

NITRA NEWS

...with industry always



Issue: April-June 2025

Insight

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Editorial Structure

Editor in - chief:

Dr. M.S. Parmar

Executive Editor:

R.K. Gaur

Partha Basu

FROM DIRECTOR GENERAL'S DESK



Dear Patrons,

The first quarter (April-June, 2025) of this fiscal has been filled with various activities for NITRA. You are already aware that after 20 years of dedicated research on milkweed fibre, NITRA has developed innovative lightweight clothing for extreme cold climates using milkweed fibre-a sustainable material now gaining wide appreciation from the textile industry. The hon'ble Prime Minister of India Sh. Narendra Modi ji and the hon'ble Union Minister for Textiles Sh. Giriraj Singh ji have personally appreciated this breakthrough innovation. Friends, once this idea is conceived, along with me, my team of dedicated researchers in NITRA put on tremendous effort to successfully carry out the R&D works. This landmark project, besides a step forward in textile innovation, is also a boon for rural India. We feel happy to inform that today it's a new cash crop for farmers, especially in Rajasthan, where milkweed thrives even on barren land. Cultivating this crop is now an opportunity for additional income and empowerment of the women there hence making this innovation a blend of science, sustainability, and social impact.

In addition to the above phenomenon in recent times, during this quarter Dy. Director General (Crop Science) Dr. Devendra Kumar Yadav (ICAR, Min. of Agriculture & Farmers Welfare, GoI, and Dr A. K. Singh, Emeritus Scientist & Former Director, IARI, New Delhi, visited NITRA to see the milkweed cultivation and processing of milkweed fibre. They lauded NITRA's pioneering work in cultivating Milkweed (*Calotropis*) for sustainable textile fibre production and assured their support for future collaborations to advance this innovative endeavor. This visit aligns perfectly with NITRA's recent partnership with CSIR-NBRI aimed at advancing Milkweed genomics and scaling eco-friendly fibre technologies, a major leap toward India's *Aatmanirbhar Bharat* vision.

NITRA is granted patent for "A water saving hank dyeing machine for dyeing textile yarn" and also applied for six patents for the technology on "Fire entry multilayered fabric for fire and heat protection ensembles", "Thermal resistance 3D knitted spacer fabric from milkweed floss and process for preparation thereof", "Aluminized milkweed fabric / blend thereof for thermal resistance materials and process for preparation thereof", "An automatic machine and method for separation of floss and seed from milkweed pods", "Thermally comfortable three-layered 3D impact resistant fabric for sports protective goods and process for preparation thereof", and "Polymerization of Nylon 66 from monomer with a single reactor" in this period.

Besides, NITRA signed four MoUs with renowned organisations such as M/s. Welspun Living Limited, M/s. Cotton Corporation of India Ltd. (CCI), M/s. System 5S Pvt. Ltd. and M/s. CSIR-National Botanical Research Institute (NBRI), Lucknow for working jointly on various mutually agreed technical areas.

Amongst other events, Yoga session is conducted for all on International Yoga Day whilst saplings are planted around office campus to mark the World Environment Day. A special technical session on how to reduce environment pollution was also organized for students.

While I conclude, I do hope that you will be enjoying reading NITRA News as usual.

Regards,

Dr. M.S. Parmar
Director General

Northern India Textile Research Association

(Linked to Ministry of Textiles, Government of India)
Sector - 23, Raj Nagar, Ghaziabad - 201 017 (India)



R&D SPECTRUM

Presently, NITRA is working on 09 Government sponsored projects:

COMPLETED PROJECTS

Sponsoring Agency: BIS New Delhi

- Study of quality, performance and constructional parameters of Headliners for Automobiles

ON-GOING PROJECTS

Sponsoring Agency: DST, Govt. of India

- Socio-economic development of SC/ST by providing training, technology and market to convert local resources to industrial products
- To Develop Protective Work Wears for Sewage and Sanitary Workers

Sponsoring Agency: NTTM, Ministry of Textiles, Govt. of India

- Development of Ceramic and UHMWPE Textile Based Hybrid Polymer Composite Armor
- Development of Specialized Firefighting Suit
- Development of flame retardant Nylon 66 yarn/fibre indigenously
- Cellulose-based indigenous high Clo value and low-density surface modified natural fibre for developing thermal layers of extreme cold climate clothing
- Development of Indigenous State-of-the-art Instruments for Protective Textiles
- Design and development of various products from Milkweed (*Calotropis gigantea*) floss/fibre

