SELF STUDY REPORT

Degree Programme in Agriculture

AGRICULTURE UNIVERSITY

KOTA (RAJASTHAN)

SELF STUDY REPORT
FOR
ACCREDITATION OF DEGREE PROGRAMMES IN AGRICULTURE

B.Sc. (Hons.) Agriculture
M.Sc. (Agri.) Agronomy
M.Sc. (Agri.) Soil Science
M.Sc. (Agri.) Plant Pathology
M.Sc. (Agri.) Genetics and Plant Breeding
M.Sc. (Agri.) Agricultural Extension Education
Ph.D. Agronomy
Ph.D. Genetics & Plant Breeding

Submitted to

National Agricultural Education Accreditation Board
(Indian Council of Agricultural Research, New Delhi)

Submitted by

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA
AGRICULTURE UNIVERSITY, KOTA (RAJ.)

COLLEGE OF AGRICULTURE

Ummedganj-Kota (Raj.)-324001

Dr. M. C. Jain
Dean

PREFACE

It is my privilege to present this self-study report (SSR) for accreditation of the various degree offering by College of Agriculture Ummedganj Kota. This exercise has provided us an opportunity to review and analyze the institutional progress in the last five years and strengthened us in our quest for quality. Agricultural education is now a dynamic process with fast changing national and international scenario. It is about much more than employability and includes developing different perspectives and ultimately generating world class human resource. I am glad to affirm that College of Agriculture, Ummedganj -Kota is prominently concerned with this prime endeavor of Agricultural education since its inception in 2018. The College is contributing in all the three mandates: Education, Research and Extension with a culture of hard work and innovations for imparting quality agricultural education, conducting hi-tech research and carry out transfer of technologies efficiently by virtue of best infrastructure and equipment which has been instrumental in creating the awesome credibility. Further we need to take our commitment forward through introducing newer and higher avenues for the budding agriculture students.

The College has started B.Sc. (Hons.) Ag. and PG programmes in different disciplines including Agronomy, Genetics & Plant Breeding, Plant Pathology, Soil Science since inception and Agricultural Extension Education from 2019. The students in these programmes are admitted through State Level Joint Entrance Test. The first batch of UG programme has passed out in the year 2022 and passed out students have joined jobs in Government and private institutions and also perusing higher education. Hence, the present report is submitted with all the necessary information of the activities performed during last five years.

The preparation of SSR is not a single men's effort, rather a team effort and it is happy journey towards the desired destination. I am very grateful to the worthy Vice-Chancellor and Registrar for providing their valuable guidance. Last but not the least I wish thanks to all those who directly or indirectly supported me in preparing the self-study reports. We are eagerly looking forward to welcome the ICAR Peer Review Team and hope they will applaud us for our efforts. With thanks and greetings

Place : Kota, Rajasthan
Date : **23.05.2023**

Dean
College of Agriculture, Ummedganj,-Kota

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SELF STUDY REPORT

B.Sc. (Hons.) Agriculture

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1. Brief History of the Degree Programme

The B.Sc. (Hons.) Agriculture degree programme was started in College of Agriculture, Ummedganj-Kota since its inception from academic session 2018-19 with intake of 60 seats through State Level Joint Entrance Test.

The recommendations of the ICAR-Fifth Deans Committee were adopted for B.Sc. (Hons.) Agriculture from academic session 2018-19 with total credit load of 181 across eight semesters. The first six semesters have different courses and last two semesters are exclusively marked for Student READY Programme. Under this Programme, in VII semester the students are offered 20 credit hours for Rural Agricultural Work Experiences and Agro-Industrial Attachment and during VIII semester students has to undergo two Experiential Learning programme each of 10 credits and 10 weeks duration. First batche consisting of 54 students have successfully passed out the bachelor degree programme during academic session 2021-22 and many of them are pursuing higher education. The campus is spread over an area of 39.75 hectares including instructional farm, play grounds, hostels and other units of the college.

Goals and Objectives

Goals

The goal to start Under Graduate Agriculture Educational programme is to the create manpower for diverse field of agriculture with high knowledge and competence by imparting practical knowledge through hands on training.

Objectives

- To impart value-based scientific and technical education to the students in agriculture.
- To develop competent entrepreneurial skills among students enabling them to become job providers instead of job seekers.
- To deliver industrial skill through experiential learning for Agro-industries.

Accomplishments

Foundation batch of UG programme of the college has been passed out in academic year 2021-22. The passed-out students are pursuing PG programmes in various institutes/ universities throughout the nation and several students have been selected in various public and private sectors in the field of agriculture.

