Proceedings of 26th Meeting of the RESEARCH ADVISORY COMMITTEE (RAC) of ICAR-CIRCOT, Mumbai

Held on Virtual Platform on 8th June, 2020

Chairman and Members of RAC (2020-2023)

Dr. N. C. Patel, Chairman

Dr. M. K. Sharma, Member

Prof. (Dr.) U. J. Patil, Member

Prof. (Dr.) S. R. Shukla, Member

Dr. N.N. Mahapatra, Member

Dr. Narendra G. Shah, Member

Dr. S. N. Jha, Member

Shri D.B. Sawale, IMC Member

Smt. Kranti Somvanshi, IMC Member

Dr. P. G. Patil, Member

Dr. V. G. Arude, Member Secretary



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

June, 2020

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Proceedings of 26th Research Advisory Committee (RAC) Meeting held on Virtual Platform on 8th June 2020

- The 26th (Twenty Sixth) meeting of the Research Advisory Committee (RAC) of ICAR-CIRCOT, Mumbai was held on virtual platform on 8th June 2020. Dr. N. C. Patel, Former Vice Chancellor, Junagarh Agricultural University and Anand Agricultural University and Chairman, RAC presided over the meeting and following members were present.
- Dr. M. K. Sharma, Whole Time Director & CEO, M/s. Bajaj Steel Industries Ltd, Nagpur
- **Prof.** (**Dr.**) **U. J. Patil**, Head, Department of Textiles, D.K.T.E. Society's Textile and Engineering Institute, Ichalkaranji
- **Prof.** (**Dr.**) **S. R. Shukla**, Former Professor, Institute of Chemical Technology (ICT), Mumbai
- **Dr. N.N. Mahapatra**, Business Head (Dyes), Shree Pushkar Chemicals & Fertilizers Ltd, Mumbai
- **Dr. Narendra G. Shah**, Professor, Centre for Technology Alternatives for Rural Areas (CTARA), IIT, Mumbai
- **Shri Drupatrao Bhagwan Sawale**, IMC member representing agricultural/rural interests, Buldhana,
- Dr. S. N. Jha, Assistant Director General (Process Engineering), ICAR, New Delhi
- Dr. P. G. Patil, Director, ICAR-CIRCOT, Mumbai
- Dr. V. G. Arude, Senior Scientist & Head (In-charge) and Member Secretary, RAC, ICAR-CIRCOT, Mumbai
- **Smt. Kranti Sandeep Somvanshi**, IMC member representing agricultural/rural interests from Pune, did not participate in the RAC Meeting.
- **Dr. V. G. Arude**, Member Secretary, RAC greeted the Chairman and all the honorable members of Committee and other participants.
- All Head of Divisions and scientists of the institute attended the meeting. List of participants are given in Annexure-2.

The meeting proceeded as per the agenda items (Annexure-3).

1. Welcome to Chairman and Members of Newly Constituted RAC

Dr. P.G. Patil, Director, ICAR-CIRCOT congratulated and welcomed the Chairman & Members of newly constituted RAC for the 26th meeting, the first meeting of new committee with the tenure of three years (2020-23). He expressed that the role of RAC is to review the progress of research work and provide valuable comments and suggestions on the progress of research work and guidance for formulating future course of research projects and institute activities to be taken up based on the national and international current scenario and future prospects in cotton postharvest processing sector.

2. Opening Remarks by Chairman and Members

- **Dr. N. C. Patel**, The chairman of RAC, in his opening remarks thanked ICAR for giving him opportunity to lead RAC of ICAR-CIRCOT, Mumbai. He also congratulated all learned members of newly constituted RAC. He mentioned that institute is functioning well and doing wonderful work in post-harvest processing of cotton though there are some bottlenecks. Further, in his remarks, he stated that Director is heading a wonderful team of Scientists involving various disciplines in the area of Textile processing, Chemical, bio-chemical processing and Agricultural Engineering.
- **Dr. S. N. Jha**, ADG (PE), in his opening remarks; expected a quantum jump in research output from the scientists as institute is celebrating its centenary in four years from now. He urged RAC members to guide the scientists for developing future research programs and expected critical comments and solutions as well for the problems faced by scientists and the institute. He expressed that scientist should also work to find out immediate solutions within institute mandate to help people under the pandemic of COVID-19 and other issues of similar nature.

