

***Proceedings of XXV (25th) Meeting of the
RESEARCH ADVISORY COMMITTEE (RAC) of
ICAR-CIRCOT, Mumbai
Held During 26-27 Feb, 2019***



March, 2019

***ICAR-Central Institute for Research on Cotton Technology
Adenwala Road, Matunga, Mumbai-400019, M.S., India.***

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Proceedings of XXV Research Advisory Committee (RAC) Meeting held during February 26-27, 2019

The Twenty-fifth meeting of the Research Advisory Committee (RAC) of ICAR-CIRCOT was held in the conference hall during February 26 and 27, 2019. Dr. Nawab Ali, Former DDG (Agricultural Engineering) and Chairman, RAC presided over the meeting and the following members were present.

- Dr. S. N. Jha, ADG (Process Engineering), ICAR, New Delhi
- Dr. G. S. Nadiger, Former Director of Laboratories (Textile Committee), Mumbai
- Dr. B. K. Behera, Head, Department of Textile Technology, IIT, New Delhi
- Dr. Narendra G. Shah, Professor, Centre for Technology Alternatives for Rural Areas (CTARA), IIT, Mumbai
- Dr. Debasis Nag, Former Director, NIRJAFT, Kolkata
- Shri Drupatrao Bhagwan Sawale, IMC member representing agricultural/rural interests
- Smt. Kranti Sandeep Somvanshi, IMC member representing agricultural/rural interests
- Dr. P. G. Patil, Director, ICAR-CIRCOT, Mumbai
- Dr. V. G. Arude, Member Secretary, RAC, ICAR-CIRCOT, Mumbai

Dr. V. G. Arude, Senior Scientist and Member Secretary, RAC greeted all the participants and the meeting began with playing of ICAR song.

All Head of Divisions and scientists of the institute attended the meeting. List of participants are given in Annexure I. The meeting proceeded as per the agenda items (Annexure II).

1. Welcome and Presentation of Major Achievements of The Institute

Dr. P.G. Patil, Director, ICAR-CIRCOT welcomed the Chairman & Members of RAC and in his address highlighted the valuable suggestions given by the present RAC during its tenure. He presented the glimpse of the research achievements, skill development programmes organized, incubation services facilitated and the internal revenue generation made by the institute during the past one year (April 2018 till date). He also made a mention of the shortage of scientific manpower and requested the ADG to do the needful from the SMD for filling up of the scientific vacancies.



2. Release of Publication

On the occasion, Chairman and the Members released the following publications

2.1 “ICAR-CIRCOT – Rooprekha” in Hindi (Annexure-III)

2.2 MoU signed by ICAR-CIRCOT with M/s. Plantebase Ventures Pvt. Ltd., Mumbai (New incubatee of the ICAR-CIRCOT ABI Centre) for the incubation on “Development of starch based film for packaging”

3. Display of CIRCOT Documentaries

On the occasion, Chairman and the Members were shown the documentaries prepared by the institute on the following technologies.

3.1 “ICAR-CIRCOT green crematorium” (Annexure-III)

3.2 Naturally Coloured Cotton products developed by ICAR-CIRCOT

Dr. V. G. Arude informed the RAC members that the plates used for serving snacks in the meeting are products made from Banana pulp by an incubatee of ICAR-CIRCOT.

4. Opening Remarks of the Chairman

The chairman of RAC, Dr. Nawab Ali, in his opening remarks mentioned that this is the 95th year of existence for the institute and the silver jubilee of RAC. The institute has made lot of progress in the last 94 years. He stressed on the needs to promote mechanization in cotton harvesting. He suggested to adopt a cotton area and promote processing and value addition in the production catchment thereby enhancing the farmer’s income. He stressed the importance of taking the technologies developed by the institute to the farmers for ensuring a stable income for cotton growers and other stakeholders in the value chain. He suggested to promote ICAR-CIRCOT green crematorium technology by conducting awareness programmesso as receive more social acceptance for the technology.

