंत्रज्ञानाने विकसित केलेल्या अनेक पिकांना अद्याप मान्यता न दिल्यामुळे ते तसेच लटकून ठेवलेले आहेत. त्यामुळे आपण शेतकरी समृद्ध व्हावा, सधन व्हावा, त्यांचे उत्पन्न दुप्पट व्हावे हे म्हणणे म्हणजे केवळ वल्गना वाटू लागतात. ज्या अमेरिकेमध्ये भारताचे पंतप्रधान नरेंद्र मोदी यांचा भव्य समारंभपूर्वक गौरव करण्यात आला व ज्यामुळे प्रत्येक भारतीयाची मान उंचावली, तो देश गेल्या २८ वर्षांपासून जीएम, जिनोम एडिटिंग सारख्या तंत्रज्ञानाचा वापर करून अन्नधान्याच्या बाबतीत उच्चांक गाठत आहे. अमेरिका अन्नधान्याच्या बाबतीत समृद्ध असून, आयातीत अग्रेसर असल्यामुळे शेतकरी हितावह निर्णय घेत आहे. पंतप्रधानांनी गौरव स्वीकारताना शेती-शेतकरी आणि शेतीतील नवीन तंत्रज्ञान या बाबतीत सविस्तर चर्चा केली असती तर कदाचित भारतातही अनेक लटकलेल्या नव्हे तर लटकवलेल्या जीएम पिकांना मान्यतेसाठी त्यांनी परत आल्यावर पुढाकार घेतला असता. परंतु या उलट भारतात परतल्यावर पंतप्रधानांनी सेंद्रिय व नैसर्गिक शेतीचे महत्त्व विषद करण्यासाठी सभा घेतल्या. खर म्हणजे सेंद्रिय शेती तसेच नैसर्गिक संसाधनाचा शेतीमध्ये वापर आणि उपयुक्तता ह्या बाबतीत शास्त्रज्ञामध्ये कधीच दुमत नाही. परंतु वाढत्या लोकसंख्येला अन्नधान्य केवळ सेंद्रिय शेतीतून पुरवू शकू, याची खात्री सरकारला तसेच शास्त्रज्ञांना देखील नाही.

आपल्या सर्वांना माहीतच आहे, की आंध्र सरकारने २०१८ मध्ये मोठा गाजावाजा करीत झिरो बजेट नैसर्गिक शेतीचा (ZBNF) उपक्रम राबविण्यास सुरुवात केली. सन २०२८ पर्यंत आंध्रची संपूर्ण शेती औषधी आणि जीएम मुक्त करण्याचा संकल्प केला गेला. प्रत्यक्ष शेतीमधील निविष्ठांची आकडेवारी जी आज समोर येत आहे, ती सर्व झीरो बजेटच्या उलट आहे. सन २०१८-१९ मध्ये आंध्रचे नत्र : स्फुरद : पालाश (NPK) खतांचा वापर १६८ किलो प्रतिहेक्टर इतका होता. तो दुसऱ्या वर्षी १८१ किलो प्रतिहेक्टर इतका वाढला आणि कोविड काळामध्ये (२०२०-२१) २०८ किलो प्रतिहेक्टर इतका जास्त वाढला होता. देशाच्या खताच्या वापराच्या तुलनेत (१३७ किलो प्रतिहेक्टर) आंध्रमध्ये खतांचा वापर वाढतच गेला आहे, हे सत्य लपवता येत नाही. त्यामुळे एक गोष्ट वाटते की शेतकरी हे हुशार आहेत, त्यांना खोट्या वल्गनांनी जिंकणे केवळ कठीणच नाही परंतु अशक्य आहे.



नुकत्याच प्रसिद्ध झालेल्या एका अहवालावरून असे दिसते की केरळ सरकारने २०१७ मध्ये जीएम च्या बाबतीत घेतलेला टोकाचा निर्णय आता बदलाच्या स्थितीत आहे. केरळच्या नियोजन समितीच्या एका अहवालाद्वारे सेंद्रिय शेती ही मर्यादित प्रमाणात ठेवून जिनोम एडिटिंग सारख्या नवीन तंत्रज्ञानाला चालना देणे आवश्यक आहे. तसे न केल्यास केरळची शेती ही कमी उत्पादन देणाऱ्या चक्रव्यूहात फसण्याची शक्यता आहे. सेंद्रिय शेतीच्या बाबतीत नुकताच स्वीडन देशातर्फे प्रसिद्ध झालेला संशोधनाचा अहवाल देखील महत्त्वाचा आहे. त्यामध्ये असे दिसून आले आहे, की मोठ्या प्रमाणावर सेंद्रिय शेतीचा हवामानावर अनिष्ट परिणाम होतो, कारण योग्य शेतीमाल उत्पादन काढण्यासाठी नेहमीच्या सेंद्रिय + रासायनिक शेतीपेक्षा नुसत्या सेंद्रिय शेतीला जास्त जमीन लागते, आणि अप्रत्यक्षपणे कर्ब उत्सर्जन वाढतो. त्यामुळे कमी जागेवर जास्त पीक येणारे तंत्रज्ञान शेतकऱ्यांनी अवलंबिल्यास कर्ब उत्सर्जन कमी होऊन पर्यावरणास मदत होते.

जीएमऐवजी जिनोम एडिटिंगकडे वळणे हे जरी खरे असले, तरी अशा मूलभूत संशोधनाची दिशा व दशा या देशात काय आहे, हा खरा प्रश्न आहे. जे विज्ञान तंत्रज्ञान इतर प्रगत देशांमध्ये विकसित होते, त्यावर आपण केवळ मुलामा चढविण्याचे काम करतो. आता तर त्यालाही अडथळे निर्माण करण्याचे काम सुरू आहे. जिनोम एडिटिंगचा शोध दोन महिला शास्त्रज्ञांनी लावला. त्याच्या उपयोग जगभर सुरू असून, बऱ्याच पिकांमध्ये रोग प्रतिबंधक, तण विरोधक, कमी पाण्यावर येणारी वाणे विकसित होत आहेत. भारतातही असे संशोधन करण्याला भरपूर वाव आहे. परंतु सरकारचे जर अशा तंत्रज्ञानाला समर्थन नसले तर साहजिकच शास्त्रज्ञांमध्ये उदासीनता येते. त्यामुळे अशा तंत्रज्ञानाच्या बाबतीत सरकारची धोरणे निश्चित असावी, अशी अपेक्षा आहे.