3. Presentation of major research achievements of the institute for last three years

Dr. P.G. Patil, Director, ICAR-CIRCOT, made a presentation of major research achievements and other activities undertaken by the institute in last three years. In his presentation he highlighted various technologies developed and commercialized by the institute through internally and externally funded projects. He presented the glimpse of skill development programmes organized, incubation and commercial services facilitated and the impressive revenue generated by the institute during the past three years. He also briefed about the various laboratory and infrastructure developmental work undertaken, awards and recognition earned, international linkages developed, programs undertaken as per the direction of the Govt. of India by the institute. He also made a mention of the shortage of scientific and technical manpower but pointed out that despite these odds institutes performance is on rise since last five years. He highlighted that institute will be celebrating its centenary in 2024 and requested RAC to recommend to ICAR for separate fund for celebration of Centenary and undertaking various research and development activities at the institute.

- **4.** Discussion and Remarks by RAC Members on Research Achievements and Guidance for Future Research Programmes
- 4.1 Dr. Narendra G Shah in his remarks appreciated the research work done by the institute and stressed that presentation for RAC should be focused to highlight key research activities and achievements only. He said that completion of 100 years for an institution is a great milestone. He emphasized that institute should organize award/prize winning competition among the scientists of the institute or among the students and budding entrepreneurs on the occasion of centenary year celebrations to attract innovative proposals on Blue sky research and immediate impact research and develop the selected programme through the incubation centre. He felt that it would help scientists to get motivated and come out with creative and innovative ideas in the research area of textiles.
 - **4.2 Dr. M. K. Sharma** in his remarks reiterated that the institute requires more investment in research to take up its research to next level. Institute must move from low cost research to high cost research. Small research projects; add benefits but big budget project will have more impact across the world. He mentioned that there are very less research centres like CIRCOT across the world. He pointed out that CIRCOT has successfully addressed the concern of trash in seed cotton and now it should take up the issue of removal of contamination from seed cotton. He expressed that CIRCOT has done good work so far in case of value addition and utilization of cotton stalks; however raised concern about the missing link of availability of machinery for logistic supply of cotton stalk from field to industry. Further he urged scientist to work on development of fibre testing equipment's and explore new uses of cotton for creating more demand. Other issues that require CIRCOT's attention is the effective utilization of linters, and promotion of scientific processing of cottonseed for value addition.
 - **4.3 Dr. N. N. Mahapatra** expressed that institute can focus on development of NCC based spin finish for 100 % cotton spinning to improve the adhesion of the cotton fibres at the blow room stage. He appreciated the work on salt free dyeing of cotton fabric being eco-friendly and green process. He stressed that CIRCOT may develop cationised cotton fibres to make yarn and fabrics which will attract premium price in the market due to lesser use of salt during yarn or fabric dyeing. He pointed out that cotton spinning industry lacks R&D efforts, therefore protocol should be made available on blending of cotton with other sustainable natural fibres viz. Banana, Pineapple etc. to show to spinning industry that these natural fibre can be blended with cotton.
 - **4.4 Prof (Dr). S. R. Shukla** in his remarks said that Director of the institute has been a great motivator and complemented him for his active role. He appreciated the institute for effectively utilizing the financial resource with 100% fund utilization. Looking into the current scenario of COVID-19, he suggested that online training programmes / webinars may be started to disseminate the knowledge to the end users. He stated that for guiding Ph. D students; there should be affiliation of scientists with the Mumbai

University. He urged to take up study on grading of natural fibres and also reiterated the need for blending of cotton with other natural fibres for their sustainable use. He mentioned that salt free dyeing is a simple approach but he raised concern that catoniosation of cotton fibre may not be economically feasible. He also emphasized on categorization of dyes.