PROPOSED PROJECT

Sponsoring Agency: NTTM, Ministry of Textiles, Govt. of India

- Development of Flame Retardant micro glass beads based Retro-reflective material

R&D PROJECT TRANSFERRED FROM MITS, GWALIOR TO NITRA, GHAZIABAD

Title of the Project: Development of Multi-layered Fire-fighters suit for Protection against Thermal Hazards and Pressurized Steam.

Wrt MoT, NTTM letter no. 8/3/2023-MiscNTTM dt. 8thMay 2025 the '**Transfer of Research Project**' is directed from MITS, Gwalior to NITRA, Ghaziabad, U.P

Dr. M. S. Parmar, Director General, Northern India Textile Research Association (NITRA), hereinafter referred to as the Principal Investigator (PI)

RESEARCH PAPER PUBLISHED/PRESENTED

S. No.	Title	Author/s	Publication / Place	Publication Date
1	The Evolving Landscape of Travel: A Comprehensive Analysis of AI-Powered Travel Planner Assistants	Aadarsh Pandey, Garvit Srivastava, Sani Pandey, Sumer Kumar, K K Dewan	International Journal of Scientific Research in Engineering and Management	23/05/25
2	Nutrition Based Management System	Ajay Maurya, Aman Singh, Rohit Kumar Yadav, Divakar Gaur, A.P. Srivastava, Akansha Rajput	International Journal of Scientific Research in Engineering and Management	26/05/25

S. No.	Title	Author/s	Publication / Place	Publication Date
3	Influencer Engagement & Sponsorship Coordination	Akash Kumar, Abhishek Bharti, Atish Chauhan, Mridul Kumar Singh, Priya Tyagi	International Journal of Innovative Research in Technology	23/04/25
4	The Role and Evolution of Sentiment Analysis in Enhancing Virtual Assistant Capabilities	Amisha Patel, Prajwal Kumar Singh, Sadgyan Ji Jaiswal, Sarthak Saxena, A.P. Srivastava, Sourabh Jain	International Journal of Scientific Research in Engineering and Management	19/05/25
5	An Emotion Based Personalized Music Recommendation System	Ashif, Priya Rao Gautam, Utkarsh Madeshiya, Rahul Chaudhari, A.P. Srivastava	International Journal of Creative Research Thoughts (IJCRT)	21/05/25
6	Malware Detection System using Machine Learning Techniques	Ashraf Ali, Vikas Chaudhary, Deeksha Pal, Gaurav Kumar, N K Sharma	International Journal of Scientific Research in Engineering and Management	23/05/25
7	A Real Time Crash and Fire Detection Using CCTV	Atul Verma, Himanshu Jaiswara, Alok Kumar, Nisha Kumari, A.P. Srivastava	International Journal of Scientific Research in Engineering and Management	25/05/25
8	AI-Driven Personalization and Backend Efficiency Comparison for an Alumni Association Platform	Deepak Yadav, Rupesh Kumar Gupta, Udit Sharma, Arjun Singh, A.P. Srivastava, N K Sharma	International Journal of Scientific Research & Engineering Trends	23/05/25
9	AI Driven Phishing Detection and Prevention	Dev Ashish, Pratiksha Yadav, Vishesh Kaushik, Sweetly Singh, Divya Pachauri	International Journal of Creative Research Thoughts (IJCRT)	06/06/25
10	Smart Traffic Management System Using Simulation	Krishna Kumar Yadav, Mukesh Kumar Maurya, Prateek Tiwari, Ujjwal Mishra, B K Sharma, N K Sharma	International Journal of Science, Engineering and Technology	24/05/25
11	Pharmaceutical Supply Chain System Using Smart Contracts	Vivek Mishra, Abhijat Singh, Ajit Tiwari, Nikhil Yadav, Abhineet Suman	International Journal of Creative Research Thoughts (IJCRT)	12/05/25
12	A Smart Milk Pan IOT based Project	Amrita Rajvansh, Nitesh Kumar, Prashant Dhakarey, Stuti Gupta, K.K. Dewan, A.P. Srivastava	International Journal of Innovative Research in Technology	19/05/25