5. Action Taken Report on Proceedings of XXIV RAC

The Action Taken Report on the proceedings of 24th RAC which was held during February 27-28, 2018 was presented by Dr. V. G. Arude, Member Secretary, RAC. The ATR was accepted by the RAC with following suggestion.

- The action taken on the production of edible starch from cotton stalks need to be presented in the next RAC.
- The accreditation is now mandatory for the manufacturers of Standard Reference Material. So it is necessary to go for accreditation of Calibration cotton.

6. Presentation of the Progress of Research Work

The progress of research activities carried out in the institute under different core areas during the period 2018-19 were presented by the respective Heads/PI/Coordinator, as per details given below:



- 6.1 Pre-ginning and Ginning**
Dr. S.K. Shukla, Principal Scientist & Officer In-charge, Ginning Training Centre, ICAR-CIRCOT, Nagpur
- 6.2 Mechanical Processing, Technical Textiles and Composites**
Dr. T. Senthilkumar, Scientist, MPD
- 6.3 Characterization-Cotton and other Natural Fibres, Yarns and Textiles**
Dr. P.K. Mandhyan, Senior Scientist, and Head (In-charge), Quality Evaluation and Improvement Division (QEID)
- 6.4 Chemical and Biochemical Processing & Biomass and By-product Utilization**
Dr. Sujata Saxena, Principal Scientist and Head (In-charge), Chemical and Biochemical Processing Division(CBPD)
- 6.5 Entrepreneurship and Human Resource Development**
Dr. A.K. Bharimalla, Senior Scientist, Head (In-charge), Transfer of Technology Division(TTD)
- 6.6 Consortia Research Project (CRP) on Natural Fibres**
Dr.A.S.M. Raja, Principal Scientist, CBPD & Coordinator, CRP on Natural Fibres
- 6.7 Industrial Adoption of ICAR-CIRCOT Paper Pulp Technology (ICAR-Extra-Mural Project)**
Dr. N. Vigneshwaran, Principal Scientist, CBPD
- 6.8 Valorization of Cottonseed Meal: Extraction of Quality Protein for improving the Livelihood of Cotton Farmers (DST project)**
Dr. Manojkumar, Scientist, CBPD
- 6.9 An Inclusive Agribusiness Model for Sustainable Cotton Marketing in the State of Maharashtra (NASF project)**
Dr. C. Sundararamoorthy, Senior Scientist, TTD
- 6.10 Agri-Business Incubation Centre at ICAR-CIRCOT, Mumbai (NAIF project)**
Dr. A. K. Bharimalla, Senior Scientist, TTD
- 6.11 Remunerative Approaches for Agriculture and Allied Sectors Rejuvenation (RAFTAAR) Agribusiness Incubation Centre (R-ABI)**
Dr. A. K. Bharimalla, Senior Scientist, TTD
- 6.12 Presentation of Transfer of Technology activities**
Dr. A. K. Bharimalla, Senior Scientist and Head (In-charge),TTD

The extensive discussion took place on the progress of research work carried out by each scientists as well as on the skill development, incubation, commercialization and consultancy works undertaken by the institute. The committee deliberated on the work being done and provided valuable inputs and directions for future course of research.

The general comments of the RAC were as follows:

- The approved RPP III of the completed projects in the previous year are to be presented in the RAC highlighting achievements, publications. MoU's, products developed etc.

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- The list of the publications should be included in respective project presentations

The project specific comments made by the RAC members were as follows

MP.84: The cost difference between commercially available masks and mask developed in the institute needs to be worked out.

MP.85: The novelty in the product (cotton based wound dressing materials) should be highlighted

CH.95: Test the quality of the protein isolate and test protein digestibility. Explore the possibility of establishment of pilot plant and commercialize the technology.

CH.96: Explore the possibilities of reducing the time required for degossypolisation.

AICRP on Cotton:Analyze trends in Indian cotton quality for past two decades and develop a booklet to establish a system for maintaining the database.