(लेखक कृषी शास्त्रज्ञ निवड मंडळाचे माजी अध्यक्ष आहेत.)

Pune, Main
08/08/2023 Page No. 7

THE JOURNEY CONTINUES / 2023

Mating disruption in practice

Supporting innovation in pink bollworm mating disruption and its communication to farmers, August 2023.



डॉ. चारुदत्त मायी : बोपापूर येथे गुलाबी बोंडअळी व्यवस्थापन प्रशिक्षण

बोंडअळीचे व्यवस्थापन सामूहिकरित्या लाभदायक

सकाळ वृत्तसेवा

वर्धा, ता. २ : यावर्षी कापसावर गुलाबी बोंडअळीचा प्रादुर्भाव लक्षवर दिसून आला आहे. भारतामध्ये ज्या ठिकाणी कापूस पिकविल्या जाते अशा ठिकाणी पीबी नॉट तंत्रज्ञानाचे प्रयोग घेण्यात आले आहे. या तंत्रज्ञानामध्ये कापसावरील गुलाबी बोंडअळीला रोखण्याचे सामर्थ्य आहे. शेतकऱ्यांनी या तंत्रज्ञानाचा वापर करत बोंडअळीचे सामूहिकपणे व्यवस्थापन करणे गरजेचे आहे, असे प्रतिपादन साउथ एशिया बायोटेक्नोलॉजी सेंटरचे अध्यक्ष डॉ. चारुदत्त मायी यांनी केले.

पीबी नॉट बांधून रक्षाबंधन

कापूस पिकावर फवारणीसाठी होणारा खर्च पीबी नॉट या तंत्रज्ञानामुळे कमी करता येईल तसेच उत्पादन वाढीमध्ये नक्कीच या तंत्रज्ञानाचा शेतकऱ्यांना फायदा होईल, असे डॉ. मायी यांनी सांगितले. कापसाच्या झाडाला पीबी नॉट कसे बांधायचे याचे त्यांनी शेतकऱ्यांना प्रात्यक्षिक करून दाखवले. यावेळी डॉ. मायी यांच्या मार्गदर्शनानुसार माधुरी सचिन वडतकर यांनी कपाशीच्या झाडाला पीबी नॉट बांधून रक्षाबंधन साजरे केले.



गुलाबी बोंडअळीचे व्यवस्थापन सामूहिकरीत्या करणे लाभदायक - डॉ. चारुदत्त मा



बोंड इल्ली व्यवस्थापन पर डा. मायी ने कहा

पीबी नॉट तकनीक का प्रयोग लाभकारी

60 एकड क्षेत्र में किया गया प्रयोग



देशोन्नती

गुलाबी बोंडअळीचे व्यवथापन सामूहिकरित्या करणे दाभदायक :डॉ.चारुदत्त मायी

देशोन्नती वृत्तसंकलन...

बोपापूर येथे बोंडअळी व्यवस्थापन प्रशिक्षण



वर्धा ■ वर्धा, दि.३० (जिमाका) : यावर्षी कापसावर गुलाबी बोंडअळीचा प्रादुर्भाव लवकर दिसून आला आहे. भारतामध्ये ज्या ठिकाणी कापूस पिकविल्या जाते अशा ठिकाणी पीबी नॉट तंत्रज्ञानाचे प्रयोग घेण्यात आले आहे. या तंत्रज्ञानामध्ये कापसावरील गुलाबी बोंडअळीला रोखण्याचे सामर्थ्य आहे. शेतकऱ्यांनी या तंत्रज्ञानाचा वापर करत बोंडअळीचे सामुहिकपणे व्यवस्थापन करणे गरजेचे आहे, असे प्रतिपादन साउथ एशिया बायोटेक्नोलॉजी सेंटरचे अध्यक्ष डॉ. चारुदत्त मायी यांनी केले.

कृषी विज्ञान केंद्र, साउथ एशिया बायोटेक्नोलॉजी सेंटर जोधपुर, ?ग्रो व्हिजन फाऊंडेशन नागपूर व पीआय फाऊंडेशनच्या संयुक्त विद्यमाने प्रोजेक्ट बंधन व कापूस एकात्मिक व्यवस्थापन प्रकल्पांतर्गत देवळी तालुक्यातील बोपापूर येथे कापूस पिकावरील गुलाबी बोंडअळी व्यवस्थापनासाठी पीबी नॉट नवीन तंत्रज्ञान या विषयावर एक दिवसीय प्रशिक्षण घेण्यात आले. त्यावेळी ते बोलत होते.यावेळी डॉ.मायी यांच्यासह भारत सहकारच्या वाणिज्य व उद्योग मंत्रालयाच्या कृषि उत्पादन निर्यात विकास प्राधिकरणाचे सदस्य डॉ. भगीरथ चौधरी, कृषि विज्ञान केंद्राचे वरिष्ठ शास्त्रज्ञ तथा प्रमुख डॉ. जीवन कतोरे, किटकशास्त्र विषय विशेषज्ञ डॉ. निलेश वझीरे, पोलिस पाटील सचिन वडतकर यांच्यासह बोपापूर (दिघी), सोनेगाव, अडेगाव, चिखली येथील शेतकरी मोठ्या संख्येने उपस्थित होते.कापूस पिकावर फवारणीसाठी होणारा खर्च पीबी नॉट या तंत्रज्ञानामुळे कमी करता येईल तसेच उत्पादन वाढीमध्ये नक्कीच या तंत्रज्ञानाचा शेतकऱ्यांना फायदा होईल, असे डॉ.मायी यांनी सांगितले. कापसाच्या झाडाला पीबी नॉट कसे बांधायचे याचे त्यांनी शेतकऱ्यांना प्रात्यक्षिक करून दाखवले. यावेळी डॉ.मायी यांच्या मार्गदर्शनानुसार माधुरी सचिन वडतकर यांनी कपाशीच्या झाडाला पीबी नॉट बांधून रक्षाबंधन साजरे केले.कार्यक्रमाचे प्रस्ताविक डॉ. जीवन कतोरे यांनी केले. पीबी नॉट हे नवीन तंत्रज्ञान आहे. त्यासाठी बोपापूर या गावाची निवड करून ऐकून ६० एकर क्षेत्रावर हा प्रयोग घेण्यात येणार आहे. या तंत्रज्ञान शेतकऱ्यांना नक्कीच फायदा होईल, असे ते म्हणाले.

