

# Directorate of Research

# Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut – 250110

Dr. Anil Sirohi

Director Research

Letter No: SVP/2023/Res./ UZ 80

Date: 19/08/2023

#### OFFICE-ORDER

As per approval of competent authority, Internal Quality Assurance Cell (IQAC) has been restructured according to the fresh guidelines from NAAC. The IQAC shall be responsible for planning, guiding and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the university. It will also channelize and systematize the efforts and measures of the University towards academic excellence. The composition of revised IQAC is as under:

Head	of the	University
	OI INC	DHILLELVIE

110	ad of the Oniversity	
1.	Dr. K.K. Singh, Hon'ble Vice-Chancellor	Chairperson
Ex:	ternal Advisor	<i></i>
2.	Dr. A.K. Mishra, Former Member, ASRB, New Delhi	Member
<u>Te</u>	acher Representatives	1110111001
3.	Dr. Amit Kumar, Professor, College of Biotechnology	Member
4.	Dr. U.P. Shahi, Professor, Soil Science, College of Agriculture	Member
5.	Dr. Satya Prakash, Professor, Horticulture	Member
6.	Dr. Harshit Verma, Assistant Professor, College of Vet. & Animal Sci.	Member
7.	Dr. Shreya Rawat, Assistant Professor, College of Vet. & Animal Sci.	Member
<u>Hor</u>	a'ble Board of Management	1,44110.01
8.	Sh. Manohar Singh	Member
Sen	ior Administrative officers	1410111001
9.	Dr. Ramji Singh, Registrar	Member
10.	Smt. Laxmi Mishra, Finance Comptroller	Member
11.	Dr. Vivek, Dean, College of Agriculture	Member
Stuc	dents & Alumni	Wichited
12.	Sh. Vineet Kumar Baliyan, Company Director, Greenland Agro Marketing	Member
	India, Ltd., Muzaffarnagar	(Alumnus)
13.	Gajjela Indra, ID No 4819, Ph.D. Agronomy	Member
		(Student)
<u>Indi</u>	istrialist/ Stakeholders	(Student)
	Sh. Sunii Chaudhary, MD., Fryo Food Pvt.Ltd. Meerut	Member
	rdinator	MEHIOEL
15.	Dr. Anil Sirohi, Director Research	Monthey
	, · · · · · · · · · · · · · · · · · · ·	Member
	•	Secretary

CC.

1. Director Administration & Monitoring for Information.

2. Registrar for Information.

3. P.S. to Vice-Chancellor for kind information to Hon'ble Vice-Chancellor.

(Director Research) 18/8/2013



REGISTRAR S.V.B.P.U.A.&T., MEERUT



# शोध निदेशालय

# सरदार वल्लभभाई पटेल कृषि एवं प्रौद्योगिक विश्वविद्यालय, मेरव

डा0 अनिल सिरोही निदेशक, कृषि अनुसंघान केन्द्र

पत्रांक : सवप / 2022 / नि०शोध / ५५५३

दिनांक : ०५/०५/२०२२\_

समस्त अधिष्ठाता / निदेशकगण निदेशक प्रशासन एवं अनुश्रवण कुलसचिव / वित्त नियंत्रक

कृपया दिनांक 08/08/2022 को आयोजित की गयी IQAC द्वितीय बैठक का कार्य्वृत्त पत्र के साथ सलंग्न कर आवश्यक कार्यवाही हेतु प्रेषित किया जा रहा है। यह कार्यवृत्त सक्षम अधिकारी के अनुमोदन उपरान्त जारी किया गया है।

निदेशक शोध र् व अ

## प्रतिलिपि:

 प्रभारी अधिकारी, आई0टी0 सैल को इस आशय के साथ प्रेषित कि IQAC की प्रथम एवं द्वितीय बैठक का कार्यवृत्त व एजेण्डा विश्वविद्यालय की वेबसाईट पर अपलोड करें।

2. निजी सहायक को माननीय कुलपति महोदय के अवलोकनार्थ।



#### Proceedings of Had IQAC Meeting 08 August 2022

The second meeting of the Internal Quality Assurance Cell of the University was held under the chairmanship of Hon'ble Vice-Chancellor on 08/08/2022 in the Vice-Chancellor's committee Room. List of participants is annexed.

The following agenda items were discussed in the meeting.

#### Agenda 1: Update on the process of NAAC accreditation process.

Chairman IQAC appraised the house about the progress of NAAC accreditation progress. He informed the house that committees constituted for seven criteria have been working hard and collecting relevant data. The data collected so far has been presented to Hon'ble Chancellor on 28/07/2022 in a meeting held at Rajbhawan, Lucknow. He also informed the house that tentative dates conveyed to Rajbhawan Uttar Pradesh for registration is 12/9/2022, self study report submission is 11/11/2022 and student's survey is 30/11/2022. The house further emphasized that following point's need urgent attention:-

- · Revision of courses of different degree programmes.
- Units like Bio-control Laboratory, Model Nursery, Vermi-compost unit, seed processing plant, goat unit, Livestock Research Centre etc may be treated as Business/ Commercial Units.
- ATTC, Anatomy Museums etc. should be treated as Art Gallery.
- A new course on Agribusiness in degree programmes.
- E-content development on national portals.
- Identify the best practices and distinctness of the University
- . Digitization of PhD and PG thesis
- Upload agenda and proceedings of meetings on University website.
- Include unpaid/ free consultancy in the consultancy policy.

Action: - All Deans/ OIC, IT Cell

#### Agenda 2: Suggestions on strengthening of Research in Colleges

The agenda for strengthening of research in Colleges was discussed at length and following suggestions were made:

Each and every Department of College, first of all, must survey and understand the problems of local / regional farmers. Based on the problems research priorities should



be identified and accordingly, the research programme of each and every faculty member, PG and Ph.D. students should focus on priority areas.

- The research programme of the Ph.D. students should also be prepared according to
  the identified problems. The experiments conducted for at least two years should be
  published in the form of proceedings of workshop by the university and appropriate
  recommendations should be made, publicized and disseminated through extension/
  publication for the solution of problems.
- To improve the quality of research and make it more effective, research projects
  based on identified field problems should be prepared and submitted to the funding
  agencies for support.
- All the research programmes should focus on integrated approach alonwith a definite time frame for faster delivery of results.
- Further, in order to strengthen research programme/system and multi-location testing, the positions of research staff at University Headquarter/ Zonal Research Stations needs to be filled. In this regard it was suggested to take up the issue with state government.
- University farm and KVK farms must produce and distribute quality seeds of improved varieties of crops including sugarcane to farmers. This will increase the outreach and visibility of the University.
- Western Uttar Pradesh is known for sugarcane production, being the only agricultural
  university in western Uttar Pradesh, the university should consult/ coordinate and sign
  a MoU with the sugarcane department to make sugarcane based research and
  extension programmes more effective.
- Research programmes on Hybrid technology in Horticultural Crops, Root stock technology for fruit crops, Tissue culture to produce the disease free & pure seedlings, Disruptive technology, Drone technology, cloud computing, Gene editing, Post harvesting technology, Climate Resilient Agriculture, and vertical and protective farming of Horticultural crops etc. should also be undertaken.
- In order to strengthen the Research at College level, each and every Dean should constitute a Research Coordinating Team with a senior faculty member as Coordinator to coordinate with Directorate of Research and compilation of recommendations, etc.

Action: - All HoD's/All Deans



#### Agenda 3: Discussion on Draft policies

 All the twenty policies drafts being prepared by the committees were discussed in detail and suggestions were made for improvement to the chairpersons/members of the committee constituted. All the committees were directed to amend the draft policies and submit them for consideration and approval of Academic Council.

Action: - Respective committees/ Registrar

# Agenda 4: Feedback Mechanism from students, faculty, employers and other stakeholders.

 All the Deans of the Colleges were assigned the duty to draft feedback Performa's and collect the feedback from the students, faculty, employers and other stakeholders.

Action: - All Deans/ OIC, IT Cell

## Agenda 5. Any other matter with the permission of the Chair.

- Hon'ble Member, Board of Management suggested that University should organize
  Health Management Camps for the benefit of students, teachers and staff so that they
  may learn tips to come up out of health emergency if any.
- Social welfare fund should be created to support staff for Rs 1Lakh in emergency.
- · Make whole campus WiFi enabled.
- Scientific posts of research stations should be filled.
- Keeping in view the problem of disease in Sugarcane variety Co-238 and Rice Variety Pusa Basmati 1509 quality seed of improved varieties should be made available to farmers.

Action:- OIC, University Hospital/Finance Comptroller/ OIC, IT, Cell/ Director Administration & Monitoring, DES/DE

The Meeting ended with a vote of thanks to Chairman and members of the IQAC.

Coordinator IQAC



# Proceedings of Ist IQAC meeting 14 March 2022

The First meeting of the Internal Quality Assurance Cell of the University was held under the chairmanship of Hon'ble Vice-Chancellor on 14/03/2022 in the Vice-Chancellor's committee Room. List of participants is annexed.

The following agenda items were discussed in the meeting.

- ❖ Hon'ble Vice Chancellor informed the house that for quality assurance the IQAC has been constituted in the University. He informed that university came under existence after bifurcation of state and during short period of span it achieved several mile stones. The Jurisdiction area of University consists of Four Divisions that include 18 districts of Western Uttar Pradesh. At present University has 20 KVKs, one KGK and three Zonal research stations. Two farmers of university jurisdiction area working in collaboration with University were recently awarded Padam Shri and four farmers were awarded innovation award by ICAR. University has also started working in collaboration with public and private sector and so far 16 MoU's have been signed for teaching, research and extension. He emphasised for Atmnirbhar University and for that effort on resource generation needs to be taken up.
- Director IQAC made a presentation on NAAC and NAAC VS NIRF. He gave the house an overview of details of the seven key criteria of NAAC assessment, Functions of IQAC, strategies, objectives, benefits, composition, role of coordinator/Director, operational features of IQAC etc.
- In second presentation Director IQAC presented current scenario of the University. He explained in detail all the aspects of teaching research and extension.
- Dr SK Garg, Ex Vice Chancellor, Pandit Deen Dyal Upadhyaya Pashu Chikitsa Vigyan Vishwavidhalaya Evam Go-Anusandhan Sansthan, Mathura, Uttar Pradesh, and Member IQAC appreciated the progress and contributions of the University including the constitution of Sports council, Extension council, phytosanitory lab and Veterinary clinical Ambulatory service for farmers doorstep.
- Dr. Pitam Chandra, emphasised on Urban farming, protected cultivation, aquaculture, Scientific validation of natural farming and food testing laboratory in the University. University should also involve past students engaged in entrepreneurship with Internship programme

Actoin:- Director Research/All Deans

Dr. Umesh Srivastava, Ex ADG, ICAR and Member IQAC suggested that University should focus on protected cultivation, collaborative research projects with IIFSR and CPRI and generate grants from competitive projects.

Actoin:- Director Research/Dean Horficulture/ Dean Agriculture

The Meeting ended with a vote of thanks to Chairman and members of the IQAC.

(Anil Sirohi) 15 | 3 | 202

Coordinator IQAC





# Directorate of Research

## Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut - 250110



Dr. Anil Sirohi Director Research

Letter No: SVP/2021/Res/ UP 45 

To, All Members of IQAC, SVPUA&T, Meenut

Sub.: Agenda for 2nd IQAC meeting scheduled for 8th August, 2022. Dear Sir/ Madam.

A meeting of the IQAC is being convened on 8th August, 2022 in the committee room of Hon'ble Vice Chancellor at 11:00 AM. The agenda for meeting is as under,

- 1. Update on the process of NAAC accreditation process.
- 2. Suggestions on strengthening of Research in Colleges
- 3. Discussion on Draft policies developed for:
  - E- waste management
  - Ethics
  - Information technology
  - Ethical guidelines
  - Research policy
  - Consultancy policy
  - Grievance redressal policy
  - Environment sustainability policy
  - Internal complaint committee
  - Infrastructure maintenance policy
  - Guidelines/ policy for e-content development
  - · Animal ethics committee
  - Code of conduct for students
  - Commercialization and IPR policy
  - Good governance policy
  - Staff and social welfare fund policy
  - House allotment policy
  - Library operations and maintenance policy
  - · Purchase, advance adjustment, auction policy
  - SC/ST cell
- 4. Feedback Mechanism from students, faculty, employers and other stakeholders.
- 5. Any other matter with the permission of the Chair.

Please make it convenient to attend the meeting.