QE.110: Correlate the soil property of the cotton growing region to the properties of cotton from that area.

TT.5: Status paper on scientific cottonseed processing to be prepared for propagation.

TT. 7: Fastness of the paint to be studied. Additional benefits of adding nano-cellulose in paint to be elaborated.

CRP.02:Explore the use of composites tray for vertical farming. Apply starch on the banana fibre based plates and crosslink to introduce water resistance. Develop the banana fibre based plates to serve all kinds of food items.

CRP.06: Prepare sheets of different thickness. Try to completely eliminate PVA use in packaging films.

An Inclusive Agribusiness Model for Sustainable Cotton Marketing in Maharashtra (NASF): Develop empirical model – Price vs Quality using data from Cotton Corporation of India (CCI). FibreQuality index needs to developed and linked with the project work. Perception of seller and buyer in traditional and non-traditional areas can be compared.

7. Discussion and Remarks of RAC

7.1 Dr. B. K. Behera in his remarks reiterated that the scientist should have *focused area of research work to produce excellent results*. The interaction of the institute with other institutions, especially IIT's, will improve the research quality. He stressed that the institute should focus on more research publications.

7.2 Dr. Narendra G Shah in his remarks appreciated the work done by the institute and emphasized that the facilities need to be further strengthened to cater the needs of research and industry.

7.3 Dr. Debasis Nag expressed that there should be synchronization between the work carried by CIRCOT and NINFET(NIRJAFT). The work on Banana pseudostemdone by both the institutes can be used for a joint publication and these institutes in collaboration with NRC on Banana, Trichy should promote value addition

technologies for banana by-produce. Duplication of research conducted at CIRCOT and NINFET to be avoided.

7.4 Dr. G. S. Nadiger in his remarks expressed that CIRCOT, R & D was in the forefront earlier but at present more emphasis is given on extension activities. He stressed upon the need to have a balance between the R&D and extension activities. He reiterated that institute has done commendable work in all areas. Highlighting the achievement in the skill development activities of the institute, he stressed to assess the effectiveness of the training programme.

7.5 Dr. S. N. Jha informed that exercise for creation of two new research divisions viz., Automation & Sensor Division and High Value Products Development Division in engineering institute is under consideration. CIRCOT to give their input for creation of new divisions. He also mentioned that ICAR is going to rank the institutes, hence the institute should reorient itself to deliver on different criteria of ranking such as technology development, research publications, patents, extension etc. He also mentioned that the advertisements of the products developed by the institute should appear on National channels at least twice a year. All scientists should focus on writing more publications on regular basis.

7.6 Dr. Nawab Ali, Chairman RAC, urged that the technology developed by the institute must go to the end user. Each scientists should identify the area in which they want to work (within the institute mandate) and work in the area until at least one or two products/ technologies are developed. Before completion of the RPP-III, nobody should be transferred unless under special circumstances. He also suggested to invite Press, atleast once a year, preferably on some special occasion and demonstrate the technologies to them and give out folders with information brochures to them and get published.

8. Major Recommendation of RAC

- 8.1 Obtain accreditation for manufacturing of Calibration cotton – A Standard Reference Material**
- 8.2 Work on production of edible starch from cotton stalks**
- 8.3 Develop banana fibre based plates to serve all kinds of food Items**
- 8.4 Analyze trends in Indian cotton quality for past two decades**
- 8.5 Project proposal under revolving fund scheme to be submitted to council for large scale production of CIRCOT technology based different products for sale.**
- 8.6 Work out notional income for the regional centers towards testing of samples under AICRP.**
- 8.7 Scientists should focus on a specific research area and should develop expertise in that area for a long time**

N. Jha

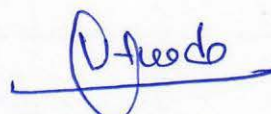
9 **Lecture on the occasion of RAC on 27.02.2019**

RAC member **Dr. Naredra G. Shah**, Professor, Centre for Technology Alternatives for Rural Areas (CTARA), Indian Institute of Technology, Mumbai delivered a lecture on "**Choosing a Research Problem and Delivering a Prototype Solution: Some Case Studies in Agro-process Engineering**" on 27-02-2019. All the Scientist and Technical staff (T-6 and above) attended the lecture.