डॉ. भगीरथ चौधरी यांनी पीबी नॉट तंत्रज्ञानाचा शेतकऱ्यांनी अंगीकार करण्यासोबतच कामगंध सापळ्याचे महत्व व त्याचे होणारे फायदे याबद्दल माहिती दिली. डॉ. निलेश वझीरे यांनी कापूस पिकावरील गुलाबी बोंडअळी नियंत्रणासाठी एकात्मिक कीड व्यवस्थापन या विषयावर मार्गदर्शन केले.कार्यक्रमाचे संचालन डॉ. निलेश वझीरे यांनी केले तसेच आभार सचिन वडतकर यांनी मानले. कार्यक्रमाच्या यशस्वीतेसाठी डॉ. रुपेश झाडोदे, गजानन म्हसाळ, मनुश्री पाटील, शुभम पेंढाम यांनी सहकार्य केले.

Wardha Edition
Aug 31, 2023 Page No. 6
Powered by : eReleGo.com

THE JOURNEY CONTINUES / 2023

A teacher among farmers

Felicitation by well-wishers at a farmers' meeting on chilli black thrips, coinciding with National Teachers' Day, Umred, Maharashtra, 5 September 2023.





Partnership and agricultural ambition

An editorial on the ambition of a trillion-dollar partnership, published in Agrowon, 7 September 2023.


संपादकीय

सकाळ अग्रोवन

फळांचे गाव संकल्पना साकारताना...

एक ट्रिलियन डॉलर्सचे लक्ष्य कसे गाठणार?

THE JOURNEY CONTINUES / 2023

Distinction in plant protection

The Plant Protection Association of India confers its Award of Distinction at the International Conference on Plant Health Management, PJTSAU, Hyderabad, 15–18 November 2023.





THE JOURNEY CONTINUES / 2023

An Asian platform for cotton research

Presiding over the Ninth Asian Cotton Research and Development Network meeting and international conference on resilient cotton production and viable value chains, ICAR-CIRCOT, Mumbai, 6–8 December 2023.





THE JOURNEY CONTINUES / 2023

Cotton conversations in Jalna

Engaging smallholder cotton farmers of Marathwada at Jalna, Maharashtra, 12 December 2023.







THE JOURNEY CONTINUES / 2024

A Republic Day reception

Greeting President of India Smt Droupadi Murmu at the Republic Day at-home reception, 26 January 2024.



Nutrition and the health of crops

An Agrowon editorial on malnutrition and crop nutrition, 7 May 2024.



संपादकीय

सकाळ अॅग्रोवन

गुरुवार, ७ मार्च २०२४

सुधारणांना विरोध नको

बाजार समित्यांना राष्ट्रीय दर्जा प्राप्त झाल्यानंतर त्यांना विशेष वस्तूंचा बाजारतळेखील घोषित करता येणार आहे, त्यामुळे केवळ सुधारणांच्या अनुषंगाने राष्ट्रीय बाजारच्या विचार झाला पाहिजे.

कुपोषण अन् पीक पोषण

प्रा. चंद्रशेखर भाजी

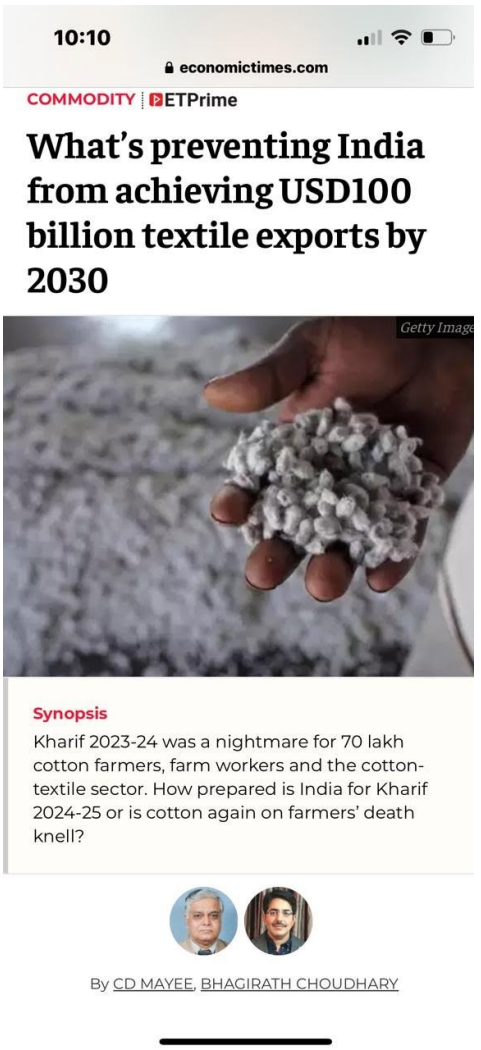
प्रा. भगीरथ चौधरी

वास्तविक पीक पोषण हा एक अतिशय महत्त्वाचा आणि गुंतागुंतीचा विषय आहे, त्याकडे आपण सर्व बाजूंनी दुर्लक्ष केले आहे. पीक पोषणात शिवाजीमहाराजांचे मूळ काळ १९८५ चा रासायनिक खतांबाबतचा जुना कायदा आहे.