Member Secretary, IQAC



B.V.B.P.U.A.&T., MEERU

## Proceedings of III'd IQAC Meeting 23 January, 2023

The Third meeting of the Internal Quality Assurance Cell of the University was held under the chairmanship of Hon'ble Vice-Chancellor on 23/01/2023 in the Vice-Chancellor's committee Room. Dr. Anil Sirohi, Director (IQAC), SVPUAT, Meerut welcomed all the members to the 3<sup>rd</sup> meeting of IQAC and requested the Chairman of the cell Dr. K.K. Singh, and the Vice Chancellor to offer introductory remarks on the meeting.

The Chairman Dr. K.K. Singh, Hon'ble Vice Chancellor briefed on the activities in Pleaching. Research, Extension and Administration which needs to be improved for rapiliting the quality of the University viz., publications in Scopus journals; improving H.& I Index; adoption and dissemination of popular technologies among the farming community. He informed the house that for quality teaching hi-tech smart class room with cameras have been established in the University for proper monitoring of classes. All efforts are being made to start under graduate programme on B. Tech sugarcane technology from the upcoming session July, 2023 and stressed upon to design need based Diploma and certificate courses along with value added courses in the university. He further stressed on the need of post harvest processing and value addition and change of cropping pattern. Best practices on 2-3 themes per KVK should be identified and popularized. Also requested all officers and entire staff of SVPUAT, Meerut to join their hands in overall development of the University.

Later, Dr. Anil Sirohi briefly presented the activities of IQAC and action taken report of the previous meeting. He also presented on the areas in teaching, research extension and administration where SVPUAT needs to be strengthened. After the thorough deliberations on developmental issues of the University, the following points were emerged.

The IQAC approved the action taken report of the 2<sup>nd</sup> Meeting presented by the Director IQAC.

- As per agenda item I of previous meeting courses of different degree programmes have been revised by the Deans of the colleges, process to initiate a new course on agree business management has been initiated, process to upload the e-content on national portal Agri-diksha has been initiated, PG and Ph.D thesis are being digitised and agenda and proceedings of IQAC are being uploaded on University website regularly. The identified best practices and distinctness of the University were discussed and approved.
- ❖ As per agenda item 2 Regarding strengthening of research in colleges appropriate actions have been taken by the Deans of the Colleges and Director Research.
- As per agenda item 3 all the twenty policies discussed in the previous meeting were finalised and got approved by the academic council.
- As per Agenda 4 IQAC will regularly monitor feedback on various curriculum aspects from students, teachers, parents, alumni and employers through departments. IQAC will analyze the feedback collected from all stakeholders as per their relevant suggestions. On the basis of relevant suggestions, IQAC will prepare their report for further action and forward it to the appropriate bodies.

#### Objectives:

To get suggestions from employers to make our curriculum suitable for employment as per local regional, national and global needs.



- To obtain suggestions from Alumni on the basis of their work experience in various fields to further improve the curriculum to meet the expectations of the employers and other part of the society
- To get inputs from the teachers for enrichment of the curriculum to meet the global standards as per recourses available with the University
- To get feedback from students and their parents on the suitability of the syllabus to meet their expectations and further improvement required if any.

Director IQAC informed that as per the directions of the 2<sup>nd</sup> meeting of the IQAC Feedback forms in offline and online mode were circulated by Deans of different colleges among all stakeholders to collect their inputs. The obtained feedback was analyzed using statistical techniques. Suitable action has been taken on the basis of relevant suggestions obtained from all stakeholders. From the feed back following points emerged and approved:

## On the basis of Student's feedback, the following appropriate action were taken:

- Feedback-1: Curriculum required more flexibility and diversity among the courses offered by the University across all programmes.
- Action: Most of the PG programmes were restructured as per choice based credit system (CBCS) to provide more flexibility with diverse choices across the programmes
- \* Feedback-2: More courses leading to employability, skill development and entrepreneurship should be added to the curriculum.
- ❖ Action: More relevant courses focusing on employability, skill development and employability are included in the revised syllabi.
- Feedback-3: Relevant courses for competitive examination, and also balance between theory and practical.
- Action: Need-based changes have been incorporated in the syllabus from time to time by adding optional/elective or specialized courses.
- On the basis of teacher's feedback, following modifications in the curriculum have been made:
- Feedback-1: The curriculum should be designed to balance the gap between theory and practical classes.
- Action: Practical based PG programmes were rationalized appropriately.
- Feedback-2: Freedom to adopt new techniques/strategies of testing and assessment of students.
- Action: Appropriate changes in the assessment process have been made.
- Feedback-3: Syllabus designed to bridge the gap between academics and industry?
- Action: The appropriate changes in the curriculum have been made to bridge the gap between academics and industry.
- As per agenda 5 of previous meeting process for creating social welfare fund has been initiated, whole campus has been made Wi-Fi enabled, Health management camps are being organised by the University Hospital, and seed production of improved varieties of sugarcane and paddy has been taken up by University farm.
  - All the four Agendas proposed in the meeting were approved by IQAC.
- Dr. S.K. Garg appreciated the progress of training and placement in the University. He suggested that a modern Animal Farm may be developed at Chirori farm in the interest of University.

(OIC, LRC/ Dean CoVAS)



Dr. Pitam Chandra suggested to increase the income of the University for Self Sustainability. He also suggested to increase self employment for rural youth skill development programme may also be prepared and started in the University.

(Deans of the Colleges)

• Dr. Umesh Shrivastava suggested that Research work and farming of protected cultivation of flowers and vegetables should be initiated in the college of Horticulture. He stressed that planting material of horticultural crops should be prepared and provided to the farmers and Local problems based research should be prepared and submitted to the outside funding agencies to generate the funds and facility in the University. Dr. Shrivastava also suggested that New Education Policy (NEP) should also be implemented in phased manner.

(Dean Horticulture/Registrar)

Shri Manohar Singh Tomar. Member, Hon'ble Board of Management, SVPUAT, Meerut suggested that research work and demonstration unit of aeroponics and hydroponics should be established in the University. Quality seed of high yielding sugarcane verities recommended for Western Uttor Pradesh should be produced and made available to the farmers. He also suggested that farmers participatory research may be more fruitful for the development of high yielding verities of cereal pulses, oil seed etc crops.

(Director Research/ General Manager Farms/ Dean Agriculture/ Dean Horticulture)

Dr. K. K. Singh. Hon'ble Vice Chancellor and Chairman IQAC expressed his opinion to start new PG programme related to Agri Business Management and activities to be carried out to increase number of JRFs and SRFs. He also stressed on to further strengthened the need of feedback from staff, alumni and employers to the officers before initiating activities in respect of quality improvement.

(Registrar/ Deans)

A meeting ended with vote of thanks.

[The above proceedings approved by the Hon'ble Vice-Chancellor and Chairman of IQAC]

It is requested all the concerned officers/scientists to take necessary action according to the proceedings and submit the same to IQAC for further compilation as directed by the Hon'ble Vice-Chancellor and the Chairman of IQAC, SVPUAT, Meerut.

Director IDAC

Copy to:

1) All members of the IQAC for information and needful action

2) All officers of the University for Information and needful action



#### Proceedings of IVth IQAC Meeting 08 September, 2023

4th IQAC Meeting was organized on 08 September, 2023 in the committee room of the Ehancellor. Following members were present in the Meeting.

Or. K.K. Singh, Hon'ble Vice-Chancellor	Chairperson
Dr. Ramji Singh, Registrar	Member
Smt. Laxmi Mishra, Finance Comptroller	Member
Dr. Vivek, Dean, College of Agriculture	Member
Sh. Manohar Singh, Member of BOM	Member
Sh. Sunil Chaudhary, MD., Fryo Food Pvt.Ltd. Meerut	Member
Sh. Vineet Kumar Baliyan, Director, Greenland Agro Marketing Ltd. 1	Member (Alumnus)
Dr. Satya Prakash. Professor, Horticulture	Member
Dr. U.P. Shahi. Professor, Soil Science, College of Agriculture	Member
Dr. Amit Kumar, Professor, College of Biotechnology	Member
Dr. Shreya Rawat, Assistant Professor, College of Vet. & Animal Sci.	Member
Dr. Harshit Verma, Assistant Professor, College of Vet. & Animal Sci.	Member
Ms. Gajjela Indra, ID No 4819, Ph.D. Agronomy	Member
(Student)	
Dr. Anil Sirohi, Director Research	Coordinator

At the outset, the coordinator IQAC, Dr. Anil Sirohi accorded a hearty welcome to Chairman of the meeting Hon'ble Vice-Chancellor Dr. K.K. Singh and all other members present in the meeting and narrated the agenda and purpose of the meeting.

Hon'ble Vice-chancellor Dr. K.K. Singh during his opening remarks insisted for the betterment of Teaching, Research and Extension activities among the faculty members across the colleges. He emphasized the use of technology and power point presentation in PG and Ph.D. teaching. He suggested that MSc. and Ph.D. thesis must have target oriented approach for technology/product development and these can be considered as in house projects which can be funded in the form of seed money. He also appraised the house that the revenue generation is going to be a next focus point and for the purpose the focus should be to increase contract research and consultancy. The faculty must focus to get MoU's with industry and these MoU's with industry must be used to develop collaborative projects, students training programmes and also to get CSR funds. The MoU's with academic institutions must be explored for inter institutional collaboration, students research and utilization of their laboratory facilities. He also suggested initiating students financial assistance programme for needy students. The focus of faculty must be on the development and execution of best practices, diploma programme, certificate courses, value added courses and other measures to increase the revenue generation on regular basis. He also informed the house that university is in the process to apply for NIRF rating and NAAC accreditation. In coming time NEP is to be implemented and an incubation centre will be established with the financial assistance of Rs/- 5.0 Cr received from the state government.



Coordinator IQAC made a presentation on NAAC and NAAC VS NIRF. He gave the house an overview of details of the seven key criteria of NAAC assessment, Functions of IQAC, strategies, objectives, benefits, composition, role of coordinator/Director, operational features of IQAC etc. He also appraised the house about the progress of NAAC accreditation process. He informed the house that committees constituted for seven criteria have collected relevant data. The data collected so far has been presented to Hon'ble Chancellor and Hon'ble Vice-Chancellor. House was also informed about the action taken on the recommendations of third IQAC meeting.

Action Taken Report on Agenda Item of 3rd IQAC

#### Agenda1: Research Priorities

#### College of Veterinary Sciences & Animal Husbandry

2 Research Projects were submitted under National Agricultural Science Fund (NASF)

6 Research Projects were submitted to UPCAR

16 projects were submitted under National Livestock Mission

A pilot project of Estrus synchronization and AI with sex sorted semen combination for making Gaushala Cows Pregnant is in progress to reduce burden on Gaushala.

Besides the cases at TVCC, The efforts made by team of mobile Veterinary Clinic Services for dairy animals in Western Uttar Pradesh of College of Veterinary Sciences judged best practice provide inputs in deciding research priorities areas.

#### College of Biotechnology

Research priorities were prepared and research work is being conducted as per the listed priorities by faculty members and students.

#### College of Agriculture

Rural Youth Skill development training programme organized on mushroom production, Bio-agent production and Fish farming etc.

#### Agenda 2: Strengthening of Experiential Learning Modules

# College of Veterinary Sciences & Animal Husbandry

It is part of undergraduate BVSc & AH Programme for students

The 21 days training on "Skill Development on Commercial Goat Production for Self Employment & Income Generation" for farmers is in progress from 05.09.2023. The documentation of success stories of our trained farmers is also in process

The module for poultry & Dairy development are in progress. Proceeding ahead in this direction, the foundation stone of Dairy Plant will be laid in Kisan Mela of University to be held in October 2023

The Livestock Exhibition will be main attraction in Kisan Mela for demonstrating best dairy animals of Uttar Pradesh & Harayana

College teachers are continuously participating in Kisan gosthis, Pashu pradarshani of state & Central Government

#### College of Biotechnology

In Experiential Learning progarmme students were attached to various industries / organizations to learn the industry needs and recent development in field of Biotechnology.

#### College of Agriculture

High Yielding Sugarcane varieties recommended for Western U.P. Viz. Cos 13235, Colk 14201, Co 15023 have planted at Chirodi farm. The seed production of high yielding varieties of different crops are RICE- PB1885, PB1692, PB1509, PB 1718, PB 1121



Wheat-

K 1317 DBW 187, DBW 173, DBW 303, DBW 327, DBW 332,HD 3226.

Pulses – (Urd) PU-9, Shaker 2,

Oilseed (Mustard) NYCY-05-02, PDZM-33 are producing at Chirodi farm of the University

#### Agenda 3: Entrepreneurship programme at SVPUAT

#### College of Veterinary Sciences & Animal Husbandry

5 Crore Rupees for incubator have been issued under this programme from state governments for new start up

#### College of Agriculture

New PG Programme related to Agri- Business Management has been submitted to registrar for further necessary action.

The feedback collected from 950 students, 95 faculty member, 20 employers and 30 alumni. Feedback summarized and submitted to concern for the necessary action.