- **4.5 Prof (Dr). U. J. Patil** suggested that institute should work on recycling of used cotton fabric/products and convert into fibres, subsequently to yarns and fabrics. He also suggested to develop guidelines for its recycling keeping in mind the sustainability aspect. He further stressed upon the need to initiate Ph. D programs and international collaboration to strengthen basic research on cotton textiles.
- **4.6 Dr. S. N. Jha** emphasized to develop research programmes on automation in cotton post-harvest processing machinery through the application of Artificial Intelligence (AI), Internet of Things (IoT), Sensor technology and Robotics. He commented that institute should calculate institute output per unit of the investment i.e. budget allocation and output per scientist based on some ten important points such as revenue generation, publications, technology, patents etc. and compare cost-benefit ratio with big institutes like IARI and NDRI. He suggested to document the impact of five prominent institute technologies adopted by the stakeholders and keep impact assessment document ready for centenary celebration. He advocated to encourage new ideas from the scientist within the department and explore newer countries for international collaboration in addition to African nations. He also suggested to relook into the renaming of divisions taking into consideration the global developments and changing needs of the society at large. He also appreciated the views expressed by other members on the point such as initiating international collaborations, starting competition for scientist for new research ideas, shifting from low cost to high cost research, machinery for cotton stalk collection, recycling of fabric and blending of other natural fibres with cotton etc.
- 4.7 Dr. N. C. Patel, Chairman RAC, appreciated the Director for the excellent presentation and for very good work done during last three years and wished that CIRCOT will make much more progress in next three years. He suggested that institute should join hands with industrial partners for better results for traceability of cotton fibres from farm to consumer. He suggested some areas of research such as development of package of practices for processing of the infested cotton at ginneries, establishment of brand value of Indian cotton, studies to ascertain the toxicological and environmental safety aspects of nano materials, standardization of an eco-friendly, efficient and economical techniques for the removal of gossypol, improvement in cottonseed processing technology to improve efficiency, cotton stalk for composting and mushroom cultivation, application of AI, Robotics, IoT, sensor based technology and instrumentation for cotton processing and related activities, reduction of effluent load in textile mills and effluent management for reuse or to satisfy zero liquid discharge norms. He was of the opinion that institute should promote use of Indian machinery in

cotton processing sector and also internationalize technologies and machinery. He mentioned that institute should focus on improving further visibility at international level.

5. Presentation of Action Taken Report (ATR) on Proceedings of 25th RAC **Dr. V. G. Arude, Member Secretary, RAC,** presented the Action Taken Report (ATR) on the proceedings of 25th RAC which was held during February 26-27, 2019. The ATR was accepted by the RAC with following comments and suggestion.

Obtain accreditation for manufacturing of Calibration Cotton – A Standard Reference Material: Director informed that CIRCOT itself is an authority for production of Calibration cotton and user industry is not insisting for its accreditation and protocol of production cannot be disclosed to third party. RAC Members opined that for obtaining accreditation of calibration cotton, cost should not be an issue. It was further deliberated that even Calibration cotton of USDA, USA is also not accredited. Therefore to maintain confidentiality and also there is no demand from any stakeholder for accreditation and CIRCOT itself is the national referral body on testing of cotton fibres; it has been decided not to go ahead with accreditation of Calibration cotton, however, documentation of standard for future re-calibration, checking may be kept at safe place in the institute.

Work on production of edible starch from cotton stalks: RAC suggested to take up this programme and include in SFC programme and identify group of scientist to work on this project. Once things are streamlined, external funding may be tried.

Develop banana fibre based plates to serve all kinds of food items: This work is completed. However use of lac as a hydrophobic finishing may be tried in collaboration with IINRG, Ranchi, if they are willing to provide their product for this purpose.

Analyze trends in Indian cotton quality for past two decades: A document has to be prepared showing the trends in Indian cotton quality for past two decades. Director informed that new scientist joined institute in the discipline of Computer Application will be engaged to carry out his work.