The meeting ended with a vote of thanks by Dr.V. G. Arude, Senior Scientist and Member Secretary, RAC.



(Dr. Nawab Ali)
Chairman, RAC



(Dr. V.G. Arude)
Member Secretary, RAC

Annexure - I

List of Participants of the 25th RAC Meeting Held on 26 and 27th February, 2019

1. **Dr. Nawab Ali**, Former DDG (Engineering), ICAR & Chairman RAC
2. **Dr. S. N. Jha**, ADG (PE), ICAR and Member RAC
3. **Dr. G. S. Nadiger**, Former Director of Laboratories (Textile Committee), Member RAC
4. **Dr. Narendra G. Shah**, Professor CTARA, IIT-B, Mumbai, Member RAC
5. **Dr. B. K. Behera**, Head, Dept. of Textile Technology, IIT, New Delhi, Member RAC
6. **Dr. Debasis Nag**, Former Director, ICAR-NIRJAFT, Member RAC
7. **Shri D. B. Sawale**, IMC member representing agriculture/rural interest, Member RAC
8. **Smt. K. S. Somvanshi**, IMC member representing agriculture/rural interest, Member RAC
9. **Dr. P. G. Patil**, Director, ICAR-CIRCOT
10. **Dr. V. G. Arude**, Senior Scientist and Member Secretary, RAC
11. **Dr. Sujata Saxena**, Principal Scientist and Head I/C, CBPD
12. **Dr. Ashok Kumar Bharimalla**, Senior Scientist & Head I/C TTD
13. **Dr. P. K. Mandhyan**, Senior Scientist & Head I/C QEID
14. **Shri S. V. Kasabe**, Assistant Finance & Accounts Officer
15. **Smt. Sujata Koshy**, Administrative Officer
16. **Dr. S.K. Shukla**, Principal Scientist
17. **Dr. A. S. M. Raja**, Principal Scientist
18. **Dr. N. Vigneshwaran**, Principal Scientist
19. **Dr. P. S. Deshmukh**, Senior Scientist
20. **Dr. C. Sundaramoorthy**, Senior Scientist
21. **Shri Arputharaj**, Scientist
22. **Dr. T. Senthilkumar**, Scientist
23. **Dr. G. Krishna Prasad**, Scientist
24. **Dr. P. Jagajantha**, Scientist
25. **Shri. Shnatanu Basak**, Scientist
26. **Dr. Sharmila Patil**, Scientist
27. **Smt. Archana Mahapatra**, Scientist
28. **Dr. Manoj Kumar**, Scientist
29. **Shri Narayanan K**, Senior Technical Officer (STO)
30. **Smt. Hemangi Pednekar**, Senior Technical Assistant (STA)
31. **Shri Anand Jadhav**, Senior Technical Assistant (STA)