#### Agenda 4: Improvement of Master's & PhD Research Quality

#### College of Veterinary Sciences & Animal Husbandry

- Inclusion of Co-Guide in postgraduate studies programme from other institutes like CIRC, Meerut, IVRI, National Institute of Animal Health, Baghpat was started for increasing collaboration & improvement in Quality of student Research
- The MOU with NDRI will be signed on 13 September 2023
- The MOU with CARI, CIRG & DUVASU are under process
- The MVSc & PhD course Programmes were revised as per BSMA Guidelines of ICAR

#### College of Biotechnology

Inclusion of Co-Guide in postgraduate studies programme from other institutes will be started from current academic year.

M.Sc.& PhD course Programmes were revised as per BSMA Guidelines of ICAR.

The following agenda items were discussed in the meeting.

- 1. Attracting CSR funds for Education, Research & Extension
- 2. Developmental activities through MLA funds and MP funds.
- 3. Strengthening of international collaboration
- 4. Any other agenda with the permission of Chair.

During discussion the house further emphasized that following point's need urgent attention:-

❖ Sh. Sunil Chaudhary suggested that research should focus on locally viable crops. He emphasized that ICRISAT has developed high oleic groundnut varieties with reduced risk of developing cardiovascular diseases. University should collect those varieties for testing at University and then commercialize to meet food industry needs for large shelf life and improved health benefits. He also emphasized that University should focus on high Amylase and Amylopectin varieties of maize for industrial uses. Sweet potato is another crop on which research programmes may be initiated. Another point raised by him was to standardize crop geometry. There is a need to work on optimum plant density per unit area to ensure efficient utilization of resources to maximize crop yield, and minimize weed growth. Hence, it is



necessary to recommend optimum plant population depending on the growing conditions of the corp. The issues of local horticulture crops like mango must be focused to reduce cost of production and improve quality of produce. He also suggested to approach local MP & MLA, Ladies club, NGO's and other local bodies for financial assistance of local need base proposals. He suggested the establishment of window/ display stall for University activities in forth coming NRCTC rapid rail.

- ❖ Sh. Manohar Singh Tomar suggested the placement base approach of the internship programme of the students, linking of farmers with the University, real time experience of students to farmers field and also the propagation of seed of new sugarcane variety COS-17321 for the local farmers through KVK's.
- Sh. Vineet Kumar Baliyan emphasized on industry base approach/exposure/training of students in industry with the main focus on the fertilizer and pesticides, organization of alumni meet, development of joint projects with industry. He proposed the donation of rupees 2.0 Lack for alumni fund, financial support to students and industry interaction programmes, and suggested the development of university blog.
- Ms. Gajjela Indra suggested the induction of students based evaluation of teachers, merit certificates in PG and Ph.D programmes, student involvement in various activities, and research oriented internship programme for PG and PhD and introduction of advance courses on bio statistics and project writing. The class room teaching must be interactive including trending topics.
- Dr. Shreya Rawat suggested fee based entry of the students in various training programmes and strict monitoring of students attendance in day today classes.
- Dr. Harshit Verma also suggested the improvement in student attendance monitoring systems and re structuring of examination pattern like inclusion of applied questions in question papers.
- Dr. U.P. Shahi suggested the development of the value added courses and their timely execution, implementation of certificate/ diploma courses as regular feature in university academic calendar.
- Dr. Amit Kumar suggested the improvement in the comprehensive examination of PhD. programme and external evaluation for both PG and PhD. students academic performance, addition of contract research in the mandate of IAEC of the University to improve the revenue generation, provision of intuitional projects for the faculty and implementation of technology transfer policies.
- Dr. Satya Prakash suggested the addition of value added courses in student curriculum on regular basis, initiation of merit certificates and medals in PG and Ph.D programme, induction of students based evaluation of teachers and establishment of nursery of ornamental/precious plants in University.



#### Based on the discussion following recommendations were made.

1. University research programme should also focus on locally viable crops. Emphasis should be on industry demanding crops like high oleic acid groundnut varieties, high amylase and amylo-pectin maize and rice varieties, sweet potato etc.

(Action: DES/Dean, CoA / Head, Genetics & Plant Breeding)

2. Newly released sugarcane variety COS-17321 and locally in demand verities of various crops should be included in seed production programme.

(Action: GM Farms / KVK's)

3. To improve the quality of PG & PhD programmes comprehensive examination should be made external instead of internal, PG and PhD students should be involved in teaching and research activities. Research oriented internship programme for PG & PhD students should be initiated and students should be exposed/trained during internship programme in industry. To develop competitiveness among PG and PhD students possibility of merit certificates/medals should be explored.

(Action: Dean, PGS)

4. To strengthen research programme outcome based institutional projects should be funded by the university in the form of seed money. Simultaneously, Joint research projects with industry, Consultancy projects and externally funded projects should be prepared and submitted for funding agencies.

(Action: DES/ All Dean)

5. Alumni meet should regularly be organized in the University to get benefits from alumni.

(Action: Director Training & Placement)

6. The courses on biostatics and project writing needs to be revisited to include advance course content relevant to PG and PhD students.

(Action: Dean, PGS)

7. For skill development, value added courses, certificate and diploma courses should be developed as per the requirement and timely executed in every semester for the benefit of students and made regular feature of academic calendar of the University.

(Action: All Dean/ Registrar)

8. Efforts to increase the perception of the university should be made by creating blogs, facebook, instagram and other multimedia platforms. These must be updated periodically reflecting university activities.

(Action: OIC, IT)

9. Establishing nursery of ornamental plants/ precious plants for resource generation and sale to the farmers and local citizens.

(Action: Dean, Hort.)

10. To improve revenue generation various paid diploma/ certificate/ value added courses must be designed for the students/ faculty/ farmers/ industries/ other stake holders.

(Action: Registrar/ All Dean)



11. Identify and implement best practices for the respective colleges.

(Action: All Dean)

12. Emphasis on the inter-institutional projects, industry participation in the form of projects or CSR funded schemes, measures to enhance contract research and consultancy.

(Action: All Dean)

13. Improvement in the existing examination pattern by induction reasoning as well as applied questions in question papers in order to assess the student about applied aspect of the subjects.

(Action: All Dean)

14. Emphasis on the international projects and MOU'S with foreign institutes for quality teaching and research.

(Action: All Dean)

15. Weightage for revenue generation by means of externally funded projects/ technology generation and transfer/ contract research/ consultancy in Annual Self Assessment Report.

(Action: DAM)

The Meeting ended with a vote of thanks to Chairman and members of the IQAC.

Coordinator, IQAC

[The above proceedings approved by the Hon'ble Vice-Chancellor and Chairman of IQAC] It is requested all the concerned officers/scientists to take necessary action according to the proceedings and submit the same to IQAC for further compilation as directed by the Hon'ble Vice-Chancellor and the Chairman of IQAC, SVPUAT, Meerut.

Coordinator, IQAC

Copy to:

1) All members of the IQAC for information and needful action

2) All officers of the University for Information and needful action



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## Proceedings of RAC Meeting held during 08/01/2020 to 14/01/2020

The meeting was presided over by the Chairman, RAC Dr. R. K. Mittal, Hon'ble Vice Chancellor, wherein the following members along with Head of Divisions and Scientists of different departments participated:

- 1. Dr. R. K. Mittal, Hon'ble Vice Chancellor: Chairman
- 2. Dr. N. S. Rana, Dean College of Agriculture: Member
- 3. Dr. Anil Sirohi, Director Research: Member
- 4. Dr. Mukesh Dahiya, Associate Director: Reporteur

#### College of Agriculture

At the outset Dr. N. S. Rana, Dean College of Agriculture welcomed the Chairman. The Chairman, Dr. R. K Mittal in his introductory remarks praised the research outcome of the College, during past and advised the scientists to organize the activities so the results are more oriented towards the goals set for the next three years. Chairman stressed upon the need to take up the research activities on crops particularly for biotic and abiotic stresses in view of the climate change and as per the need of the farmers.

#### Department of Agronomy:

Dr. R. K. Naresh, Professor Agronomy presented the major activities and achievements of the department during the last three years and highlighted the important ones. Thereafter he invited scientists of the department to present salient achievements of their respective work during the past three years.

As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following recommendations were made.

Experiment: Evaluation of Planting Systems and Integrated Nutrient Management on Productivity, Profitability and Nutrient Uptake of Wet Season Rice (Oryza sativa L) during kharif 2017

Recommendation: The application of RDF + FYM + BF + Zn rice with planting system transplanted rice on wide raised beds (WB - TPR) will be most beneficial to the farmers, whereas conventional method (CT-TPR) planting system is next in order.





Experiment: Effect of Nutrient Sources and Tillage on Nutrient Dynamics and Productivity of Basmati Rice under Rice-Wheat Cropping System during *Rharif* 2018.

Recommendation: The application of NPK + 25% FYM (25% N) + 25% N at PI Stage with planting system rice transplanted on wide raised beds (WB — TPR) will be most beneficial to the farmers, whereas conventional method (CT-TPR) planting system is next in order.

Experiment: Effect of weed and nutrient management on performance of barley (Hordeum vulgare L.) and associated weeds

Recommendation: Among the herbicides Trisulfuron 15g a.i ha<sup>-1</sup> having better weed control, resulted higher yield of barley over other treatments. Gross return, net return and B: C ratio was also found higher in 75% N-PK + 25% N through vermicompost. Thus 75% N-PK + 25% N through vermicompost with Trisulfuron 15g a.i ha<sup>-1</sup> may be recommended for better weed control and higher barley yield.

Experiment: Effect of weed management on performance of Chickpea (Cicer arietinum L.) and associated weeds,

Recommendation: The application of Pendimethalin I kg a.i./ha Pre emergence + Imazethapyr 50 g a.i./ha (20 DAS) found better for higher productivity and profitability of chickpea crop. The experiment needs to be repeated for one more year to draw valid inferences.

Experiment: Distribution of weed flora in pigeon pea under irrigated condition in different climatic zone of western Uttar Pradesh.

Recommendation: The highest Importance Value Index was calculated for *Trianthema monogyna* (L.) in upland irrigated ecosystem and for *Echinochloa colona* (L.) in irrigated conditions. It was noticed that *Parthenium hysterophorus* (L) is emerging as new weed of cultivated lands.

Experiment 7: Effect of halopriming and organic priming on germination, seed vigour and yield of Black gram (Vigna mungo L.).

Recommendation:



#### Wheat

- Crop receiving FYM @5t/ha + Urea 20kg at 40DAS+ NPK-G 200 kg/ha + NPK-P 1% foliar spray at 55&70 DAS+ NPK-biofertilizer + Sagarika-L foliar spray at 55 &70 DAS gave highest grain yield being 29 % higher over the recommended dose of NPK
- The crop fertilized according to targeted yield (4.0 t ha<sup>-1</sup>) with 100 % inorganic gave lowest of the yields whereas one applied with constituents of customized fertilizer on soil test value with 75 % inorganic + 25 % N FYM had the highest grain yield closely followed by one with application of constituents of customized fertilizer on soil test value with 75 % inorganic + 25 % N FYM + Azotobactor + PSB. The straw yield was highest in crop given constituents of customized fertilizer on soil test value with 75 % inorganic + 25 % N FYM. Grain yield ranged from 4.61 to 5.29 t/ha while the straw yield varied from 5.11 to 6.92 t/ha.

#### Moong

- Farmers practice increased yield by 7.0 q ha<sup>-1</sup> (42.9 %) over control. Additional use of FYM and *Rhizobium* over farmers practice led to an increase of 8.0 q ha<sup>-1</sup> (14.3 %) though it was non-significant.
- Similarly spray of urea, bio-stimulant, iron, NPK and NPK + bio-stimulant increased grain yield over their respective control being non-significant. However, cumulative effect accounted to their combined use i.e. application of NPK-200 kg ha<sup>-1</sup> + FYM-10 t ha<sup>-1</sup> along with *Rhizobium* inoculation of mung bean and foliar spray of urea, Bio-stimulant and FeSO<sub>4</sub> led to significant increase of 13 q ha<sup>-1</sup> (165.3%) over control and (85.7%) over farmers practice.
- ★ Maximum net returns (Rs. 44104) were fetched in with application of higher doses
  of fertiliserviz, NPK-200 kg ha<sup>-1</sup> along with incorporation of FYM-10 t ha<sup>-1</sup> +
  Rhizobiuminoculation and foliar application of urea + Bio-stimulant + FeSO<sub>4</sub>
  followed by application of FYM -10 t ha<sup>-1</sup> + DAP-100 kg ha<sup>-1</sup> + dual inoculation



with Rhizobium &PSB and foliar spray of urea + Bio-stimulant + FeSO<sub>4</sub> (Rs. 37645) while minimum net returns were obtained in control plot (Rs. 10455).