Project proposal under revolving fund scheme to be submitted to council for large scale production of CIRCOT technology based different products for sale: Prepare a proposal for revolving fund scheme to make the cotton products for sale purpose as it will give additional man power and financial resource.

Work out notional income for the regional centers towards testing of samples under AICRP: Document the notional income taking into consideration the direct and indirect benefit of the institute and its regional centres. This will showcase the service of CIRCOT to the country. Director informed that the detailed report will be prepared.

Scientists should focus on a specific research area and should develop expertise in that area for a long time: Include additional areas of specialization viz., Automation of post-harvest machinery in cotton processing. It has been noted for compliance.

All Heads of Divisions expressed their views on the current research work and other activities being carried out in their respective divisions.

6. Major Recommendations of RAC

- 1. Develop research programme on removal of contamination from seed cotton at ginning industry level.
- 2. Logistic model comprising appropriate machinery for supply of cotton stalk from field to by-product based industry to be developed.
- 3. Initiate work on developing a technique to cationise cotton fibres to make yarn and fabrics to reduce use of salt during yarn or fabric dyeing.
- 4. Work may be undertaken on blending of cotton with other sustainable natural fibres like banana and pineapple.
- 5. Work on and develop guidelines for recycling of fibres, yarns and fabric keeping in mind sustainability aspect.
- 6. Develop research programmes on automation in cotton post-harvest processing machinery through application of Artificial Intelligence (AI), Internet of Things (IoT), Sensor technology and Robotics.
- 7. Conduct studies to ascertain toxicological and environmental safety aspects of nano materials
- 8. Pilot project on village level cotton ginning and marketing of lint and seed to be taken up.
- 9. Formulate and propose a research programme to work on production of edible starch from cotton stalks.
- 10. Document impact of five prominent institute technologies adopted by stakeholders and keep impact assessment document ready for centenary celebration.
- 11. Calculate institute output per unit of the investment i.e. budget allocation and output per scientist based on some ten important points such as revenue generation, publications, technology, patents etc. and compare cost-benefit ratio with institutes like IARI and NDRI.
- 12. Organize award/prize winning competition among scientists of institute or among students and budding entrepreneurs on the occasion of upcoming centenary year celebrations of the institute to attract innovative research ideas in cotton post-harvest processing sector
- 13. Promote entrepreneurship based on technologies developed by institute and conduct frequent EDP programmes.
- 14. Online training programmes /webinars may be initiated to disseminate the knowledge to the end users
- 15. Mass scale advertising to popularize institute activities and technologies developed by institute should be done through media and digital platform.

7. Concluding Remarks

In the concluding remarks, the Chairman, RAC expressed his happiness with the progress of the work. He mentioned that the work carried out is worth appreciation and congratulated the Director and all staff for their contribution. He urged scientists to take this work to the national and international level. He emphasized that the research programme should be diverted to demanding areas (in consultation with the industry, farmers, and other stakeholders) and strengthen post-harvest and value addition aspects. He was of the view to improve the visibility of the institute at the international level. The institute should also evaluate improvement in cotton quality through decentralized system, village level ginning and baling, and miniaturization of existing machines and traceability of cotton fibres. He emphasized that institute need to promote entrepreneurship based on the institute technologies and should conduct frequent EDP programmes. Mass scale advertising of technologies should be done through media and digital platform such as website may be suitably utilized to popularize the institute activities.

He thanked each and every one for sharing their valuable time and inputs and was hopeful that the institute will add more feathers to its cap in the coming years.

The meeting ended with a vote of thanks by Dr. V. G. Arude, Senior Scientist and Head (In-charge) and Member Secretary, RAC.