THE JOURNEY CONTINUES / 2024

The textile export question

Writing in ET Prime on the obstacles to India achieving US$100 billion in textile exports by 2030.



10:10

economictimes.com

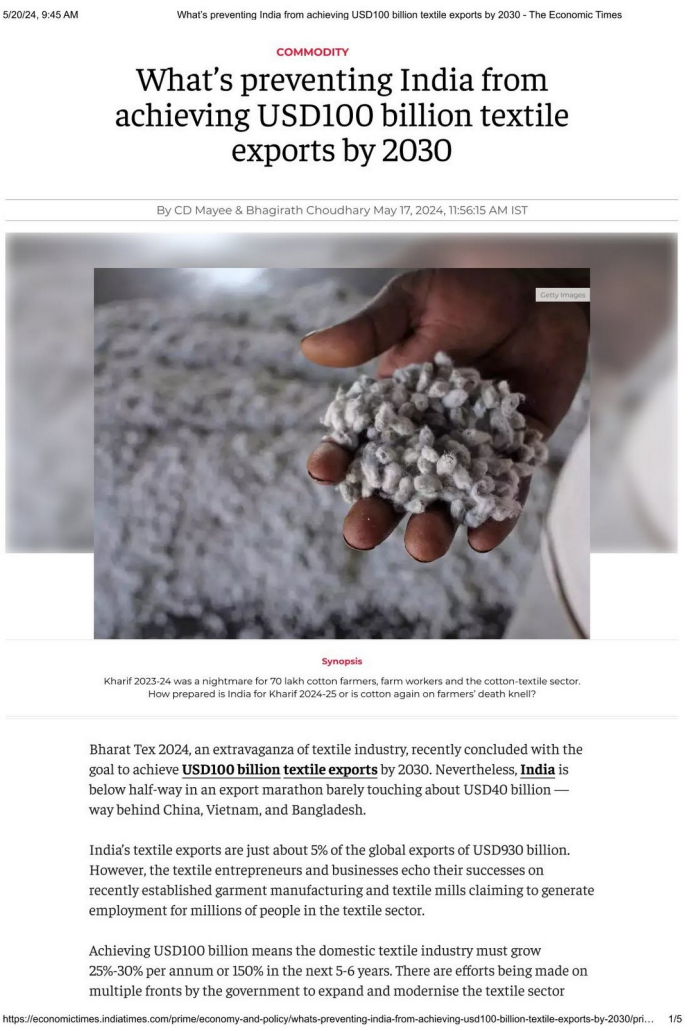
COMMODITY | ETPrime

What's preventing India from achieving USD100 billion textile exports by 2030

Synopsis

Kharif 2023-24 was a nightmare for 70 lakh cotton farmers, farm workers and the cotton-textile sector. How prepared is India for Kharif 2024-25 or is cotton again on farmers' death knell?

By CD MAYEE, BHAGIRATH CHOUDHARY



COMMODITY

What's preventing India from achieving USD100 billion textile exports by 2030

By CD Mayee & Bhagirath Choudhary May 17, 2024, 11:56:15 AM IST

Synopsis

Kharif 2023-24 was a nightmare for 70 lakh cotton farmers, farm workers and the cotton-textile sector. How prepared is India for Kharif 2024-25 or is cotton again on farmers' death knell?

Bharat Tex 2024, an extravaganza of textile industry, recently concluded with the goal to achieve **USD100 billion textile exports** by 2030. Nevertheless, **India** is below half-way in an export marathon barely touching about USD40 billion — way behind China, Vietnam, and Bangladesh.

India's textile exports are just about 5% of the global exports of USD930 billion. However, the textile entrepreneurs and businesses echo their successes on recently established garment manufacturing and textile mills claiming to generate employment for millions of people in the textile sector.

Achieving USD100 billion means the domestic textile industry must grow 25%-30% per annum or 150% in the next 5-6 years. There are efforts being made on multiple fronts by the government to expand and modernise the textile sector

THE JOURNEY CONTINUES / 2024

Back in the farmers’ fields

Interacting with cotton farmers at Ekpala village, Deoli tehsil, Wardha, 12 August 2024.





THE JOURNEY CONTINUES / 2024

High tech cotton reaches Sirsa

Leading a farmers–scientists interaction on high-tech cotton cultivation at SABC's High-Tech R&D Station, Gindran village, Sirsa district, Haryana, 16 September 2024.









THE JOURNEY CONTINUES / 2024

A lifetime of agricultural service

Gujarat Governor Shri Acharya Devvrat presents a national agricultural lifetime honour at the Fifth Grain-India Meet and award ceremony organised by the National Agricultural Journalists Association, Gandhinagar, 23 September 2024.





THE JOURNEY CONTINUES / 2025

A cotton scientist honoured in Guntur

Felicitation at the Cotton Annual Group Meet jointly organised by ANGRAU and ICAR, Lam, Guntur, Andhra Pradesh, 21–23 March 2025.





A publication for cotton's future

The Cotton Association of India honours Dr Mayee and unveils a publication on High-Tech Regenerative Cotton Farming in North India, Mumbai, 12 April 2025.





THE JOURNEY CONTINUES / 2025

Independence Day with growers

Celebrating the seventy-ninth Independence Day with around 200 smallholder cotton growers in Deoli tehsil, Wardha, Maharashtra, 15 August 2025.





Recognition among peers

The ICAR-CICR scientific community felicitates Dr Mayee following his selection for the ICAC Researcher of the Year 2025 award, 16 August 2025.