The application of RDF + FYM + BF + Zn rice with planting system transplanted rice on wide raised beds (WB - TPR) will be most beneficial to the farmers, whereas conventional method (CT-TPR) planting system is next in order.

As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- Compilation & documentation of proven production technologies on individual crops and production systems developed by the department along with supporting data, may be taken up on priority and be submitted to Directorate of Research.
- All the Scientists will submit complete details of experiments including title, objectives, treatment, statistical Analysis along with list of publications (2017 to 2019) with NAAS rating to Director Research for further compilation at University level.
- Cost of cultivation & Economics (BC ratio) should be work out in the all experiments, for their viable adoption by farmers.
- Dr. N.S. Rana, Dean College of Agriculture was directed to communicate the status of MoU between Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut and IFFCO and submit a copy of the MoU to Directorate of Research.
- For experiments on Natural Farming/Organic Farming experimental fields should be earmarked for generating reliable results. All experiments on natural farming must include and conclude the impact of natural farming on soil. Experiments on Yogic farming may be framed separately or a few treatments of yogic farming may be included in natural farming experiments.
- Vermicompost unit has to be shifted from existing place to a place near Live Stock Research Centre
- In experiment entitle "Effect of different moisture conservation techniques on performance of transplanted basmati rice" plain water should be included as one of



- the treatment and moisture content of the seed after the treatment should be recorded.
- Dean Agriculture & Director Research were directed to constitute crop specific groups of scientists with the leader/Nodal officer.
- Research on intercropping and different agronomical aspects of sugarcane should be initiated in the department. Dr. Adesh Kumar was identified to work on sugarcane. <u>Action plan: Following experiments were approved</u>
  - I. Effect of doses and sources of nutrients on growth, yield and nutrient uptake in timely sown wheat (Triticum aestivum L.).
- 2. Effect of Different Establishment Methods and Nutrient Sources on Crop Productivity, Water Footprint, Soil health and Grain quality of Rice in Vertisols under Rice-Wheat Cropping System.
- 3. Effect of weed management on weed dynamics and performance of wheat

  (Triticum aestivum L.) under late sown condition.
- 4. Effect of halopriming and organic priming on germination, seed vigour and yield of Black gram (Vigna mungo L.) ....Second Year
- Effect of planting system and seed priming on performance of Black gram (Vigna mungo L.).
- 6. Efficacy of Microbial Inoculants in Summer Mungbean.
- 7. Chemical weed confrol and Precision Nitrogen Management in late sown Wheat (Triticum aestivum L.) under Western Plains Zone (WPZ) of UP.
- Effect of planting techniques and nitrogen scheduling on scented wet rice, water productivity and soil health in Inceptisol.

#### Publications:

S.No	. Item	2017	2018	2019
1	Research/Review papers	45	65	55
<b>2.</b> F	Books	03	03	03
3.	Manual	01	01	01 In press
4.	Conference papers	02	02	02
5.	Invited lecture in Conference/Symposia	02	02	01
6.	Invited lecture in training	<b>I</b> 5	12	16
7.	Book Chapters	05	11	12
<b>.</b> 8.	Popular article	14	06	03
9.	Abstract	22	12	08



#### Department of Genetics and Plant Breeding

Dr. L.K. Gangwar presented the progress report of Last three years of the department of Genetics and Plant Breeding followed by faculty members of the department, and action plan for Rabi 2019-20 respectively.

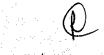
As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- 1. Various varieties of different crops developed by University should be popularized among the farmers.
- 2. Emphasis should be on development of high yielding spring green gram varieties.
- 3. Crop improvement work on lentil should be initiated.
- Further germplasm collection, evaluation & conservation in different crops, need to be taken up.
- 5. Development of high yielding, nutritive crop varieties tolerant to biotic and abiotic stresses may be strengthened and climate resilient plant types for different agroclimatic regions may be identified.

#### Department of Entomology (08-01-2020)

Dr. D.N. Mishra, Head Department of Entomology presented the progress report of the department of entomology. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- Dr. D. N. Mishra should prepare his own research plan in consultation with Dean Agriculture and submit finalized research programme to Director Research.
- Seasonal incidence of insects is very important therefore, observations on seasonal incidence should be recorded in experiment on "Studies on seasonal incidence and effective management of Helecoverpa armigera (Hubner) on chickpea."
- Data on Incidence of yellow stem borer and leaf folder and soil infestation ratio should be included in experiment on "Evaluation of integrated pest management modules against yellow stem borer, scirpophaga incertulas (walker) and leaf folder.



Chaphalocrocis medinalis (Guenee) in basmati rice in western plan zone of Uttar Pradesh".

- Statistical analysed results along with CD, CV and SE with respect to experiment on "Studies on population dynamics and management of yellow stem borer, Scirpophaga incertulas (walker) and leaf folder *Chaphalocrocis medinalis* (Guenee) using never insecticides and bio-pesticides in rice " should be submitted again to Directorate of Research.
- Infestation percentage of white fly on Brinjal fruit should be analysis in experiment on "Relative efficacy of some newer insecticides and bio-pesticides against jassid (Amrasca bigultula biguttula ishida) and white fly (Bemisia tabaci Gennadius) infesting brinjal".
- In all fishery experiments temperature of water should be recorded alongwith a mention of the optimum temperature for carp breeding. If possible the layer wise temperature of water should be recorded. The experiments should be repeated for next two years.
- Experiential learning programme should be conducted in proper way and faculty must ensure that all students be present at their unit during full course. Guide lines of ICAR for Experiential learning programme should be strictly adhered and concept note/proposal on experiential learning course be prepared in consultation with Dean Agriculture. Cost benefit ratio should be calculated for experiential learning course. Dean, College of Agriculture may constitute a committee for experiential learning course.
- Detailed reports with the economies of input and output of fish and bio-agent production units should be submitted to Directorate of research.
- Educational tour report of students should immediately be submitted to Dean Agriculture.
- A proposal for strengthening of FRTC be submitted to fishery department of UP Govt. or ICAR for funding.
- Explore the area of sericulture in western U.P. and identify the utility and activities of sericulture. A module for farmers on sericulture which farmers may adopt may be prepared.
- Detailed list of experiments conducted on sericulture along with statistically analysed data and C:B ratio needs to be submitted
- Officer in-charge Bio-control Laboratory was directed to prepare a complete report on Bio-control Laboratory for last three years with the following heads.



- Facilities with laboratory.
- ✓ Production of Bio-agents (quantity) year wise and bio agents wise.
- ✓ Total expenditure (Including Labour).
- ✓ Total Income
- ✓ Economics of Bio-control Lab
- Future plan along with the licence of bio-agents production.
- Recommendations for farmers
- Head of the Department of Entomology was directed to
  - ✓ Prepare the list of the projects completed and submitted to the funding agencies by the department.
  - Submit the detailed report of research work of the department as well as individual scientist along with data statistics analysis, C: B ratio, recommendations made by department for farmers.
  - ✓ Dean Agriculture should call a meeting and distribute the crops among the scientist for research according to expertise of scientists.

# Department of Plant Pathology (08-01-2020)

Dr. Gopal Singh, Head of Department presented the progress report of the department. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- The problems of the farmers of this area should be identified prior to finalising the research topic of the PG and PhD students.
- All Experiments should be conducted at least for two years so that recommendation can be made for the farmers.
- A training programme may be organized on nematode for farmer's awareness.
- Experiments on pulses and oil seed should be framed and submitted to Director Research.
- The following suggestions were given to Dr. Ramesh Singh



- ✓ Growth of Tricoderma in pot/soil should be recorded as observation.
- ✓ Analysis of data obtained from the experiments should be done properly.
- Germination enhancement or increase should be conducted with blotter paper/towel paper method.
- ✓ Discuss the technical program with Head of the department before finalising the experiments
- ✓ Dean of Agriculture will examine the technical programme of experiments before approval.
- Finally Honble Vice chancellor directed Head of Department to submit the progress report of the department along with individual faculty members progress according to the agenda points circulated by Director Research.

## Department of Agriculture Biotechnology (08-01-2020)

Dr. Pushpendra Kumar Dhaka, Head of Department presented the progress report of the department. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- Hon'ble Vice-chancellor suggested to improve the quality of research, so that the research papers may be published in reputed and high NAAS rating Journals.
- Dr. R.S. Sengar, Professor, will submit the final progress report of completed projects and ongoing projects along with the findings in bullet form to the Director Research and Dean, College of Agriculture.
- List and copy of research project proposals submitted to different outside funding agencies by the department be submitted to Director Research and Dean, College of Agriculture for record.
- Prior permission from competent authority must be sought to deliver the lectures/ talk on various technology on radio, TV and print media.
- Details of the patent ref. no. 201911017340 filed by Dr. R. S. Sengar on synthetic seed to be reviewed by Dean, College of Agriculture and Director Research.
- ❖ Before initiation of any research programme in the university on multiplication of seedlings through tissue culture permission from the institute from where the material was collected and competent authority of University must be sought.



Finally Hon'ble Vice chancellor directed Head of Department to submit the progress report of the department along with individual faculty members progress according to the agenda points circulated by Director Research.

# Department of Soil Science & Agri. Chemistry (09-01-2020)

Dr. Satendra Kumar, Professor, Soil Science presented the progress report of the Department of Soil Science and Agriculture Chemistry. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

- The faculty who were not present in RAC meeting will submit their research progress and action plan separately to Directorate of Research.
- Each faculty members should work on specialized field of Soil Science.
- One or two experiments on Bio-fertilizers and nono-fertilizers should be planned.
- Identify and list Research priorities according to farmers needs.
- Priority should be given for the improvement of problematic soil of university farms, research centres and KVKs.
- Action plan should be based on new idea so that we may be able to provide the new technology to the farmers.

Dr. U.P. Shahi, Associate professor presented the progress report of research project along with experiments conducted by him during last three year. He educated to house about the importance of poly halide fertilizer as well as the FASAL and Agromet projects. Honble Vice-chancellor suggested that a comparative report of FASAL and Agromet projects should be prepared among 50 and 100 centres respectively so that we can made significant achievement with university place among the centres of India.

# Department of Agriculture Extension and Communication (09-01-2020)

Dr. R.N. Yadav, Head of the Department, Agriculture Extension and communication, presented the progress report of the department. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

Observations taken from the experiments should be explained in detail and clear.



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- Information on social economic issues of the farmers may be collected with the help of RAWE students.
- To conduct the studies on extension activities one or two villages should be selected. Conclusion of the study may be recommended to change the socio economic status of the farmers.
- Studies on motivating the farmers to adopt the new technology should be planned.
- ❖ Dr. D.K. Singh was suggested to select the Meerut or Daurala Block for the study and increase the sample size to obtain the appropriate results from the study. Experiments should be self explanatory. Communication should also be made with KVS's scientists to find out the technological gap among the farmers regarding the management of sugarcane diseases.
- A research project title "Doubling the income of farmers of the University jurisdiction area" should be prepared to collect the information from the farmers of eighteen districts of western U.P. and submit to the UPCAR or other funding agencies. Dr. H.L. Singh, Professor, Department of Agriculture Economics, will also be involved in project.
- Socio-economic issues related with technologies adoption by small and marginal farmers, enabling livelihood enhancement may be identified and addressed.
- Farmers training and education through technology demonstrations and communication technology need to be further enhanced including ICT based transfer of technology for speedy and wider dissemination
- Finally Hon'ble Vice chancellor directed Head of Department to submit the progress report of the department along with individual faculty members progress according to the agenda points circulated by Director Research.

# Department of Agriculture Economics (09-01-2020)

Dr. H.L. Singh, Professor & head, presented the progress report of the department of Agriculture Economics. As per the presentation of the salient research findings by the Head of the Department and individual Scientists followed by discussions, the following suggestions and recommendations were made.

Research project proposal title "Impact assessment of agriculture technologies adopted by different categories of farmers in western plain zone of U.P." to be submitted to outside funding agency. It was suggested that aspects i.e. Technology





# शोध निदेशालय

# सरदार वल्लभमाई पटेल कृषि एवं प्रौद्योगिक विश्वविद्यालय, भेरठ

डा0 अनिल सिरोही निदेशक, कृषि अनुसंघान केन्द्र

पत्रांक : सवप/2022/निश्शोव/५५५।

दिनांक : •S/•5/२/2/

## समस्त अधिष्ठाता,

कृपया अवगत कराना है कि दिनांक 06/08/2022 को शोध निदेशालय में आहुत की गयी शोध सलाहकार समिति की बैठक का कार्यवृत्त पत्र के साथ सलंग्न कर आपकों आवश्यक कार्यवाही हेतु प्रेषित किया जा रहा है। यह कार्यवृत्त सक्षम अधिकारी के अनुमोदन उपरान्त जारी किया गया है।

निदेशक शोध १९/२०००

# प्रतिलिपि:

1. निजी सहायक को माननीय कुलपति महोदय के अवलोकनार्थ।

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# Proceedings of RAC Meeting held on 06/08/2022

Research Advisory Committee meeting was held on 6th August 2022. Director Research and Member Secretary welcomed the Hon'ble Vice-Chancellor and Chairman, RAC, Dr. R. K. Mittal, SVPUA&T, Meerut, Members of RAC, All HODs, Scientists of different disciplines. Dr. Anil Sirohi presented in brief, the progress report of the research conducted by the university scientists during *Kharif*, 2021. Dr. Sirohi emphasized on the development of superior varieties of different crops, to generate low cost technology for crop production, protection and soil health.