S. No.	Title	Author/s	Publication / Place	Publication Date
13	FinTrack-Tracking Personal Finances	Akhilesh Kumar Singh, Ananya Chaturvedi, Ayush Sharma, Khush Panghal, Divya Pachauri	International Journal of Innovative Research in Technology	20/05/25
14	Medicine Recommendation System Using Effective Machine Learning Techniques & Predict	Aditya Kumar Tiwari, Akash Bhardwaj, Pawan Kumar, Akaash Tripathi, Abhineet Suman	International Journal of Creative Research Thoughts (IJCRT)	23/05/25
15	Museum Chatbot Ticketing System: An AI-Driven Approach to Enhance Visitor Experience and Operational Efficiency	Akaash Tripathi, Jahanvi Shankhar, Sachin Pandey, Astha Yadav, Akansha Rajput	International Journal of Creative Research Thoughts (IJCRT)	23/05/25
16	Email Spam Detection (Using Machine Learning)	Astha Yadav, Nitin Kumar, Shantanu Kumar Pandey, Manish Yadav, Abhineet Suman	International Journal of Creative Research Thoughts (IJCRT)	23/05/25
17	Power Predict: Unlocking the Future of Electrical Energy With ML	Manish Yadav, Pooja Srivastava, Prachi Gupta, Sandeep Kumar Yadav, K K Dewan	International Journal of Scientific Research & Engineering Trends	24/05/25
18	EduTracker Association Platform	Sandeep Kumar Yadav, Sahil Gupta, Priya Tyagi	International Journal of Scientific Research & Engineering Trends	28/05/25
19	Presentation on Application of Milkweed fibres in Textiles	M.S. Parmar	Vardhman Textiles Ltd., Ludhiana	09/04/25

PATENTS/TRADE MARK

Patent Granted:

- A water saving hank dyeing machine for dyeing textile yarn. Patent No. 567030 dt. 30.05.2025; Patent Application No. 201911015524 dt. 18.04.2019 (Inventor: Dr. M.S.Parmar)

Patents Filed:

- “Fire entry multilayered fabric for fire and heat protection ensembles” Indian patent application no.:202511055555 dt.9/06/2025, Applicants: MoT, GoI & NITRA Ghaziabad, Inventors- Dr. M.S. Parmar, Dr. Nidhi Sisodia, Mr. Swami sharan & Mr. Kuldeep Yadav
- Thermal resistance 3D knitted spacer fabric from milkweed floss and process for preparation thereof, Application No.: 202511055556 dated 09/06/2025, Applicants: MoT, GoI & NITRA Ghaziabad, Inventors- Dr. M.S. Parmar, Dr. Preeti Kaur Sachdeva & Mr. Lalit Giri Goswami.

- Aluminized milkweed fabric / blend thereof for thermal resistance materials and process for preparation thereof, Application No.:202511055554dated09/06/2025,Applicants: MoT, Gol & NITRA Ghaziabad, Inventors- Dr. M.S. Parmar & Dr. Preeti Kaur Sachdeva.
- An automatic machine and method for separation of floss and seed from milkweed pods, Application No.: 202511045610 dated 12/05/2025, Applicants: MoT, Gol & NITRA Ghaziabad, Inventors- Dr. M.S.Parmar, Dr. Preeti Kaur Sachdeva & Mr. Sanjay Kumar
- “Thermally comfortable three-layered 3D impact resistant fabric for sports protective goods and process for preparation thereof”, Patent Application No.: 202511039445 dt. 24/04/2025, Applicants: MoT, Gol & NITRA Ghaziabad, Inventors - Dr.Arindam Basu and Dr. Roopam Chauhan
- “Polymerization of Nylon 66 from monomer with a single reactor”, Patent Application No.: 202511034223 dt. 08/04/2025, Applicants: MoT, Gol & NITRA Ghaziabad, Inventors- Dr. Arindam Basu & Dr. Sundaramoorthy Palanisamy

Trademark Filed:

- Indian Trademark Application No. 7102666 for the mark “CLOCell (device)” in class 22 in the name of Northern India Textile Research Association filed with the Trademark Registration Office, Govt. of India on July 07, 2025.