(Dr. N. C. Patel)

Chairman, RAC

(Dr. V.G. Arude)

Member Secretary, RAC

Acerde

Annexure – 1

Office Orders of ICAR for Constitution of RAC



भारतीय कृषि अनुसन्धान परिषद

Indian Council of Agricultural Research (कृषि अभियांत्रिकी प्रभाग / Agricultural Engineering Division)

(संस्थान प्रशासन अनुभाग-२ / - I.A.- II Section) कृषि अनुसन्धान भवन —II, पूसा, नई दिल्ली

Krishi Anusandhan Bhavan -II, Pusa, New Delhi

File No- A.Engg/3/4/2020-IA-II, e-file No-60680

Date-16/03/2020

OFFICE ORDER

Under the provision of Rule 71A of the rules and bye laws of ICAR Society, the Director General, ICAR is pleased to constitute the Research Advisory Committee (RAC) of ICAR-CIRCOT, Mumbai with the following Chairman and Members for a term of three years w.e.f 5th March, 2020:

S.No ICAR rules and Bylaws	Name and address of persons nominated
Under Rule 71 A (a) (1) - an eminent scientist from outside the ICAR System.	Chairman 1) Dr N.C Patel, Former Vice Chancellor, Junagarh Agril. University Address A-1/106 Darshnam Greens, Near Baroda Public School, B/s Nathdwar Society, B/h. Mahesh Nagar, Dabhoi Waghodiya Ring Road, Vadodara — 390025 (Gujarat) Mobile: 8980673880, Email: ncpatel11956@gmail.com
2. Rule 71A(a)(2) Under Rule 71 A (a) (2) Four to five external experts representing the major areas of research and development programmes of the institute.	Member 1) Dr. M.K. Sharma, Whole Time Director & CEO, M/s. Bajaj Steel Industries Ltd, Nagpur Address: Whole Time Director & CEO,M/s. Bajaj Steel Industries Ltd, Imabadada Road, Nagpur—440018 (M.S.) Phone: 0712-2720071-80, Fax:+ 91-712-2723068-2728050 Mobile: 9325132305/9860093038 E-mail: bsi@bajajngp.com/ mks@bajajngp.com 2) Prof. (Dr) U. J. Patil, Head, Department of Textiles Address: Department of Textiles, D.K.T.E. Society's Textile and Engineering Institute, P.B. No. 130, Rajwada, Ichalkaranji- 416 115, Kolhapur (Maharashtra, Phone: (0230) 2421300,2432340, 2439557, Fax: (0230) 2432329 Mobile: 9822853098, Email: udayjpatil@gmail.com 3) Dr. N.N. Mahapatra, Vice Chairman, The Textile Association (India) Address: 3225, Phase IV, G.I.D.C, Vatva, Ahmedabad-382445 Gujarat Phone: 079-65104801/02, Mobile: 09909914160, E-Mail:- nnm@colorantindia.com, dr_nanda_nandan@yahoo.com

	CAP Suprey Marketon	4) Prof. Dr. S. R. Shukla Former Professor, Institute of Chemical Technology (ICT), Mumbai Address: Flat 803, Block 14, Dazzle, Suncity Apartments, Sarjapur Road Junction, Outer Ring Road, Bellandur, Bengaluru – 560102, Mob: 9820882821Email: srshukla19@gmail.com 5) Dr. Narendra G Shah Professor, Centre for Technology Alternatives for Rural Areas (CTARA) Address: Centre for Technology Alternatives for Rural Areas (CTARA), EE Annex Building, 2nd Floor, IIT Bombay, Powai, Mumbai – 400076.
		Mobile: 9820659372, Email: prof.narendra.shah@gmail.com/ nshah@iitb.ac.in
3	Rule 71A(a)(3) Director of the Institute	Dr P.G Patil Director, ICAR-CIROT
		Matunga, Mumbai-400019, Phone no-022-24146002, Director.circot@icar.gov.in
4	Rule 71A(a)(4) ADG concerned with Institute	Dr. S.N Jha Assistant Director General(P.E) Indian Council of Agricultural Research KAB-II, PUSA, New Delhi-110012