Annexure-II
Programme Schedule

Day 1: Feb 26, 2019		Venue: Conference Room
Time	Agenda item	
10.00 am	<ul style="list-style-type: none"> Welcome address and briefing of major achievements and activities of the institute for the period from April 2018 to February 2019 - Dr. P. G. Patil, Director 	
10.25 am	<ul style="list-style-type: none"> Release of Publications 	
10.30 am	<ul style="list-style-type: none"> Opening Remarks by Members and Chairman 	
11.00 am	<ul style="list-style-type: none"> Action Taken Report on the Proceeding of 24th RAC meeting held on February 27 & 28, 2018: - Dr. V. G. Arude, Member Secretary, RAC & In-charge, PME 	
1.15 am onwards	<ul style="list-style-type: none"> Presentation of Research Achievements : Core-area wise 	
	I.	Pre-ginning and Ginning: Dr. S. K. Shukla, Principal Scientist & Officer In-charge, Ginning Training Centre, ICAR-CIRCOT, Nagpur
	II.	Mechanical Processing, Technical Textiles and Composites: Dr. T. Senthilkumar, Scientist, Mechanical Processing Division (MPD)
	III.	Characterisation of Cotton and other Natural Fibres, Yarns and Textiles: Dr. P. K. Mandhyan, Senior Scientist and Head (In-charge), QEID
	IV.	Chemical and Biochemical Processing Biomass & By-product Utilisation: Dr. Sujata Saxena, Principal Scientist and Head (In-charge), CBPD
	V.	Entrepreneurship and Human Resource Development: Dr. A. K. Bharimalla, Senior Scientist and Head (In-charge), TTD
	<ul style="list-style-type: none"> Presentation of Research Achievements of Consortia Research Platform on Natural Fibre: Dr. A. S. M. Raja, Principal Scientist & Co-ordinator, CRP on Natural Fibres 	
	<ul style="list-style-type: none"> Presentation of Research Achievements of Externally Funded Projects 	
	1.	Industrial Adoption of ICAR-CIRCOT Paper Pulp Technology (ICAR - Extra Mural Project) Dr. N. Vighneshwaran Principal Scientist
	2.	Valorization of Cottonseed Meal: Extraction of Quality Protein for improving the Livelihood of Cotton Farmers(DST) Dr. Manojkumar, Scientist
	3.	An Inclusive Agribusiness Model for Sustainable Cotton Marketing in the State of Maharashtra (NASF) Dr. C. Sundararamoorthy, Senior Scientist
	4.	Agri-Business Incubation Centre at ICAR-CIRCOT, Mumbai (NAIF) Dr. A. K. Bharimalla, Senior Scientist
	5.	Remunerative Approaches for Agriculture and Allied Sectors Rejuvenation (RAFTAAR) Agribusiness Incubation Centre (R-ABI) Dr. A. K. Bharimalla, Senior Scientist
	<ul style="list-style-type: none"> Presentation of Transfer of Technology activities Dr. A. K. Bharimalla, Senior Scientist and Head (In-charge), TTD 	
4.00 pm	<ul style="list-style-type: none"> Discussion and Remarks of RAC Members and Chairman on ICAR-CIRCOT's Achievements 	
5.00 pm	<ul style="list-style-type: none"> Recommendations and Concluding Remarks: RAC Members & Chairman 	
5.30 pm	<ul style="list-style-type: none"> Vote of Thanks: Dr. C. Sundaramoorthy, Sr. Scientist & Nodal Officer, PME 	
Day 2: Feb 27, 2019		Venue: Conference Room
11.00 am - 12.15 pm	<ul style="list-style-type: none"> Lecture on current topic by Dr. Narendra G. Shah, Professor, Centre for Technology Alternatives for Rural Areas (CTARA), Indian Institute of Technology, Mumbai 	

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Dr. V. G. Arude, Member Secretary, RAC

Annexure – III
PHOTO-GALLERY
(CIRCOT Publications and RAC Meetings)



A view of RAC Committee Meeting in Progress



Release of Publication “ICAR-CIRCOT Rooprekha”



आईसीएआर-सिरकाँट रूपरेखा



भा.कृ.अनु.प. - केंद्रीय कपास प्रौद्योगिकी अनुसंधान संस्थान
एडनवाला रोड, माटुंगा, मुंबई-400019

जनवरी, 2019

ICAR-CIRCOT Publication: Rooprekha

(Released on 26 Feb, 2019)

Photo Gallery: RAC Meeting



Signing of MoU with incubate



Demonstration of CIRCOT's technology based products

Photo Gallery: RAC Meeting



Dr. Nareendra G. Shah, RAC, Delivering a Lecture on occasion of RAC

Photo Gallery: **RAC Meeting**



RAC Committee



RAC Committee with Head of the Departments