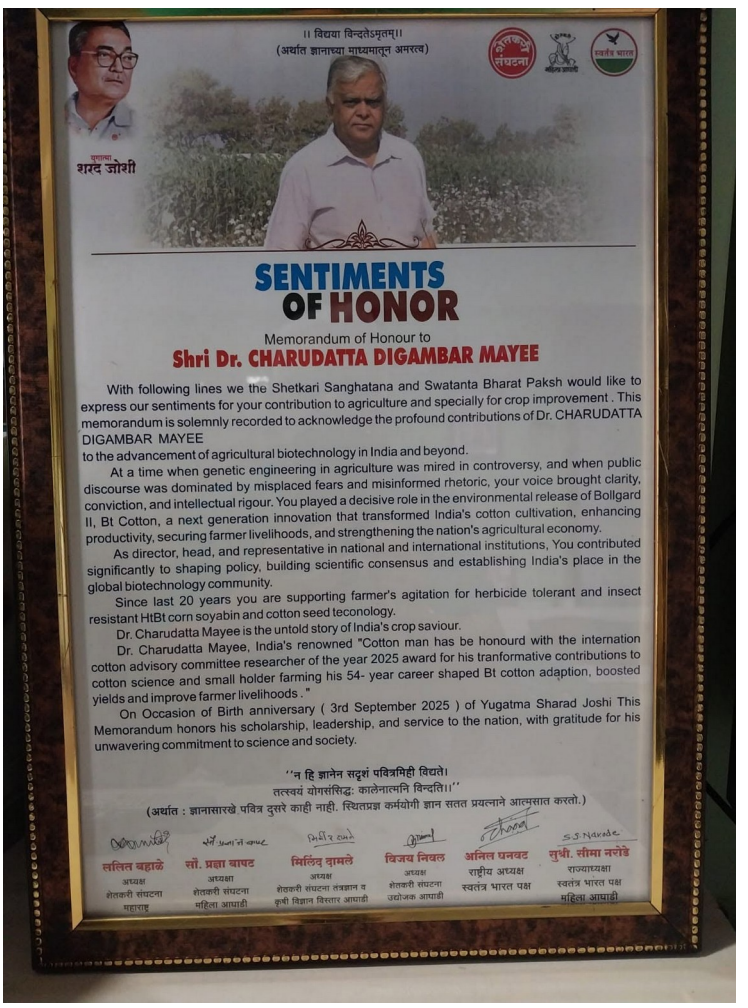


THE JOURNEY CONTINUES / 2025

An honour from farmers

Shetkari Sanghatana honours Dr Mayee’s long service to cotton science, biotechnology and farmer welfare on the birth anniversary of the late Shri Sharad Joshi, Yavatmal, Maharashtra, 3 September 2025.





THE JOURNEY CONTINUES / 2025

Reviewing the next season’s cotton

Reviewing high-density planting demonstrations and Bt cotton trials at KVK Kharpudi, Jalna, 26 October 2025.





THE JOURNEY CONTINUES / 2026

International recognition in Bremen

Receiving the ICAC International Researcher of the Year 2025 award during the Eighty-third ICAC Plenary Meeting at Parliament House, Bremen, Germany, 23 March 2026.



THE JOURNEY CONTINUES / 2026

The fifth Agri Expert Award

Shri Rajendra Pawar receives the fifth Dr C.D. Mayee Agri Expert Award, Nagpur, 18 July 2026.





THE JOURNEY CONTINUES / 2026

Cotton Innovation Day

Inaugurating Cotton Innovation Day at SABC's High-Tech R&D Station, Sirsa, 26 August 2026.





A meeting of mentors

Presenting an IPM cumin publication to Dr R.S. Paroda in the presence of Bhagirath Choudhary and Shri Ravi Boratkar, 28 August 2026.



THE JOURNEY CONTINUES / 2026

A tribute on Teachers' Day

Bhagirath Choudhary's tribute to Dr Mayee on Teachers' Day, 5 September 2026.

भागीरथ चौधरी संस्थापक, एसएबीसी

किसानों के जीवन में बदलाव

शिक्षक केवल ज्ञान नहीं बांटते, वे सपनों को दिशा देकर इंसान के भीतर देश और समाज के प्रति जिम्मेदारी का भाव जगाते हैं। मेरे जीवन में यह मुकाम पद्म भूषण से सम्मानित प्रसिद्ध कृषि वैज्ञानिक डॉ. आर. एस. परोदा का रहा। वर्ष 2000 में विदेश से मास्टर्स करके भारत लौटने पर 'इंडियन नेशनल साइंस कांग्रेस' में मेरी उनसे पहली मुलाकात हुई और वहीं से मेरा जीवन बदल गया। साथ ही, भारत सरकार के पूर्व एग्रीकल्चर कमिश्नर डॉ. सी. डी. माई ने मुझे प्रेरित किया कि यदि किसानों के जीवन में वास्तविक बदलाव लाना है, तो स्वतंत्र रूप से कार्य करना होगा। उनके इसी प्रोत्साहन की बदौलत 'साउथ एशिया बायोटेक्नोलॉजी सेंटर' की नींव रखी जा सकी।



गुरुजन आरएस परोदा और डॉ. सीडी माई के साथ भागीरथ।

गुरु से मिली सीख... अनुशासन, समयबद्धता और किसानों के उत्थान के लिए संपूर्ण समर्पण के साथ निस्वार्थ भाव से कार्य करना।

गुरुदक्षिणा... देश के किसानों को आधुनिक कृषि तकनीकों, जैव प्रौद्योगिकी और कृषि निर्यात से जोड़कर उनके जीवन में समृद्धि लाना ही मेरी गुरुदक्षिणा है।

THE JOURNEY CONTINUES / 2026

Cotton and textiles in Taipei

Participating in Innovative Textile Blended Applications: From Production to Branding at the ICAC International Seminar, Taipei, Taiwan, 10 September 2026.







THE JOURNEY CONTINUES / 2026

A new field assessment

Releasing Field Assessment of Unauthorized HtBt Cotton Cultivation in India: Extent, Drivers & Implications, supported by FSII and NSAI, 7 October 2026.