Dr. S. K. Garg, Director, CAESH and former Vice-Chancellor, Pandit Deen Dyal Upadhyaya Pashu Chikitsa Vigyan Vishwavidhalaya Evam Go-Anusandhan Sansihan, Mathura, Uttar Pradesh, emphasised on gene editing, bio-fortification, molecular breeding and other advance technologies to improve the quality of research and make it more effective. All the research programmes should focus on integrated approach alongwith a definite time frame for faster delivery of results. Research projects based on identified field problems should be prepared and submitted to the funding agencies for financial support.

Dr. Umesh Shrivastava, ADG, Horticulture (Rtd.) ICAR, New Delhi, suggested that University should focus on that Research programmes on protected cultivation, Hybrid technology in Horticultural Crops, Root stock technology for fruit crops, Tissue culture to produce the disease free & pure seedlings, etc. of Horticultural crops etc. should also be undertaken. University farm and KVK farms must produce and distribute quality seeds and nursery of improved varieties of crops including sugarcane to farmers. This will increase the outreach and visibility of the University.

Unfortunately during inaugural session Hon'ble member RAC Dr. H.C. Sharma had a serious cardiac arrest and was immediately taken to the Hospital where he passed away. The meeting was immediately stopped and the Deans of the Colleges were asked to review and finalize the research programme for Kharif, 2022 of their respective colleges.



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# Draft of Guidelines for Technology Transfer / Commercialization 2023



Sardar Vallabhbhai Patel University of Agriculture & Technology (SVPUAT) Modipuram, Meerut-250110 (UP)

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## **INDEX**

Sl No.	Торіс	Page No.
1.	Introduction	3
	Technology Transfer: Commercialization of IP /	
2.	Technologies	4-11
3.	Technology Transfer: Commercialization of Plant Varieties	12-15
4.	Incentives and Benefit Sharing	16-17
5.	Annexure	18-23

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#### **CHAPTER 1: INTRODUCTION**

With the time, various technologies are being developed in Agricultural universities and ICAR. These technologies are transferred to field or commercialize to provide benefits to ultimate beneficiaries. In this regard ICAR developed various guidelinestime to time like ICAR Society, 2000, the ICAR Guidelines for Filing Patent Applications, 2001 (amended in 2003), and Guidelines for Intellectual Property Management and Technology Transfer/Commercialization (IPMTT/C) in the ICAR system. These IPMTT/C guidelines were implemented in 2006 and included a policy framework for systematic management of the intellectual property available and created by researchers in the ICAR institutes, and provide the institutional mechanism with procedures for a professional approach to ICAR's intellectual properties.

In spite of establishment of the institutional mechanisms for technology management and transfer in ICAR and SAU's ICAR realized the need of professional inputs and a very different set of skills from those, which the scientists of ICAR and SAU's as a Research and Development (R&D) organization are expected to possess. Therefore, ICAR constituted Agrinnovate India Limited (AgIn), a registered Company owned by Government of India in DARE with the aims to work on the strengths of ICAR/SAU's and promote the development and spread of R&D outcomes through IPR protection, commercialization and forging partnerships both in the country and outside for the public benefit.

Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut established in 2000 constituted a University Technology Management Unit (UTMU) in 2008 to handle the issues related to technologies developed by the university. Considering the up-coming new technologies which can becommercialized the detailed guidelines are required to transfer technology. In this context, Technology Transfer Committee (TTC) was constituted by the competent authority which is in line with ICAR guidelines for promoting and commercializing university technologies.

TTC realized that presently the professional inputs and a set of skills required for the commercialization of the technologies and IPR issues are not available in university as mandate. Therefore, TTC formed present guidelines in line with ICAR guidelines(2018) to promote technologies either through university or preferably by Agrinnovate India Limited (AgIn), a registered Company owned by Government ofIndia in DARE.

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# CHAPTER 2: TECHNOLOGY TRANSFER: COMMERCIALIZATION OF IP/TECHNOLOGIES

#### Introduction

This chapter describes the procedures for technology transfer through commercialization. The university will have two tire system for the transfer of technology or their commercialization. It will include University technology management unit (UTMU) at central level and College TechnologyManagement unit (CTMU) at college level.

University technology management unit (UTMU): University will establish a University technology management unit (UTMU) at Directorate of Research for IP management and technology transfer/commercialization. The UTMU will function as the central hub for the management of IPR portfolio and commercialization of IPR enabled technologies of university acquired from itscolleges/zonal research centers. The UTMU will discharge day to day functions for the management of IPR portfolio and commercialization of IPR enabled university technologies. The composition of the UTMU will be as under:

- 1. Director Research Chairman
- 2. Dean of the respective colleges
- 3. Finance Comptroller
- 4. Members of the present TTC (Representatives of the colleges)
- 5. Inventor of the technology
- 6. Vice Chancellor nominee

Functions of the UTMU: The UTMU will undertake all such activities as may contribute to improved management of IP and spread of IPR enabled technologies in an effective and efficient manner. The following indicative functions of UTMU are listed.

- 1. To develop and evolve mechanism for the disclosure of IP generated in University, its assignment for commercialization, valuation, pricing, licensing, patent/IP watch, market watch, and preventive and legal action to safeguard/defend the IP.
- 2. To seek IPR protection for the IP generated in University which is protectable and worth protecting, and to maintain the IPR titles under the law.
- 3. To explore commercialization/licensing of IP generated in University and its know-how in India and abroad; to suitably negotiate, enter into licensing contracts, and do the necessary follow up.
- 4. To provide need based guidance/assistance for capacity building to colleges/ research centers and potential clients. This would include arranging to provide technical assistance, training, assistance in negotiations, and other related assistance in order to enhance capabilities of colleges/ research centers and also that of clients/ potential licensees in IPR management.
- 5. To facilitate research collaboration. To liaise and promote interaction among university scientists and potential clients for exploring the opportunities to jointly address researchable issues to meet the technology generation and up-scaling needs through laboratory research and/or pilot plants.
- To mobilize financial and other resources for IPR matters. This would include facilitation for priority setting and defining the needs for arranging assistance for IPR matters from the University system and outsourcing.
- 7. To avoid duplication of efforts, including management efforts aimed at providing efficient and cost-effective services with effective liaison and linkages.
- 8. To provide guidelines of "best practices" from time to time to promote the interests of IPR portfolio management and technology transfer in agriculture.

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- 9. To include activities aimed at confidence building among the agriculture-based industry for IP transactions for commercial use. This may include information on
  - a. Potential licensees in various areas of interest,
  - b. Methodologies for assessing markets to help understand the current and potential product needs and demand,
  - c. Indicators to understand the value of specific IPR in product development, and make realistic negotiations,
  - d. Comprehensive and effective management of IPR through in-house expertise or mobilization of know-how in matters such as legal and regulatory, technology transfer, market research, etc.
- 10. To track/cause tracking for patents and licences.
- 11. To monitor the progress of IP management and commercialization in University.
- 12. To liaise and network with national and international IP management and commercialization.
- 13. To facilitate/help in setting up an institution where IP generated by publicly funded institutions can be pooled to advance the excellence in technology generation in agricultural research.
- 14. To facilitate centralized in-licensing of proprietary research tools by University that may be important for research needs in frontier areas at its institutions.
  - 15. To innovate and adopt a suitable mode in which Consortia of different colleges focusing on particular/frontier areas of agricultural research will be able to operate.
  - 16. To do other things as may be directed and/or relevant for the promotion of management of IPR portfolio and the transfer/commercialization of IPR enabled University technologies.

College Technology Management Unit (CTMU): For Intellectual Property Management and Technology Transfer/ Commercialization' a College level Technology Management Unit (CTMU) will be constituted for every college. College technology management Unit (CTMU) is the highest decision-making body to all the issues of IP management and technology transfer/ commercialization for the respective college. The CTMUs will discharge day to day functions for the management of IPR portfolio and commercialization of IPR enabled College technologies. The composition of the CTMU will be as under:

- 1. Dean of the concerned college Chairman
- 2. Head of the Departments (02)- Nominated by Dean of the College
- 3. Inventor of the technology
- 4. Head of the department of the proposed technology
- 5. Director Research or nominee

#### Procedures for Technology Transfer/Commercialization

Central Database of Technologies: A central database of all technologies will be maintained at the UTMU. The concerned colleges will make entries of all new cases in their respective datasets as soon as the process of technology and variety identification is switched on by the college through CTMU. The concerned CTMU shall communicate a data set to the UTMU for linking with the central database. They shall also update the status of IPR protection/maintenance in the dataset from time.

Transfer of Technologies: The UTMU in association with CTMU will make efforts for technology commercialization with the primary objective of technology transfer to endusers. Depending upon factors such as the nature of technology, public need or marketing prospects, scale of technology etc. a decision will be taken by the competent authority whether the technology will be placed in the public domain through open access, or it will be transferred to end-users through commercialization.

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Registration of Commercial Entities: The UTMU shall develop a system of registering industry/enterprises/cooperatives for technology transfer/ commercialization of University technologies.

- 1. Registration of area/discipline/zone-wise potential licensees from industry/enterprises/cooperatives will be undertaken by inviting applications through advertisement.
- 2. The registered entities will be informed of the technologies available from time to time for transfer through commercialization.
- 3. A nominal registration fee may be charged and the registration renewed annually. Disclosure of University Technologies: Concerned CTMU will disclose (Annexure-1) the salient features of technology ready for commercialization. The technology disclosure for commercialization will be made in a confidential agreement. The CTMU shall supply the catalogue/information to UTMU in the prescribed Technology Disclosure (Annexure 2) form giving its details/specification and potential benefits. The duly completed form shall be submitted by concerned innovator to CTMU which would seek approval of competent authority for nominating the Technology to UTMU. The terms and conditions in the technology disclosure form shall be used as basis for preparation of standard terms.

Commercializing Technologies: Commercialization will be undertaken by UTMU in association with the concerned CTMU as per the procedure laid down.

Techno - Commercial assessment- After receiving the Technology Disclosure Formfrom concerned CTMU, UTMU shall constitute a techno-commercial assessment committee with the Approval of Vice Chancellor. The committee shall comprise:

- 1. Director Research
- 2. Co-opt a technical expert, if required
- 3. Special Invitee: Inventor of the technology
- Dean/ CTMU In-charge of concerned college
- 5. Commercial Expert nominated by UTMU
- 6. Finance Comptroller
- 7. Vice chancellor nominee

The Director Research shall chair the meeting. Meeting can be convened over skype/video conferencing or any other communication medium which is most efficient and effective for the purposes.

The above committee shall determine the technical feasibility, commercial viability and handholding requirement of the technology. The committee shall also recommend mode of commercialization of technology. In cases where the technology has limited commercial potential, region specific relevance, requires higher level of technical handholding or any such similar requirement for transfer, the committee may recommend its commercialization by the concerned CTMU. However, the procedure as laid down by these guidelines will have to be followed and UTMU should be informed of any progress of commercialization.

Technology evaluation and Standard Terms: The expert committee constituted by UTMU shall evaluate (Annexure 3) and valuate the technology/knowhow/process for its operation, economic, legal and environmental feasibility to develop the standard terms (Annexure 4) in consultation with concerned CTMU.

In case of new technology for domestic commercialization, to evaluate and valuate the technology, an expert committee shall comprise of

- 1. Director Research or nominee
- 2. Co-opt a technical expert, if required
- 3. Special Invitee: Inventor of the technology
- 4. Dean/ CTMU In-charge of concerned college
- 5. Commercial Expert nominated by UTMU
- 6. Finance Comptroller/nominee

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#### 7. Vice chancellor nominee

In case of all the International commercialization, the committee members shall be as follows:

- 1. Director Research
- 2. ADG (IP&TM) of ICAR or nominee
- 3. CEO of AgIn or their nominee
- 4. Co-opt a technical expert, if required
- 5. Special Invitee: Inventor of the technology
- 6. Dean/CTMU In-charge of concerned college
- 7. Finance Comptroller

The Vice Chancellor shall chair the meeting. Meeting can be conveyed over skype/video conferencing or any other communication medium which is most efficient and effective for the purposes.