Deputy Secretary (A.Engg.) 011-25843844

Distribution:- 1) Chairman and Members of RAC through Director, ICAR-CIRCOT 2) ADG(P.E), KAB-II, Pusa, New Delhi 3) PSO to DG, PPS to DDG (Engg), ICAR, KAB-II, Pusa, New Delhi

Office Orders of CIRCOT for Constitution of RAC





भाकुअनुप - केन्द्रीय कपास प्रौद्योगिकी अनुसंधान संस्थान

(भारतीय कृषि अनुसंधान परिषद)

पोस्ट बैग न 16640, एडनवाला रोड, माहुंगा, मुंबई- 400 019

ICAR - CENTRAL INSTITUTE FOR RESEARCH ON COTTON TECHNOLOGY

GSC/1-7004111 T-61087-179

(Indian Council of Agricultural Research) Post Bag No. 16640, Adenwala Road, Matunga, Mumbai - 400019

Date: 26th May 2020

Phone: +91-22-2414 6002 • Fax: +91- 022 - 24157239 / 2413 0835 □ E-mail: director.circot@icar.gov.in / PG.Pati@icar.gov.in

Website : http://www.circot.res.in

डा.पी. जी. पाटील एमडेक ए एमडो एमडी ए

Dr. P. G. Patil M Tech Ph.D F.TA Director

File No. PME/RAC/2020-21/

OFFICE ORDER No: 1 (Admin-I)

As per ICAR Office Order and letter F. No. A. Engg./3/4/2020/IA-II, e-file No-60680 dated 16.3,2020, the Research Advisory Committee (RAC) of the ICAR-Central Institute for Research on Cotton Technology, Mumbai has been reconstituted for a period of three years w.e.f. 5th March 2020 under the Chairmanship of Dr. N. C. Patel, Former Vice Chancellor, Junagarh Agricultural University and Anand Agricultural

1. The details of the Chairman and the Members is listed below.

1.	Dr. N. C. Patel	Chairman	Former Vice Chancellor, Junagarh Agricultural University and Anand Agricultural University. A-1/106 Darshnam Greens, Near Baroda Public School, B/s Nathdwar Society, B/h. Mahesh Nagar, Dabhoi Waghodiya Ring Road, Vadodara - 390025 (Gujrat) Mobile: 8980673880, Email: ncpatel1956@gmail.com
2	Dr. M. K. Sharma	Member	Whole Time Director & CEO. M/s. Bajaj Steel Industries Ltd. C-108, MIDC Industrial Area, Hingna. Nagpur, Maharashtra 440028 Phone: 0712-2720071-80 Fax:+91-712-2723068-2728050 Mobile: 9325132305/9860093038 E-mail: bsi/a/bajajngp.com/ mks/a/bajajngp.com/
3.	Prof. (Dr.) U. J. Patil	Member	Head. Department of Textiles D.K.T.E. Society's Textile and Engineering Institute, P.B. No. 130, Rajwada, Ichalkaranji- 416115, Kolhapur (M.S.) Phone: (0230) 2421300,2432340, 2439557, Fax: (0230) 2432329, Mobile: 9822853098 Email: udayipatil@gmail.com
-1	Dr. N.N. Mahapatra	Member	Vice Chairman, The Textile Association (India) 3225. Phase IV, G.I.D.C. Vatva. Ahmedabad -382445 Gujarat Phone: 079-65104801/02, Mobile: 09909914160 E-Mail:nnm@colorantindia.com. dr nanda nandan@yahoo.com





















भाकृअनुप - केन्द्रीय कपास प्रौद्योगिकी अनुसंधान संस्थान

(भारतीय कृषि अनुसंधान परिषद)

पोस्ट बैग नं.16640, एडनवाला रोड, मार्टुगा, मुंबई- 400 019

ICAR - CENTRAL INSTITUTE FOR RESEARCH ON COTTON TECHNOLOGY

(Indian Council of Agricultural Research)