CONSULTANCY CORNER

Inspection: Blanket (1 unit), Cloth Disruptive (1 unit), Shirting Angola (1 unit), Woolen Jersey (3 unit), Coat Combat (3 unit), Sleeping Bag (2 unit), Helmet (1 unit), Uniform Cloth Digital Prints (6 unit), and Terry Towel (2 units), Vest Thermal (1 unit), Cape Comforter (1 unit), Mattress Glacier (1 unit), T-shirt (3 units) and Underpant Woolen (1 unit)

Consultancy:

1. Setting UP 1200 KLD ZLD Model in Bhilwara, Rajasthan (1 unit)
2. Up gradation of 800 KLD ETP in Bhilwara, Rajasthan (1 unit)
3. Pollution Prevention and Effective Waste Management of the units in Panipat Textile Cluster (1 unit)
4. Technical & financial appraisal of CFC, Kushi Nagar under KVIB (1 unit)

HRD FOCUS

S. No.	Nature of Program and Date	Participants Details	Venue	Division	No. of Trainees
1.	Manufacturing & Quality Assurance of Textiles and Apparels (22 nd April to 26 th June 2025)	B.Sc students of College of Community Science, Tura, Meghalaya	NITRA Ghaziabad	Garment Centre	14
2.	Campus Interview-Stand Out Bounce Back (31 st May 2025)	Final Year B.Tech students of CSE/CSE (AI&ML) of NTC	Online	Dept. of CSE/CSE (AI&ML) NTC	31
3.	Antibacterial testing as per AATCC 100 (19 th & 20 th June 2025)	Senior QC Personnel of Ordinance Equipment Factory, Kanpur	NITRA Ghaziabad	CQE	2
4.	Milkweed Pod Harvesting (1 st May, 2025)	CCI Representatives	NITRA Ghaziabad	CQE	8
5.	Milkweed Cultivation and Seed Distribution (16 th June, 2025)	Farmers & CCI Representatives	NITRA Ghaziabad	CQE	6
6.	Application of Milkweed fibres in Textiles	Officials of QC and R&D	Vardhman Textiles Ltd., Ludhiana	CQE	7

TESTING ZONE

During the period April-June 2025, total 5566 samples were tested in all the labs as given in table.

S. No.	Lab Name	No. of samples tested
1	Physical Quality Evaluation Lab	3690
2	Chemical Quality Evaluation Lab including Heat & Flame lab	1329
3	Microbiology lab	61
4	Polymer & Technical Textiles Lab	402
5	Eco Lab & Environment Lab	84

GLIMPSES

Eminent Textile Scientist Dr. M. S. Parmar takes over as Director General, NITRA on May 8, 2025

Dr. M.S. Parmar, Director General, has been working at NITRA for the last 32 years in various capacities. He has been Director NITRA for about two years. His main areas of expertise are Textile Chemistry, Protective & Automotive Textiles, unconventional fibres and Quality Control of Textiles. Besides this, he has also been instrumental in establishing Heat & Flame Lab and the Microbiology Lab. As Director (Labs), he has looked after all seven NABL accredited/BIS recognized labs of NITRA. His recent research work on Milkweed Fibres and the development of Technical Textiles out of these fibres has earned many laurels for NITRA and the textile fraternity. He is one of the renowned textile researchers in the country.



Hon'ble Union Minister for Textiles, Sh. Giriraj Singh congratulates Dr. M.S. Parmar

Hon'ble Union Minister for Textiles, Sh. Giriraj Singh warmly welcomed and extended heartfelt congratulations to Dr. M. S. Parmar on assuming charge as the Director General of NITRA. The meeting took place at the Ministry of Textiles office.



Fire Manikin Testing Facility to be made available at NITRA from July 1, 2025

This facility shall fulfill the requirements of the latest version of IS 17881 (Part 1), IS 17881 (Part 2), ISO 13506-1, ISO 13506-2, ASTM F 1930, and NFPA 2112 standards. Installation is in Full Swing.