Business Development Activities and Prospecting Clients: UTMU shall carry out the Business Development activities to reach the potential clients in the following ways,

- a) Web based public announcement/ Newspaper advertisement (Mandatory)
- b) Carry out Business Presentations to interested clients in respective domains.
- c) Mass mail marketing
- d) Participating in industry specific seminars/meets/melas/exhibition
- e) Organizing industry meets with concerned colleges
- f) Others

UTMU/ CTMU may follow any of the above approaches to prospect the clients through business development activities. However, UTMU shall go by the recommendations of the techno commercial assessment committee regarding the mode of commercialization of the technology.

Expression of Willingness: Interested clients shall express their willingness to license the technology to UTMU. In case willingness is received by CTMU the same shall be duly forwarded to UTMU. On receipt of the willingness, UTMU shall take the process to next level as per the guidelines. The expression of willingness shall also contain how the client proposes to produce and market the products using the technology.

Due Diligence of Clients: UTMU/CTMU shall obtain a brief proposal from the clienton how the client proposes to commercialize the technology. UTMU /CTMU shall constitute a committee comprising.

- 1. Innovator of the technology
- Business Manager of AgIn nominated by CEO AgIn
- 3. Finance Comptroller
- 4. Other experts as per requirement

#### The committee shall:

- Decide the broad technical capabilities, financial capabilities, marketing acumen and other parameters to select the client.
- Examine the proposal from client on the broad pre-defined terms to decide on "go" or "no-go" to next stage.

Starts-ups shall be encouraged to apply with certain flexibility in their proposal.

Meeting can be conveyed over skype/video conferencing or any other communication medium which is most efficient and effective for the purposes.

Testing/validation of Products by Clients: The clients selected as above may be allowed to carry out due diligence of technology/products for validation of claims made by concerned CTMU. In case the client is interested in getting a sample of the material/product for carrying out testing/validation/others, then the Client shall sign a Material Transfer Agreement with concerned institute along with Confidentiality and Non-Disclosure

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Agreement. The Client may visit the concerned laboratory/facility with prior approval of competent authority of the University. However, it is the discretion of innovator to decide the extent of the information to be discussed/ disclosed. In case the client shows disinterest, UTMU shall precede furtherto prospect other clients.

## Cost and Pricing of Technology

Broadly, the worth of a technology will be derived from the likely benefits that mayaccrue to its end-users. The worth can be best determined on the judgment of technical experts, producers of technology and business managers. There is no standard method or formula for assessing the worth of a technology. Costs and pricingof technology may be determined on a case-to-case basis.

As no standard formulae are available or can be provided for all technologies and situations, the licence fee and/or royalty may be fixed taking into account the considerations of "what the market can bear", cost factors and public interest issues, if any. The decision of the UTMU, based on holistic assessment and judgement will be final.

The life of a technology in the market will vary and so will its popularity and sales.

The recurring royalties will be mainly based on these factors. Therefore, the modes of payment (licence fee and/or royalty) will be on mutually agreed terms with the licensee, and flexible/ determined on a case-to-case basis rather than rigid. The terms of commercialization may also be revised over time.

Technology Valuation: The Techno – Commercial assessment committee and /or committee for developing standard terms will determine the licence fee and royalty and/or sale price of its IPR enabled technologies either on a fixed basis, through negotiations with the licensee, or through an open bidding process as appropriate. Expert opinion and judgment viewpoint together with the following points will be considered in determining the price/licence fee.

- 4. Cost of IPR protection and maintenance.
- 5. Cost of production and handling.
- 6. Other institutional costs as appropriate.

The committee may follow any one or combination of following methods for valuation of the technology:

- Market Approach: It measures the present value of technology based on theselling price of similar product/technology in the market.
- Cost Approach: The cost approach is based on covering costs of developing new technology.
- a) The anticipated future costs of developing similar technologies using the proceeds from the sale of this technology to pay for developing the next one.

Cost plus pricing method may be used to determine the price of raw materials and services.

• Income Approach: This approach focuses on estimating the value of the intellectual property/technology based on the income-producing capability of the technology.

With any of the above approaches as a foundation, the license fee range for the technology/product/services shall be estimated by the committee.

#### Licensing of IP

Licences will be case-specific non-exclusive or exclusive licences. Appropriate joint commercialization agreements would also be entered into.

Terms of Trade: Upon the receipt of expression of willingness, UTMU /CTMU shall constitute a committee which shall discuss with client within the parameters set in standard terms. The committee comprises

- · Director Research or nominee
- · CEO, AgIn

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- Dean/ CTMU In-charge of respective college
- Finance Comptroller/nominee

The proceedings of the committee (i.e. terms of trade) shall be comprehensive enough to cover all the agreed terms and conditions for the transactions. The term oftrade shall include a short outline of the key terms focusing on the business terms inplain, non-legal language. The terms of trade, along with other terms, shall include:

- a) Roles of stakeholders
- b) Licence fee and payment schedule
- c) Royalty and payment schedule
- d) Timelines for commercialization
- e) Duration of license and its renewal
- f) Training, handholding and its cost

The proceeding shall also serve the basis for preparation of draft MoU. The terms of trade shall be signed by all the parties.

Draft Agreement Preparation and Legal Vetting: The draft agreement shall be prepared on the basis of term of trade. The draft agreement shall be communicated with the CTMU and the client for their consent. On receipt of their consent, UTMU shall arrange for legal vetting of draft agreement. Legal vetting of agreement shall be entrusted with to any empanelled lawyer/ law firm.

Signing of Agreement: The agreement shall be signed in presence of all concerned parties through their respective authorized signatories. The transaction shall be presented before the board of management of the University for taking note.

Handholding Support by Concerned Institute: Technology shall be transferred and handholding support shall be provided by the university as per terms and conditions of the Licensing agreement. UTMU shall facilitate and coordinate in the matter.

Acknowledgement of completion of technology transfer: UTMU /CTMU shall form a committee to review the post signing of agreement. The committee shall comprise.

- 1. Director Research or their nominee
- 2. Dean/ CTMU in-charge
- 3. Others (External experts)

An acknowledgement shall be taken by UTMU /CTMU regarding completion of the process of transfer of technology, material transfer (if any), the required handholding support etc., The acknowledgement shall be signed by all stakeholders.

Normally, non-exclusive licences will be executed for technologies such as inputs (e.g. bio-pesticides or bio-fertilizers) so that these can lead to their wider adoption and thereby maximize research benefits to farmers and other end users. For non-exclusive licenses there will be flexibility in fixing the license fee.

When a technology is licensed through an open tendering/bidding process it will normally be given to one licensee. But depending upon the licensee's manufacturing capacity and size of business, other interested parties from outside the territory of his business/interest may also be considered if the technology has to be rapidly and widely disseminated. Alternately, a sub-licensing clause will be incorporated, which may require the licensee to share a part of the license fee and/or royalty from any sub-licenses that he may enter into with that technology.

Exclusive license will also be issued when

- (i) An technology is to be commercialized in countries abroad, and
- (ii) The technology is to be disseminated in difficult areas offering low incentives. As exclusive licenses are preferential, commensurate license fee and/orroyalty will be

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negotiated and settled on mutually agreed terms with the licensee.

The duration for which university will issue licenses will also be negotiated with the licensee and settled on mutually agreed terms.

The UTMU will empanel professional consultants and agencies having the necessary experience and proven track record at the national and zonal levels as License Managers for licensing the technologies. Their services will be utilized as and when required by UTMU /CTMU.

Joint commercialization of technologies will be undertaken on mutually agreed terms with another commercial enterprise when a close scientific supervision of scaling up or product development is required or in any other appropriate situation.

The framework for licensing will be developed/refined/evolved by UTMU. In evolving the process, UTMU may also support studies for developing indicative models/case studies for valuation, costing and pricing of technologies of different fields. Suitable models/case studies can be published as reference material.

#### Implementation of Licences:

Transfer of technology by UTMU and payments by the licensees will be in accordance with the terms and conditions, including the time limits recorded in the licensing contracts/ agreements. If required, the concerned scientists/innovators willdemonstrate the technology on lab scale to the licensee under a confidentiality agreement (Annexure 7).

## Use of ICAR knowledge/IP by Foreign Clients

In cases of use of knowledge base by foreign clients for research and/or commercial purposes, all issues relating to contracting, target domain, pricing, payment and ownership of intellectual property will be pre-determined in a Memorandum of Agreement (MOA) signed by University and the foreign client. The terms and conditions, and limitations of the Agreement with prospective foreign client will be set/ negotiated by UTMU. Wherever required Technology Managers/ Licence Managers or IP Consultants may be engaged. Approval of the competent authority in the university shall be essential to proceed for any agreement with foreign clients for commercialization. Nevertheless, all international commercialization/transfer of knowledge shall be managed by UTMU as per the procedure mentioned above.

#### Monitoring and IP & Market Watch

A mechanism of monitoring the licensing/commercialization activities in university will be developed by UTMU. This mechanism will include IP and market watch with a view to safeguard university interests and to bring further refinement in their approach to commercialization.

#### Infringements

In case of infringement/suspected infringement of any terms or conditions of memorandum of understanding signed by both the parties, UTMU/CTMU will report the case to University Legal cell. University Legal Cell will handle the cases reported to them or other apprehended cases either on their own or with the assistance of AgIn. Further legal action, if required will be taken with the approval of competent authority. All the arbitration will be subject to the jurisdiction of the Allahabad high court.

## Socio-Economic Impact

The UTMU will arrange/ assign case-specific studies to assess socio-economic impact of the commercialized university technologies and any other know-how.

#### Time-frame for commercialization of university technologies

The standard operating framework for various activities as per the standard operating framework is given below:

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S.No.	Details	Timeline
1	Submission of Technology and Disclosure Form and CostingSheet	Zero
	to UTMU/Agrinnovate	
2	Clarifications regarding TDF and costing sheet of technologies	1 Month
3	Techno-Commercial Assessment Committee Meeting	1 Month
4	Standard Terms Committee Meeting	
5	Approval of Minutes	
6	Uploading of Standard Terms	2 Week
7	Advertisement and Business Development	2 Week
8	Expression of Willingness	21 Days
9	Due Diligence of the Client	I Month
10	Terms of Trade Preparation	
11	Approval of Terms of Trade	
12	Draft Legal Agreement and Vetting	
13	Signing of Agreement	

Following steps 2 to 4, the UTMU with the help of its technical commercial assessment committee shall take the following decisions:

- i. Whether the technology is technically and commercially viable for commercialization
- ii. Mode of commercialization

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- iii. Valuation
- iv. Standard terms for offering terms of commercialization
- v. Decision regarding whether the commercialization will be carried out by the UTMU or by the AgIn.

Once the UTMU takes a decision to commercialize the technology itself, the rest of the steps shall be followed by UTMU for commercialization of technology. In case adecision has been taken that the technology shall be commercialized by the AgIn, the AgIn shall follow the remaining steps. Whenever they feel that technical expertise is required from AgIn, same may be solicited.

In case no party comes forward expressing willingness for commercialization or in case a party has expressed willingness but does not complete all the required formalities and drops out from the process, the technology can be again posed in the next cycle.



#### CHAPTER-2

#### TECHNOLOGY TRANSFER: COMMERCIALIZATION OF PLANT VARIETIES

#### Introduction

Commercialization of plant varieties procedures is required to insure or to improve access of plant varieties to the end users. As per the decision taken time to time university may decide to place any plant variety solely in the public domain or else it may be licensed for commercial use on exclusive or non-exclusive basis.

#### Commercialization of Plant Varieties

General Considerations: For commercialization of plant varieties broadly the general guidelines for technology transfer/commercialization of University technologies described in Chapter 1 may be followed.

Specific Considerations: University will make the specific considerations in the commercialization of its plant varieties as they can have direct impact on issues of food and nutritional security and farm incomes.

Other Considerations: All the registered varieties will be transferred for cultivation and use through open access or commercialization. No plant variety will be transferred/ commercialized before its registration and protection under the PPV&FRAct.

- University may consider any appropriate proposal for the grant of exclusive licence to a private seed company or public seed agency for commercialization of its protected plant variety abroad. All such varieties of University which have commercialization potential abroad, shall be assigned to Agln and licensed undersuitable arrangements/agreement keeping in view the interest of Indian farmers and national priorities.
- 2. Advance breeding material or parental lines shall not be transferred/ licensed on exclusive basis. These will first be registered with NBPGR before any material transfer/licensing agreement is to be negotiated/entered into.
- 3. Normally, commercialization of a University variety will be done by AgIn with the help of CTMU that has secured the PVP title. However, where more than one institutions are involved/interested in the commercialization of the same variety, or where they are given this specific responsibility in public interest by the University, these institutions the sharing arrangements shall suitably be mutually settled before commercialization by UTMU/AgIn.
- 4. University will obtain assistance/advice of AgIn, if needed, particularly for anylegal opinion or market information.
- 5. The parametric values of all successful licences will be recorded in the UTMU databases.
- Agin will evolve a suitable mechanism for quick disposal of plant variety licensingcases.