डा.पी. जी. पाटील इस्टेक से एवं की एक टी.प. निदेशक

Dr. P. G. Patil M. Tech., Ph.D., F.T.A. Director



Post Bag No. 16640, Adenwala Road, Matunga, Mumbai - 400019 Phone: +91-22-2414 6002 • Fax: +91- 022 • 24157239 / 2413 0835 E-mail: director circot@icar.gov in / PG.Patil@icar.gov.in

Website : http://www.circot.res.in

5.	Prof. (Dr.) S. R. Shukla	Member	Former Professor, Institute of Chemical Technology (ICT), Mumbai Flat 803, Block 14, Dazzle, Suncity Apartments, Sarjapur Road Junction, Outer Ring Road, Bellandur, Bengaluru – 560102. Mob: 9820882821, Email: srshukla19@gmail.com
6.	Dr. Narendra G. Shah	Member	Professor, Centre for Technology Alternatives for Rural Areas (CTARA) Centre for Technology Alternatives for Rural Areas (CTARA), EE Annex Building, 2nd Floor IIT Bombay, Powai, Mumbai – 400076 (M.S.) Mobile: 9820659372 Email: prof.narendra.shah@gmail.com/nshah@iitb.ac.in
7	Dr. P.G. Patil	Member	Director. ICAR-Central Institute for Research on Cotton Technology. Adenwala Road, Matunga (E), Mumbai-400 019 Phone: 022 24127273/4146002, Fax: 022 4130835 Mobile: 09022557169, Email: pgpatil266/a/gmail.com
8.	Dr. S. N. Jha	Member	Assistant Director General (PE). Indian Council of Agricultural Research (ICAR). Krishi Anusandhan Bhawan - II. PUSA, New Delhi - 110 012. Phone: 011 25846492 (Extn. 1407). Fax: 011 25842660 Mobile: 09417601715, Email: snjha_ciphet@yahoo.co.in

2. Director, ICAR-CIRCOT, Mumbai is pleased to nominate Dr. V. G. Arude, Senior Scientist & Head (In-charge), Mechanical Processing Division as Member Secretary, Research Advisory Committee (RAC),



Copy: 1. Chairman & Members, RAC

- Dr. V. G. Arude, Senior Scientist & Head (In-charge) & Member Secretary, RAC
- 3. All HoD's, ICAR-CIRCOT, Mumbai
- 4. Senior Administrative Officer/Administrative Officer
- 5. F&AO/AF&AO
- 6. P. S. Director

2











Annexure – 2

List of Participants of the 26th RAC Meeting Held on 8th June, 2020

- 1. **Dr. N. C. Patel,** Former Vice Chancellor, Junagarh Agricultural University and Anand Agricultural University, Vadodara
- 2. Dr. M. K. Sharma, Whole Time Director & CEO, M/s. Bajaj Steel Industries Ltd, Nagpur
- **3. Prof. (Dr.) U. J. Patil,** Head, Department of Textiles, D.K.T.E. Society's Textile and Engineering Institute, Ichalkaranji
- 4. Prof. (Dr.) S. R. Shukla, Former Professor, Institute of Chemical Technology (ICT), Mumbai
- 5. Dr. N.N. Mahapatra, Business Head (Dyes), Shree Pushkar Chemicals & Fertilizers Ltd, Mumbai
- **6. Dr. Narendra G. Shah,** Professor, Centre for Technology Alternatives for Rural Areas (CTARA), IIT. Mumbai
- 7. Shri Drupatrao Bhagwan Sawale, IMC member representing agricultural/rural interests, Buldhana.
- 8. Dr. S. N. Jha, Assistant Director General (Process Engineering), ICAR, New Delhi
- 9. Dr. P. G. Patil, Director, ICAR-CIRCOT, Mumbai
- 10. Dr. V. G. Arude, Senior Scientist & Head I/C, MPD and Member Secretary, RAC,
 - **11. Dr. Sujata Saxena,** Principal Scientist and Head I/C, CBPD
 - **12. Dr. A. K. Bharimalla,** Senior Scientist & Head I/C TTD
 - **13. Dr. P. K. Mandhyan,** Principal Scientist & Head I/C QEID
 - 14. Dr. D. M. Kadam, Principal Scientist
 - 15. Dr. S.K. Shukla, Principal Scientist
 - 16. Dr. A. S. M. Raja, Principal Scientist
 - **17. Dr. N. Vigneshwaran,** Principal Scientist
 - 18. Dr. S. V. Ghadge, Principal Scientist
 - 19. Dr. P. S. Deshmukh, Senior Scientist
 - 20. Dr. C. Sundaramoorthy, Senior Scientist
 - 21. Dr. A. Arputharaj, Scientist
 - 22. Dr. T. Senthilkumar, Scientist
 - 23. Dr. G. T. V. Parbhu, Scientist
 - 24. Dr. G. Krishna Prasad, Scientist
 - 25. Dr. P. Jagajanantha, Scientist