THE JOURNEY CONTINUES / 2026

The findings reach the media

Briefing the media on the HtBt cotton field study on World Cotton Day, New Delhi, 7 October 2026. The press coverage shown records the public discussion of the findings.

देश में एक चौथाई कपास क्षेत्र में अवैध एचटीबीटी की खेती, करीब 1,500 करोड़ का अनधिकृत बीज कारोबार

- विशेषज्ञों ने जताई उत्पादकता घटने की चिंता

ब्यूरो | नई दिल्ली

देश में पर्यावरण कारणों से प्रतिबंधित आनुवंशिक रूप से संशोधित हर्बिसाइड



टॉलरेंट बीटी (एचटीबीटी) कपास की खेती का दायरा तेजी से बढ़ा है। फेडरेशन ऑफ सीड इंडस्ट्री ऑफ इंडिया (एफएसआईआई) और नेशनल सीड एसोसिएशन के संयुक्त अध्ययन के अनुसार, खरीफ 2025-26 में लगभग 65 से 72 लाख एकड़ में एचटीबीटी कपास बोया गया। यह देश के कुल कपास रकबे का करीब 24 से 30 प्रतिशत हिस्सा है। रिपोर्ट के अनुसार, इसका अनधिकृत बीज कारोबार करीब 1,500 रुपए करोड़ तक पहुंच चुका है। यह अध्ययन महाराष्ट्र, तेलंगाना, आंध्र प्रदेश और राजस्थान के 16 जिलों में किसानों के सर्वेक्षण और जीन परीक्षण के आधार पर तैयार किया गया है।

महाराष्ट्र सबसे आगे, गुणवत्ता की गारंटी नहीं

एचटीबीटी के इस्तेमाल में महाराष्ट्र सबसे आगे है, जहां 58% रकबे में यह फसल है (यवतमाल में 76%)। इसके बाद तेलंगाना (66%) और आंध्र प्रदेश (49%) का स्थान है। अनधिकृत बीज होने के कारण किसानों को गुणवत्ता की कोई कानूनी गारंटी या शिकायत निवारण का विकल्प नहीं मिलता। इंडियन सोसाइटी फॉर कॉटन इम्प्रूवमेंट के अध्यक्ष डॉ. सी.डी. मायी ने चेतावनी दी कि बिना मंजूरी वाले जीन और ग्लाइफोसेट के अनियंत्रित छिड़काव से खरपतवारों में प्रतिरोधक क्षमता बढ़ सकती है, जिससे उत्पादकता प्रभावित होगी। अध्ययन में सिफारिश की गई है कि स्थिति से निपटने के लिए बीजी-II आरआरएफ कपास को शीघ्र वैध मंजूरी दी जाए, ग्लाइफोसेट के नियंत्रित इस्तेमाल के नियम तय हों और एक पारदर्शी, समयबद्ध नियामकीय व्यवस्था लागू की जाए।

मजदूरी की बढ़ती लागत मुख्य वजह : किसानों के इस रुझान का सबसे बड़ा कारण खेतों में मजदूरों की किल्लत और निराई-गुड़ाई का भारी खर्च है। जहां हाथ से निराई कराने पर प्रति एकड़ 12,000 से 15,000 रुपए का खर्च आता है, वहीं ग्लाइफोसेट छिड़काव से यह काम महज 750 से 850 रुपए प्रति एकड़ में हो जाता है।

दैनिक भास्कर DainikBhaskar.com Thu, 08 October 2026



पत्रिका

भारत में अप्रूव नहीं हुए जीन की मौजूदगी भी

देश के करीब एक-चौथाई क्षेत्र में अवैध कपास की खेती

पत्रिका ब्यूरो patrika.com

नई दिल्ली. देश में अनधिकृत हर्बिसाइड टॉलरेंट बीटी कपास की खेती का दायरा तेजी से बढ़ने का दावा एक नए अध्ययन में किया गया है। इसमें खरीफ 2025-26 में 65 से 72 लाख एकड़ में एचटीबीटी कपास की खेती हुई, जो देश के कुल कपास क्षेत्र का करीब 24 से 30 प्रतिशत है। इसमें जुड़े बीज का 1500 करोड़ का अवैध कारोबार का अनुमान है।

साउथ एशिया बायोटेक्नोलॉजी सेंटर ने फेडरेशन ऑफ सीड इंडस्ट्री ऑफ इंडिया और नेशनल सीड एसोसिएशन ऑफ इंडिया के सहयोग से यह अध्ययन किया है। अनधिकाड

कलर्टोवेशन ऑफ एचटीबीटी कॉटन इन इंडिया: एसमेंट, इंपैक्ट एंड इंप्लीकेशंस रिपोर्ट के तहत यह जानकारी सामने आई है। इंडियन सोसाइटी फॉर कॉटन इम्प्रूवमेंट के अध्यक्ष और साउथ एशिया बायोटेक्नोलॉजी सेंटर के अध्यक्ष डॉ. सीडी माय ने रिपोर्ट नतीजे बताकर कहा कि बिना मंजूरी वाले जीन और ग्लाइफोसेट के अनियंत्रित इस्तेमाल से कॉटन और खरपतवारों में प्रतिरोध बढ़ने का खतरा है, जिसका असर कपास की उत्पादकता पर पड़ सकता है। उन्होंने कहा कि तकनीक का जिम्मेदार इस्तेमाल तभी संभव है जब यह कानूनी व नियामकीय दायरे में हो।

मजदूरों की कमी से बढ़ी निर्भरता

रिपोर्ट के मुताबिक ग्लाइफोसेट की खरपतवार नियंत्रण पर 750-850 रुपये प्रति एकड़ खर्च आता है, जबकि मैनुअल वीडिंग की लागत 12,000-15,000 रुपये प्रति एकड़ तक पहुंची है। ग्लाइफोसेट के इस्तेमाल में भी एक साल में 26 प्रतिशत की वृद्धि का दावा किया गया है।

एफएसआईआई के चेयरमैन अजय राणा ने कहा कि जब देश की करीब एक-चौथाई कपास की खेती अनधिकृत बीजों पर निर्भर हो जाए, तो इसे केवल किसान की गलती के रूप में नहीं देखा जा सकता। यह नियामकीय व्यवस्था के सामने भी एक बड़ा सवाल है।

जानकारी देते पदाधिकारी।

Patrika.com नई दिल्ली | 08/10/2026

25% of cotton acres in India now grows illegal seed: Study

ABHINAV KUMAR JHA ■ New Delhi



Somewhere between a farmer's need to survive and a regulator's refusal to decide, an entire shadow economy has taken root across India's cotton belt, one that now covers nearly a quarter of the country's cotton acreage and runs on seed that carries no legal guarantee, no quality check and no recourse when it fails.