## Licensing of Seed and Planting Material

Licensing: As the University technologies like seed and planting/propagating material have direct impact on the productivity and production in agriculture, their transfer on priority through licensing to various seed producers and distributors shallbe facilitated.

Non-Exclusive Licenses: University will provide commercial licenses, preferably nonexclusive licenses, for the commercialization of seed/planting material of registered and protected University varieties to any interested party such as the following.

- (i) Central and State Departments of Agriculture on national/state basis for wide dissemination, popularization and public distribution of seeds/propagules for development and cooperation.
- (ii) Public Seed Agencies Central and State Seed Corporations for multiplication and distribution widely.
- (iii) Private/Cooperative seed producers on regional basis for encouraging local

multiplication and promoting use of specific varieties.

(iv) Other contracting parties including foreign clients in seed business who may be interested in commercializing University seed/propagules in other countries. The terms and conditions of the license will include, among other things, securing protection of University varieties in the respective countries by the foreign client.

Exclusive Licenses: Exclusive licenses may be given after negotiations and on mutually agreed terms as indicated in Chapter 1. In the license agreement for an exclusive license, a sub-licensing clause will be negotiated/ incorporated so that a part of the license fee and/or royalty from sub-licenses given by the licensee is provided to ICAR. Also, negotiation will be undertaken for a time-line for re-negotiation of the license, if needed, which will be recorded in the agreement.

Compulsory Denomination: The University seed and planting/propagating material shall be licensed under only the registered denomination. The licensee will be required to print the same denomination on the label and to sell the seed/planting material essentially under that denomination. Subsequently, it shall also not be changed by the licensee or by any third party with whom the licensee deals with in that seed.

Use of University Mark: Along with the use of registered denomination, all license holders shall be required to use University's Collective logo on all packets of seed/propagules of the licensed seed. In this context if the licensee is interested to simultaneously use its own trade name in the licensed seed, the same can also be agreed to.

Seed Quality Assurance: University would provide breeder seed and will lay down the condition before the licensee to maintain the seed quality and purity. However, it will not be held responsible for the quality of subsequent lots produced and sold by the licensee. Thus, the agreement with the licensee shall also have the following clauses:

- 1. Assurance clause that the licensee will maintain the seed quality and genetic purity of the plant variety licensed by University.
- 2. Disclaimer clause that University will not be held responsible for the seed quality/purity of the subsequent lots commercialized by the licensee.
- 3. Indemnity clause that the licensee indemnifies the licensor University from any legal consequences of his deals in subsequent lots of licensed seed/propagules

Joint Ownership Cases: Varieties for which University has joint ownership with SAUs or others, the joint owner will be given the first priority to use the variety for commercial purposes on mutually agreed terms. In the absence of any such request for a reasonable time period (6 months from grant of PVP title on the variety), the University may award a non-exclusive license to any other contracting partyincluding in the territory of business interest of the joint owner for dissemination of seed to the farmers of that area.

#### Breeder Seed

Depending upon the terms and conditions of the license agreement breeder seed will be supplied by concerned institutions only once or recurrently. Subsequent agreement may also be made with the licensee for making fresh supply of breeder seed.

University shall maintain seed purity and health of all their released/registered varieties. Concerned University institution(s) and breeder(s) will maintain and supply the breeder seed of respective registered and protected plant varieties as per licence agreements.

Breeder seed will be provided to the licensees under the terms and conditions that the licensee (seed agency/company producing commercial seed of University varieties) will be responsible and liable for maintaining genetic purity of the seed/propagule and seed quality during the entire term of license and the licensor will not bear any liability for spurious seed.

(i) University shall have the right to monitor seed genetic purity of the licensee's seed lots at the cost of the licensee, which will be recorded in the licensing contract.

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It will be clearly mentioned in the licensing contract as to whether the breeder seed will be given to the licensee on one time basis or on annual basis or on recurrent basis with defined periodicity. The quantity of breeder seed to be given in each case/situation will also be mentioned.

A clause will be included in the license agreement to the effect that no plant variety license will be valid unless the licensee agrees to produce and distribute/sell quality seed in the respective zone mentioned in the license agreement on a regular basis "in sufficient quantities and at a reasonable price".

University will use various ways and means to further provide the breeder seed of itslicensed varieties in case of any Compulsory Licensing under the PVP law.

Breeder seed of jointly owned plant varieties will be produced, maintained and supplied as per mutually agreed terms between University and the other co-owners of the variety.

## License Fee/Sale Price of Breeder Seed and Royalty

The Committee constituted by UTMU as given in chapter 1 will determine the license fee and royalty and/or sale price of breeder seed either on a fixed basis, through negotiations with the licensee, or through an open bidding process as appropriate.

Expert opinion and judgment together with the following points will beconsidered to fix the price/licence fee.

- (i) Cost of seeking and maintaining the plant variety right of the variety to belicensed.
- (ii) Cost of production, handling and supply of breeder seed.
- (iii) Other institutional costs as appropriate.

The department in consultation with AgIn may determine the licence fee and/or sale price of the breeder seed at the institute level.

For evolving the system of licensing of plant varieties, CTMU/UTMU/AgIn with thehelp of crop-specific institutions and outside experts, will develop and disseminate model agreements/case studies of different sizes and dimensions for reference purposes.

### Research Exemption and Benefit Sharing

There will be exemption for research use of all registered and protected plant varieties and registered genetic stocks of University as per the extant national laws/rules/guidelines.

Within University, all institutions shall register their elite parental genetic stocks at NBPGR. Theywill transfer all plant genetic material under MTA through the Bureau; and also deposit a referral seed sample along with passport data set at the National Gene Bank as a pre-requisite.

University will not impose any royalty payment for such breeding material maintained by private seed companies without registration and protection under the PPV&FR Act as is developed/derived from genetic stocks of University. However, it would be expected that the concerned seed company shares the commercial benefits accrued using these breeding materials.

Condition of any royalty payment will also not be imposed for materials used in All India Coordinated Research Projects/ Network Projects by SAUs and other partners with whom University has standing MOUs. Rather, such cases will be addressed/settled on mutually agreed terms.

In accordance with the provisions of the PPV&FR Act, University may charge a royalty on seed sale of a protected variety which is developed by another agency/ company/ breeder by using its genetic material, which will be recurrently required for the commercial production of the protected variety.

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University will consider/discharge any liability of benefit sharing that may be fixed by the PPV& FR Authority under section 26(5) of the Act. Concerned CTMU/UTMU shall verify the relevant facts and make a detailed case to CTMU/UTMU for the consideration/approval of the competent authority.

## Records and Confidential Information

Standard records of genetic stocks at the institution along with confidential records (codes)where applicable shall be maintained in signed and countersigned notebooks/registers. Suitable data sets will also be documented in the institutional/zonal/central database.

All confidential information, such as codes, etc., will be kept safely and would not be revealed by individuals/institutions except through confidentiality agreements<sup>74</sup> which will expressly mention the purpose for sharing such information and other terms and conditions.

#### **Infringements**

Concerned breeders/other University scientists will report all matters of infringement/suspected infringement of plant variety rights in their knowledge to the respective CTMU/UTMU /AgIn as appropriate. Concerned CTMU/UTMU will handle the cases reported to them or other apprehended cases either on their own or with the assistance of AgIn. Further legal action, if required will be taken with the approval of competent authority.

## Monitoring and IP/Market Watch

The commercialization of plant variety portfolio will be monitored by UTMU. The relevant developments/matters of concern, etc. will be critically observed and addressed.

## Socio-Economic Impact

UTMU Unit will plan/organize/assign suitable impact assessment studies on socio-economic impact of the commercialized plant varieties/hybrids of University in different crops and regions of the country.

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## CHAPTER-3 INCENTIVES AND BENEFIT SHARING

#### Introduction

To provide greater impetus for research and innovation university will share with its scientists/ innovators monetary benefits from transfer/commercialization of the technologies. University will also reward and confer awards upon its scientists and other staff. This chapter describes the procedure for incentives and benefit sharing.

#### Awards

University will develop a system of recognizing the achievements of its meritorious scientists through annual conferment of awards. It will review and expand the scope of its awards and institute new awards, including monetary rewards, so that (i) innovation is stimulated (ii) basic sciencefrontiers are furthered, and (iii) research inneglected crops and underprivileged areas is encouraged.

## Benefit Sharing

Monetary and Non-Monetary Benefits. University will realize monetary and non-monetary share of benefits from the licensee(s) of its technologies in the following ways, subject to the licence agreement,

- upfront lump sum payment, (i)
- upfront payment plus royalty on actual sale, (ii)
- royalty on actual sale, (iii)
- in-licensing/cross licensing of tools of technology generation in frontierareas, (iv) -
- research capacity building, (v)
- research chair, (vi)
- research fellowship etc. (vii)

Scientists and Staff; University will share the income resulting from commercialization of an IP with individual(s) responsible for the innovation. The amount to be distributed/ shared will be the accruals after deduction of statutory applicable taxes and the amount retained by university for augmenting IP management. The payment will be treated as bonus income of the individual and shall be taxable under the Income Tax Act.

Colleges: University will share part of the net revenue/benefit money resulting from commercialization with the concerned college(s).

University. University will retain part of the income resulting from commercialization at the headquarters. It will provide these funds to the UTMU for improved management of IP and technology commercialization.

Staff Welfare. A share of the monetary benefit will be earmarked for staff welfare and will beplaced with the Staff Welfare Fund of university.

## Sharing of Net Revenue

The net revenue available for sharing between various stakeholders will be determined as follows.

Stakeholdercategory	Commercialization through Agrinnovate India Limited	Commercialization direct
Revenue net of Taxes	A	A
University	20% of A	20% of A
AgIn IndiaLimited	20% of A	<u> </u>
UTMU	15% of A	35% of A
	40% of A	40% of A
Innovator & Team	5 % of A	5 % of A
University (Staffwelfare)	5 70 0171	

The revenue received by university will be used in addition to budgetary support towards cost of seeking patent/IPR protection, including the cost of outsourcing for expert assistance, if any, cost of filing, etc., cost of maintenance of patent/IPR; cost of licensing; overhead costs; taxes, other than service tax; reimbursements as may be necessary or required by law, and other costs, if any.

Allocation of Scientists' Shares. The 40 per cent share of the net revenue will be shared among the concerned scientist (s) and other team members based on mutual agreement. In case of any disagreement, the decision of the Vice chancellor will be final. The monetary benefits accrued by the individual scientist/innovator/staff through these guidelines or through the professional service activities will be accounted for in each financial year as the total benefit sharing income of the concerned individual scientist/innovator/staff. Payable by Individuals. The benefit money received by a scientist or other team/ staff member will be governed by Income Tax Rules and the disbursing institutions will deduct Income Tax at source as per the prevailing rates.

Allocation university Share. The UTMU with the approval of competent authority will decide regarding further utilization of the benefit money earmarked.