- 26. Dr. Shnatanu Basak, Scientist
- 27. Dr. Kirti Jalgoankar, Scientist
- 28. Dr. Manoj Mahavar, Scientist
- 29. Dr. K. Pandivan, Scientist
- 30. Dr. S. S. Kautkar, Scientist
- 31. Dr. Manoj Kumar Puniya, Scientist
- 32. Dr. Jyoti Dhakne, Scientist
- 33. Dr. Kanika Sharma, Scientist
- 34. Dr. Himanshu Chaurasia, Scientist
- **35. Shri Sunil Kumar**, Senior Administrative Officer
- **36. Shri S. V. Kasabe,** Assistant Finance & Accounts Officer
- **37. Shri. Vivekananda M.** Chief Technical Officer
- **38. Shri Narayanan K,** Assistant Chief Technical Officer
- **39. Smt. Hemangi Pednekar,** Senior Technical Assistant
- 40. Shri. Yogesh Nagpure, Technician

Annexure-3
AGENDA of 26th Research Advisory Committee Meeting (June 8, 2020)

Time	Agenda Item
2.30 pm	• Welcome to Chairman & Members of Newly Constituted RAC by Dr. P. G. Patil,
	Director, ICAR-CIRCOT, Mumbai
2.40 pm	Opening Remarks by Members and Chairman, RAC
3.00 pm	Briefing and Presentation of major research achievements and activities of the
	institute for last three years by Dr. P. G. Patil, Director
3.20 pm	• Presentation of ATR on Proceedings of 25 th RAC by Dr. V. G. Arude, Member
	Secretary, RAC
3.30 pm	Discussion: RAC Members & Chairman - Remarks on progress of work and
	guidance on the future course of research work and institute activities to be taken up
	by the institute
4.30 pm	Response by Director/HoD's/Scientists to remarks and suggestions of RAC
5.00 pm	Recommendations and Concluding Remarks by RAC Members & Chairman
5.30 pm	Vote of Thanks by Dr. V. G. Arude, Member Secretary, RAC

(Dr. V. G. Arude)

Member Secretary, RAC

Annexure – 4

PHOTO-GALLERY

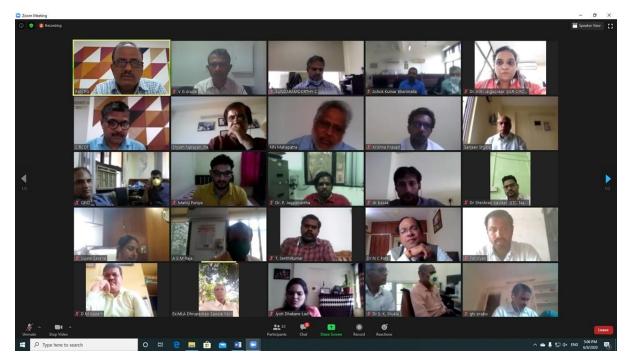
(26th RAC Meeting)



A view of Video Conferencing Room while hosting Virtual RAC Meeting



Presentation by Dr. P. G. Patil, Director



View of Virtual RAC Meeting



View of Virtual RAC Meeting