A new field study released in New Delhi on Wednesday has put hard numbers to what many cotton farmers have quietly known for seasons: the crop in their fields is often not the one the law recognises. The study, "Unauthorised Cultivation of HTBt Cotton in India: Extent, Drivers & Implications," was conducted by the South Asia Biotechnology Centre with support from the Federation of Seed Industry of India and the National Seed Association of India.

It found that unauthorised herbicide-tolerant Bt cotton was grown on 65 to 72 lakh acres during Kharif 2025-26, between 24 and 30 percent of India's total cotton area, feeding an informal seed market estimated at ₹1,500 crore.

For the farmer standing in a field sprayed with chemicals bought off an unregulated market, the numbers behind this shift are stark. Manual weeding costs ₹12,000 to 15,000 an acre, a price that has become unaffordable as farm labour grows scarcer each season. Glyphosate-based weed control, by contrast, costs just ₹750 to 850 an acre. That gap alone explains why glyphosate use jumped 26 per cent in a single year, from 27,721 kilolitres in 2024-25 to 35,642 kilolitres in 2025-26, increasingly sold through underground networks in 20-litre drums rather than regulated outlets.

Laboratory testing of field samples using ELISA-based gene detection found that 98.2 per cent carried at least one genetically modified trait, meaning the overwhelming majority of tested cotton plants were already technically outside the bounds of what Indian law permits. Nearly 42 per cent of samples were "quadruple stacks," containing four transgenes including Vip3A, an insect-resistance gene that has never received approval in India.

Meanwhile, sales of the legally approved Bollgard-II seed fell 22.3 per cent between 2022 and 2026, as farmers quietly moved toward seed nobody can vouch for.

Maharashtra has emerged as the epicentre of this shift, with 58 per cent adoption of unauthorised HTBt cotton, rising to 76 per cent in Yavatmal, where the technology has become near-standard practice through open, community-backed cultivation.

Telangana and Andhra Pradesh are catching up fast, at 66 per cent and 49 per cent respectively, touching 82 per cent in Mahabubabad and 75 per cent in Kurnool. Rajasthan shows little HTBt adoption so far, but rising demand for illegal BG-III seed to fight pink bollworm.

Dr CD Mayee, President of the Indian Society for Cotton Improvement and President of SABC, warned that unchecked use of unapproved genes and unmonitored glyphosate spraying could breed resistant pests and weeds that devastate cotton productivity, stressing that proper stewardship is only possible once the technology itself is made legal.

FSII Chairman Ajai Rana said farmers are not breaking the law out of choice but are paying a black-market premium because the regulatory system has failed to give them the technology they actually need. He said India has lost its self-sufficiency in cotton production due to falling yields and become an importer of cotton, and that regulatory approval for herbicide-tolerant and pink bollworm-resistant cotton should now be treated as a national priority.

Because this seed sits entirely outside the Seeds Act and the Seed Control Order, farmers buying it have no quality assurance and no legal recourse if the crop fails, a risk borne entirely by the farmer, not the seller.

The study calls for urgent action: fast-tracking approval of BGII-RRF cotton so farmers can access it through legitimate channels, expanding glyphosate's regulatory label to permit monitored in-crop use, promoting integrated weed management through herbicide rotation and timed spraying, and strengthening field surveillance against resistance. Its central warning is simple.

THE JOURNEY CONTINUES / 2026

The findings reach the media continued

Briefing the media on the HtBt cotton field study on World Cotton Day, New Delhi, 7 October 2026. The press coverage shown records the public discussion of the findings.



8 NATION DECCAN HERALD Thursday October 8, 2026

Nearly a quarter of cotton in 4 states is illegal, vulnerable variant

Over 58% of Maha cotton & 48% in Telangana, Andhra found to be unapproved varieties

KALYAN RAY NEW DELHI, OHNS

Nearly a quarter of India's Bt cotton is an illegal herbicide-tolerant variety that saves farmers from spending large sums on labour but leaves them vulnerable in case of a crop failure because of the black-market sale of seed packets, scientists and seed industry veterans said on Wednesday.

sharing the outcome of a new study.

Carried out in 16 cotton-growing districts across four states, the study shows unauthorised HTBt cotton was grown on around 24-30% of total Indian cotton acreage in 2025-26 and the informal annual HTBt seed market is estimated to be over Rs 800 crore.

While over 58% of cotton crops in Maharashtra and 48% in Telangana and Andhra Pradesh are illegal HTBt cotton, in some districts 70-80% of crops are the unauthorised varieties, they said, noting that the Centre hasn't approved any new Bt cotton seed in the last two decades after Bollgard-II was cleared in 2006. The penetration of illegal HTBt is the least in Rajasthan.

"Farmers need the technology because of favourable economics as they can save on pesticides and labour. Since they're getting the technology illegally, they are buying it illegally. Why can't our regulatory system approve these technologies," asked CD Mayee, former director of ICAR-Central Institute for Cotton Research, Nagpur.

"Unchecked use of unapproved genes and unmonitored spraying of the pesticide glyphosate could breed resistant pests and weeds that devastate cotton productivity," said Mayee, president, South Asia Biotechnology Centre, which conducted the study with support from the Federation of Seed Industry in India and the National Seed Association of India.