(Rachna Varma

(Mukesh Kumar)

(Satya Prakash)

(Gopal Singh)

(Anil Sirohi)

#### Annexure-1

## Check-List for Invention/IP Disclosure (Confidential)

(To be submitted by PIs/Inventors/Innovators to CTMU as Confidential Information) (Note: Select information from this check-list may also be furnished as technology disclosure to the interested commercial entities who shall sign a confidentialityagreement with University)

#### File No. \_

- 1. Title of invention. The title should describe what the invention does but not how it is made or how it works.
- 2. Patent/IP search report. A report of the Patent Search carried out in common, free patent search engines for granted patents in USA (USPTO web site; http://www.uspto.gov/), Europe/World (EPO web site; http://www.espacenet.com/), etc., including the PCT Applications (WO).
- i. Search Terms. A short list of words, phases and/or categories should be provided that may help in making internet searches related to the invention/innovation.
- 3. Brief overview of the invention (3 to 4 paragraphs).
- i. Provide a short, general overview of the invention including what it does in such a manner that a lay person would understand.
- ii. What is the purpose of invention e.g. what problems does it solve?
- iii. Is it a new product, process or composition of matter or is it an improvement over an existing product, process or composition of matter?
- iv. What are the features and benefit of the invention?
- 4. Technical description, details and supporting data. Provide results, data or other indicative evidence that may explain how the invention works. Attach any papers or visual material that may be already available, whether published or unpublished.
- 5. Prior Methods, apparatus, developments and publications.
- i. Provide description of the closest known methods/processes or apparatus/substances in existence along with disadvantages or problems of each of these methods/processes/ apparatus/substances that are solved by the application of the present invention.
- ii. Disclosure could also be an oral, written or electronic dissemination of the invention to a person outside the university that may enable someone working in the field to practice the invention or repeat its development. However, any communication with colleagues and students within the university community do not count as disclosers unless they have already used that communication for any public disclosure or publication, etc. It is important to disclose any such occurrences to the CTMU for helping to arrive at best course of further action. Such disclosure may have to be made by the concerned institution to the enterprises/companies towards commercialization of the technology. In such cases, CTMU must sign a declaration of field worthiness of the technology at theend of the disclosure document.
- iii. Cite publications and patents, whether own or those of any one else, that may disclose the ideas/events/products closely related to the invention, e.g. most similar variety(ies) in case of PVP. (Attach all relevant papers, patents, advertisements etc. if available).
- 6. Stage of development (2-3 paragraphs). Describe the development status (whether it is at 'concept only' stage or it is already 'laboratory tested', or 'prototype', etc.). Also briefly indicate what further development would be necessary to commercialize it.
- 7. Potential licensees. Mention enterprises/companies that you think could benefit from the use this invention for commercial purposes.
- 8. Publications/presentations/other forms of public communication. Identify past and future seminars, talks, abstracts, publications and web postings that would be describing the invention.

Type of disclosure (Publications, Seminar, etc)	Dates (s)
·	

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9. Dates of conception and reduction to practice. Describe the circumstances and dates surrounding development of the invention. The dates must be well documented so that any challenge to patent, if ever, shall be met. In this context, conception is the formulation in the mind of the PI/inventors of the ultimate working invention. Reduction to practice can be accomplished either actually or constructively.

Is the date for the following documented in writing? If so, where?	in	Date
Conception of invention		
First reduction to practice		

10. Sponsorships. Mention/identify all grants, contracts and other sources of funds contributing to research that led to the invention.

Agency or sponsor	Grant/contract	File No. /Subject	

These types of disclosures may affect the scope of patent protection and the timing offiling and, therefore, must be thoroughly shared to arrive at best-fit judgment viewpoint.

'Actual reduction to practice' is the physical creation of the invention whereas constructive reduction to practice' is a detailed written description that demonstrates the invention will work as conceived.

List all agencies that you would acknowledge in a publication. Be liberal in the interpretation on your part to help arrive at suitable conclusions at the institution level.

## 11. Other agreements and interactions.

- Mention/Identify any agreements or interactions that have been/may have been entered into, which relate/could relate to the invention and might grant rights to an enterprise/ company/ any other party outside the University.
- ii. Provide the details of MTA entered into or other agreement/consent details if the invention is based on any material(s) obtained from another institution/organization/company.
- iii. Did you transfer to any researcher outside of your institution any new materials (DNA, peptides, cell lines, vectors, catalysts, alloys, etc.) related to the invention? Provide the details.
- iv. Is there any other group, lab or researcher in the institution or in any other institution of University or outside University using your invention in their research programme? If so provide the details.
- 12. Inventors. Provide list of all those individuals who helped/contributed to the conception of the ultimate working invention. The people you include ultimately may or may not be legal inventors, Please place an asterisk (') next to the name of the inventor to whom correspondence should be sent. If any person holds a sole or joint appointment with any other university, company or government agency, please note that fact.

Name of	Whether	Name of any other	Name &	Name & Signatures
helping/	recognizing	institution/	Signatures	along with Date, of
contributing	as Inventor	university/organization/	along with	the Unit/Division
individual	or Not	company to which	Date, of the	Heads of the
	(Yes/No)	affiliated (also affiliated)	Inventors	Inventors

13. Declaration of Field Worthiness of Technologies/ Products/ Substances/ Processes.

Where needed, Director of concerned CTMU institution shall sign the declaration, stating that the technology/ product/substance/process is field worthy for the purpose of obtaining IPR and for commercial use.

These may include MTAs, research sponsorship agreements, collaborative research agreements (e.g. for consortia, networks, etc.), agreements for consultancy, outsourcing, etc.). Information on field worthiness shall be provided by the PI/inventor (s) and recommended by the concerned CTMU and the declaration will be signed by the Director.

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## TECHNOLOGY DISCLOSURE FORM (Confidential)

(To be submitted to AgIn for commercialization of Technology)
Technology Number: (To be provided by AgIn)

Name of Technology:

Name of the College:

Ownership of the technology:

## Section 1: Contact Information

- Contact details:
- Name:
- Title:
- Telephone:
- Mobile Phone:
- Email:

## Section 2: Technical Description

- 1. Problem Description: Please explain the problem / situation that this innovation was created to solve or address. (Please limit your problem description to 70 words or less.)
- 2. Solution Description: Please explain (in simple terms) how this innovation addresses or solves the problem.

## Section 3: Intellectual Property Status

Has this innovation been granted any patents?

## Section 4: Additional Information

- 1. What is the total cost (including manpower, equipment and all other resources) required to complete this innovation?
- 2. Has this technology/ innovation being commercialized by the institute? (Yes/No)
- 3. If Yes, please attach the signed agreement
- 4. If No, please elaborate on the tentative nature of the license to be granted by the institute for this commercial purpose.
  - a. Nature of License: Exclusive/non-exclusive
  - b. Duration of the License:
  - c. Licensee fee:
  - d. Royalty:
  - e. Licensed territory: India/other countries
  - f. Raw material to be transferred. If any
  - g. Cost to be charged to raw material. If any
  - h. Time line to transfer the raw material
  - i. Handholding and training support required
  - Cost for handholding and training
  - k. Any other specific requirements

## Section 5: Certifications and Approvals

It is certified that the above information about the Technology Nominated for Transfer of Technology is correct and no Security Sensitive/ Confidential and Proprietary information has been provided.

Competent Authority

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REGISTRAR S.V.B.P.U.A.&T., MEERUT

## TECHNOLOGY EVALUATION

The expert committee must deliberate the following and arrive at the final decision of Evaluation in the following areas.

~	didation in the following areas.		
$\perp$	Technical Attributes (30%)	Weightage	Committee
1	Innovative technology (Innovation level)	6	
2	Technical compatibility (new Systems modifications/small modifications/ nomodification)	2	
3	Ease to implement/work	$\frac{1}{2}$	<del>+</del>
4	Process advantage	2	<del>                                     </del>
5	Developmental maturity (theoretical/lab scale/bench scale/pilot scale/ full scale)	5	<del> </del>
6	Technology benefits (to end user)	2	<del> </del>
7	Future scope for improvement / next level	3	<del>  _</del>
8	Technical expertise availability	4	<del> </del>
9	Technology Readiness Level	4	<del>                                     </del>
	Subtotal	30	<del> </del>
10			<del> </del>
11		10	<del></del>
12		8	<del></del>
13		7	<del>-</del>
14	time to reach market	8	<del></del>
15		5	
16	Competitor entry barriers	3	
17	Cost advantage	5	
18	Geographical market reach	4	<del></del>
19	Regulatory Acceptability	6	
20	Public Perception	4	
	Subtotal	60	——— <u> </u>
	Social attributes (10%)	<del></del>	
	Benefit farmers (directly/indirectly)	3	
	Create job opportunities	2	
$\rightarrow$	Impact society	2	
-	Health benefits	2	
<del></del>	Social recognition		
	Subtotal	10	
	Grand Total	100	<del></del>
			ľ

- Pl. Give score for each tech 1, 2, 3....10...n
- Scores (Nil-0, Low-1-4, Neutral-5, Medium-6-8, High 9,10)
- Technology whose average is above 55 will be taken up for commercialization.
- Expected roles and responsibilities of CTMU AgIn & Clint shall also decideby this committee.

Johns Haby

# TENTATIVE STANDARD TERMS TEMPLATE

- 1. Background of the technology
  - a. Why does the problem exist and who is impacted by the problem?
  - b. How does the technology solve the problem?
  - c. Is the technology/product is tested either against other technologies and products, or against standards and specifications?
- Territory/Territory restrictions:
- Licence fee and Duration:
- 4. Degree of Exclusivity:
- 5. General indemnity:
- Compliance/legal/statutory clearance required:
- 7. Branding:
- 8. Any other important terms & conditions:

Lee (1902)

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## CONFIDENTIALITY AGREEMENTS

(There is no set formula or a 'one-size-fits-all' situation for Confidentiality Agreements1. Such agreements may be entered into in various shapes and sizes, from the short and simple to the long and legalistic. For example, a simple undertaking duly signed by all concerned members may be sufficient for internal use of a Committee. On the other hand, the confidentiality agreement for transfer of IP/know-how has to be elaborate. The following example illustrates the types of clauses that may be incorporated in these agreements. Nevertheless, it is merely an example and one may have to consider the particular circumstances in which any confidentiality agreement is to be reached.)

## Confidential Disclosure Agreement Signed on [Date]

#### Between

Sardar Vallabhbhai Patel University of Agriculture & Technology as the FirstParty

#### And

# [Organization/Company name and address] as the Second Party

- 1. On the understanding that both parties are interested in meeting to consider possible collaboration in developments arising from SVPUAT intellectual property it is agreed that all information, whether oral, written or otherwise, that is supplied in the course or as a result of the said meeting shall be treated as confidential by the receiving (Second) party.
- 2. The receiving (Second) party undertakes not to use the information for any purpose, other than for the purpose of considering the said collaboration, without obtaining the written agreement of the disclosing (First) party.
- 3. This Agreement applies to both technical information and know-how communicated by either party.
- 4. This Agreement does not apply to any information in the public domain. [If appropriate, the relevant public domain information can be listed as annexure to this agreement].
- 5. Either party to this Agreement shall on request from the other party return any documents or items connected with the disclosure and shall not retain any unauthorized copies or likenesses.
- 6. By this Agreement, or the communication of information by SVPUAT referred to in paragraph, the Second Party is not entitled to any license or right or interestin respect of any Intellectual Property Rights of the disclosing party SVPUAT.
- 7. After [number of] years from the date hereof each party shall review or be relieved of all obligations under this Agreement.

Signatures [Authorized SVPUAT]For SVPUAT	Signatory	of	Signatures [Representative (Authorized Signatory) of the Organization/Company]
Dated	-		For [Name of Organization/Company]  Dated

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# Office of the Dean, College of Post Graduate Studies Sardar Vallabhbhai Patel University of Agricultural & Technology Meerut- 250 110, UP, India

Prof. Samsher Dean PGS

No.SVP/PGS/-2/302- /2022 Dated: 14-2-2022

## OFFICE - ORDER

As per approval of competent authority, the following committee has been constituted under NAAC for Internal Quality Assurance Cell (IQAC) for further necessary action. The IQAC shall be responsible for planning, guiding and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the university. It will also channelize and systematize the efforts and measures of the University towards academic excellence.

1 Hood of the Indiana / Hauth vr.	in a <u>li</u> care il colt
Head of the Institution / Hon'ble Vice-Chancellor     Dean PGS	Chairperson
그는 그는 사용적으로 있다면 중에 되고 있는 그는 그는 전문에 되었다고 한 사용을 하는 것은 그를 되었다. 그는 그를 받아 이번 점점을 하는 것 같다.	Member
3. Dean, Agriculture	Member
4. Dean, Biotechnology	Member
5. Dean, COVAS	Member
6. Dean, Horticulture	Member
7. Dean, PHT&FP	Member
8. Dean, Technology	Member
9. Dean Student Welfare	Member
10. Director Experiment Station	Member
11. Director Extension	Member
12. Director Administration & Monitoring	Member
13. Director, Training & Placement	Member
14. Registrar	Member
15. Controller Examination	Member
16 OIC, Central Library	Member
17. Dr. U. P. Shahi, Associate Professor	Member
18. Dr. Harshit Verma, Assistant Professor	Member
19. Sh. Manohar Singh (Member, BOM)	Member
20. Dr. S. K. Garg (Ex-Vice-Chancellor)	Member
21. Dr. A. P. Garg (Ex-Vice-Chancellor)	Member
22. Dr. Pitam Chandra (Ex-ADG)	Member
23. Dr. Umesh Srivastava (Ex-ADG)	
24. Dr. Anil Sirohi, Professor (MBGE), COB	Member
	Coordinator / Director IQAC
	(Member Secretary)
医碘化二醇硷化二醇化合物 化氯乙烯二醇二甲基乙醇	
	14/02/2022
	(Prof. Samsher)
	( TAOLO SINSHEL)

## Copy to:

- 1- Director Administration & Monitoring for information.
- 2- Registrar for information.
- 3- PA to Hon'ble Vice-Chancellor for his kind information please.