Mrs. Ruma Devi of Ruma Devi Foundation visits NITRA

Mrs. Ruma Devi, renowned social activist and founder of the Ruma Devi Foundation, visited the Northern India Textile Research Association (NITRA). During her visit, she engaged in a fruitful discussion with Dr. M.S. Parmar, Director General, NITRA. The dialogue focused on the propagation and sustainable development of milkweed fibre, with an emphasis on maintaining a robust supply chain. Both parties also explored the possibility of jointly organizing various events aimed at promoting this eco-friendly natural fibre and supporting local artisan communities. This collaborative effort reflects a shared commitment to innovation, sustainability, and the empowerment of rural artisans through textile research and development.



NITRA celebrates International Yoga Day

NITRA and its academic wing NITRA Technical Campus celebrated International Yoga Day on 21st June, 2025 at its campus in Ghaziabad. The expert yoga instructor Ms. Vaishali Sharma, gave live demonstrations of various Mudra, Asana and Pranayama. Staff members of NITRA and faculty members and students of NITRA Technical Campus have actively taken part in this yoga-session in large number and practiced yoga as per the instructions of the expert. The session was very refreshing and ignited the spirit of harmony, health, and inner peace.



Deputy Director General (Crop Science), Dr. Devendra Kumar Yadav (ICAR, Ministry of Agriculture & Farmers Welfare, Govt. of India), and Emeritus Scientist & Former Director, IARI New Delhi, Dr A. K. Singh, Visit NITRA Ghaziabad

Both dignitaries visited to view the Milkweed cultivation initiative and processing of milkweed fibre on June 28, 2025. During their visit, they applauded NITRA's pioneering work in cultivating Milkweed (Calotropis) for sustainable textile fibre production. They expressed strong appreciation for the progress achieved and assured their support for future collaborations to advance this innovative endeavour.

This visit aligns perfectly with NITRA's recent partnership with CSIR–NBRI aimed at advancing Milkweed genomics and scaling eco-friendly fibre technologies a major leap toward India's Aatmanirbhar Bharat vision.



NITRA Bids Heartfelt Farewell to Dr. Arindam Basu, Director General, NITRA on May 8, 2025

Dr. Arindam Basu, DG NITRA retired on May 8, 2025 after giving dedicated & successful service to NITRA for more than 11 years. Dr. M.S. Parmar, DG NITRA and staff congratulated and wished him healthy, happy and prosperous life ahead.



Technology Transfer

- Development of eco-friendly textile products using Milkweed fibre — a sustainable raw material with exciting potential to M/s. Welspun Living Limited on June 20, 2025
- Development of Fire Entry Suit to M/s. System 5S Pvt. Ltd. on May 21, 2025

Placement Activities (B. Tech) at NITRA Technical Campus

S. No.	Recruiting Company	Branch	Student's Name
1.	GenZ Educate Wing	CSE	Abhishek Bharti, Divakar Gaur, Aman Singh, Aditya Kumar Tiwari, Raghav Awasthi, Prachi Gupta, Deeksha Pal & Sweetie Singh

MEMORANDUM OF UNDERSTANDING

1. MoU with Welspun Living Limited on June 20, 2025, at Anjar, Gujarat, to develop eco-friendly textile products using Milkweed fibre—a sustainable raw material with exciting potential.



2. MoU with the Cotton Corporation of India Ltd. on June 5, 2025. As per MoU, NITRA will train CCI officials and members of NGO/SHG on identifying, plucking, handling, collection, transportation and storage of milkweed pods. Whereas, CCI shall arrange collection of Milkweed pods through network of its branch offices and delivery to NITRA.

3. MoU with M/s. System 5S Pvt. Ltd. for transfer of technology of Development of Fire Entry Suit on May 21, 2025. The National Technical Textile Mission (NTTM), Ministry of Textiles, GoI, has supported an innovative project of NITRA titled “Development of Specialized Fire fighting Suit.” NITRA is open to transfer this technology to other industries as well.



4. MoU with M/s Ganga Acrowools Limited, Ludhiana for the commercial usage of Milkweed fibre in woolen products for export purpose on July 14, 2025.

5. MoU with CSIR-National Botanical Research Institute (NBRI), Lucknow on April 8, 2025. NITRA and CSIR- NBRI will work together towards R&D for development and application of fibres from under-utilized/lesser-known plants. Objective is also to jointly conduct a genome study on Milkweed fibres.



Northern India Textile Research Association

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