India's cotton productivity doubled from 306 kg per hectare to 600 kg after genetically modified Bt cotton was introduced in 2002. Subsequently, it dropped to 460 kg.

While globally GM cotton seeds underwent two innovations in subsequent years, none have come to the Indian market after 2006. The new national mission on cotton productivity announced in May doesn't mention genetic technology.

But genetic analysis of 227 samples shows nearly 73% of them carry the herbicide tolerant gene and over 53% is carrying a next-generation insect-resistant gene. None are approved in India.

"In 2017-18, the Union government created the Field Inspection and Scientific Evaluation Committee to probe the widespread proliferation of illegal HTBt cotton. Over 15,300 samples were analysed and 15% of them were found to contain the HTBt gene. The new survey now shows how steeply the numbers have gone up with 72% of the samples carrying the unauthorised genes," said Paresh Tanna, former chairman of FSEC.

Mayee said the applications to allow the HTBt technologies have been pending with the Genetic Engineering Approval Committee.

STUDY FINDINGS

24-30% acreage under unauthorised HTBt cotton in 2025-26

Rs 800 cr estimated annual black-market HTBt seed market

72% of 227 samples carried the unauthorised herbicide tolerant gene

53% samples carried an unauthorised next-generation insect resistant gene

70-80% Illegal HTBt penetration in some districts

Entertain people, it will rebuild your image: SC to Rajpal

NEW DELHI, PTI: Make a good movie, entertain people again and rebuild your image, the Supreme Court on Wednesday told actor Rajpal Yadav, as it took note of the Rs 1.15 crore payment made by him in a long-running series of cheque bounce cases.

A bench comprising Chief Justice Surya Kant and Justices Joymalya Bagchi and V Mohana noted that pursuant to its last order, Yadav has

Rajpal Yadav

दैनिक भास्कर नागौर 09-10-2026

बचत • खर्च 93% तक कम, मजदूर कम चाहिए

कपास के 4 में से 1 खेत में अवैध एचटीबीटी बीज

भास्कर न्यूज | नई दिल्ली

देश में बिना सरकारी मंजूरी वाले खरपतवारनाशक के असर को सहने वाले बीटी कपास (एचटीबीटी) की खेती बड़े पैमाने पर फैल गई है। एक फील्ड स्टडी के मुताबिक, 2025-26 के खरीफ सीजन में 65 से 72 लाख एकड़ में इसकी खेती हुई। यानी देश के कुल कपास रकबे का करीब एक चौथाई हिस्सा। महाराष्ट्र, तेलंगाना, आंध्र प्रदेश और राजस्थान के 16 जिलों में किए गए सर्वे में यह अनुमान सामने आया है।

किसान इसे इसलिए अपना रहे हैं, क्योंकि इससे खरपतवार हटाने का खर्च बहुत कम हो जाता है। एचटीबीटी कपास में ऐसा गुण होता है, जिससे ग्लाइफोसेट नाम के खरपतवारनाशक का छिड़काव किया जा सकता है। स्टडी के मुताबिक, इससे प्रति एकड़ खर्च 750-850 रुपए आता है, जबकि हाथ से निराई कराने में 12,000-15,000 रुपए लगते हैं। यानी एक एकड़ में करीब 11,000 से 14,000 रुपए (93%) तक की बचत हो सकती है। मजदूरों की कमी भी इसकी खेती बढ़ने की बड़ी वजह है।

भास्कर एनालिसिस

820-880 करोड़ का बाजार खड़ा हो चुका

साउथ एशिया बायोटेक्नोलॉजी सेंटर ने बीज उद्योग के दो संगठनों के सहयोग से यह अध्ययन किया। इसके मुताबिक, बिना मंजूरी वाले एचटीबीटी बीजों का बाजार 820-880 करोड़ रुपए तक पहुंच गया है। स्टडी में इसे अनधिकृत खेती बताया गया है, क्योंकि इस किस्म को देश में सरकारी मंजूरी नहीं मिली है।

तेलंगाना में 66%, महाराष्ट्र में 58% तक खेती का अनुमान



स्टडी के अनुसार, सर्वे में शामिल क्षेत्रों में एचटीबीटी अपनाने का स्तर तेलंगाना में 66%, महाराष्ट्र में 58% और आंध्र प्रदेश में 49% रहा। ये आंकड़े सर्वे के दायरे में आए क्षेत्रों के हैं, पूरे राज्यों के नहीं।

• **ग्लाइफोसेट का इस्तेमाल 26% बढ़ा:** ग्लाइफोसेट का इस्तेमाल 2024-25 के 27,721 किलोलीटर से बढ़कर 2025-26 में 35,642 किलोलीटर हो गया।

THE JOURNEY CONTINUES / 2026

Sahastra Chandra Darshan

SABC and Agrovision Foundation mark Dr Mayee's Sahastra Chandra Darshan in Nagpur, Maharashtra, 24 October 2026.



EIGHTY YEARS AND BEYOND

The work carries forward

A village childhood gave him an understanding of the farmer’s uncertainty. Scientific training gave him tools to investigate it. Teaching and leadership allowed him to strengthen the people and institutions working to reduce it.

The photographs in these pages show that the habit endures: asking questions in a cotton field, listening to a farmer, examining a trial, mentoring colleagues and bringing evidence into public discussion.

A Scientist Never Retires

With gratitude and affection
Bhagirath Choudhary

South Asia Biotechnology Centre
2026

Mayee At 80:

Unstoppable









MAYEE AT 80

A Scientist Never Retires



From a cotton-growing village in Vidarbha to the leadership of India’s agricultural institutions, Dr Charudatta Digambar Mayee has kept farmers at the heart of science.

This commemorative volume traces eight decades of life and a professional journey shaped by curiosity, integrity and service. Through biography and photographs, it celebrates a researcher, teacher and mentor whose work continues beyond retirement.

BY BHAGIRATH CHOUDHARY

SOUTH ASIA BIOTECHNOLOGY CENTRE