Student Passed-out from 1st Batch (2018-2022)

S. No.	Degree Programme	Students Enrolled	Passed out Students	Accomplishment
1.	B.Sc. (Hons.) Ag.	60	54	Govt. job -06 Job in private sector-01 Entrepreneur-02 Pursuing master degree -23

Student Selected for Higher Education Through ICAR-AIEEA (PG) from Foundation Batch

S. No.	Name of Students	AIR	JRF/Non-JRF	Subjects	SAUs/Institute
1.	Rounak Kumar	2	JRF	Agricultural Statistics	Indian Agricultural Statistics Research Institute, New Delhi
2.	Bharti	30 (OBC)	JRF	Physical Science	Rani Laxmibai Central Agricultural University, Jhansi
3.	Ajay Pratap Singh Choudhary	77 (OBC)	Non-JRF	Agronomy	
4.	Nisha Nehra	107 (OBC)	Non-JRF	Plant Science	SKNAU, Jobner
5.	Rahul Nodal	138 (OBC)	Non-JRF	Agronomy	Rajendra Prasad Central Agricultural University, Bihar
6.	Kiran Yadav	140 (OBC)	Non-JRF	Nematology	Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu
7.	Tushar Lata	147	Non-JRF	Physical Science	
8.	Rahul Dangi	271	Non-JRF	Agriculture Extension Education	

Orientation of Foundation Batch

Degree Recipients of Foundation Batch

6.4.2 Faculty Strength

S. No.	Cadre	Sanctioned Faculty	Faculty in Place	Vacant Position**	Faculty Recommended by ICAR
1.	Dean	01	01	-	01
2.	Professor	02	03*	02	03
3.	Associate Professor	07	2+19*	05	08
4.	Assistant Professor	19	05+19*	14	17
	Total	**29**	**08+41***	**21**	**29**

* Research Scientists are engaged in teaching at this college.

**Recruitment on vacant positions is in process.

6.4.3 Technical & Supporting Staff (Non-Teaching)

S. No.	Designation	Sanctioned Strength	Staff in Place		Vacant Positions**	Faculty Recommended by ICAR
			COA	Research		
1.	Assistant Librarian	1	0	0	1	Total of all cadre 43
2.	TA/Farm Manager	1	0	7	1	
3.	Agriculture Supervisor	2	1	5	1	
4.	PA	1	1*	0	1	
5.	Section Officer	1	1*	0	1	
6.	UDC	1	1*	0	1	
7.	LDC	3	1+2*	0	2	
8.	Driver	1	0	0	1	
9.	Pump Operator	1	1*	0	1	
10.	Lab. Assistant	5	1+2*	0	4	
11.	Lab Technician	1	1	0	0	
12.	Library Assistant	1	1*	0	1	
13.	Care Taker/Matron	1	1	0	0	
14.	Peon	4	1+3*	1	3	
	Total	**24**	**6+12***	**13**	**18**	

* Working on contractual basis
**Recruitment on vacant positions is in process.

6.4.4 Classrooms and Laboratories

Classrooms

The college having 03 well equipped smart class rooms with seating capacity of 70 students in each. The education involves the use of latest ICT technologies (multimedia and LCD projectors, white boards, digital podium, audio podium and CCTV cameras etc.) for enabling interactive and participatory learning of the students and monitoring at central level.

Interactive Smart Classrooms

Laboratories

The college has well equipped laboratories pertaining to different subjects viz., Agronomy, Soil Science, Plant Pathology, Entomology, Genetics and Plant Breeding, Horticulture, Extension Education and Central Laboratory. Laboratories are well equipped with different types of tools/ equipments/implements/apparatus for conducting experiments as the requirement of course curricula. Sufficient Equipments and chemicals are available in the laboratories to meet out the practical requirement of B.Sc. (Hons.) Ag. programme as per ICAR guidelines.

Department Wise Laboratories

Laboratory	Major Equipments/Instruments
Central Laboratory	Gel-electrophoresis (01), Hot Air Oven (01), Centrifuge (01), Hot water bath (01), Ice-Flaker (01), Soxhlet Apparatus (01), Digital Balance (01), pH meter (01), Spectro photometer (01), Clevenger Apparatus (01), Seed germinator (01), BOD incubator (01), Plant growth chamber (01), Moisture meter (01).
Agronomy	Hot air Oven (01), Digital pocket refractometer (01), Tensiometer standard (01), Soil Moisture Indicator (01), Orbital shaker with lotus clamp (01), Digital P^H meter (01), Digital Conductivity meter with cell (01), Digital Balance (01), Mixer Grinder (01), Magnetic Stirrer with hot plate (01), Sprayer machine PVC (01), Spade with handle and Tagari (15 set), Khurpi and Darati (10 set), Hand Hoe (02), Measuring tape 50 meter (01), Kudali and rake (10).
Horticulture	Basket press juicer (01), Garden tool kit (20), Digital Pocket refractometer (01), Digital Laboratory balance 300g (01), Digital vernier calliper (01), Juicer/mixer/grinder machine (01), Lopping shears/ Hedge shears/ Pruning saw (1each), LPG connection with stove (01), Secateurs (25), Top pan balance capacity 30 kg (01), Transplanting trowel (15), Tree Pruner (02), Watering cans (05), Garden rakes (05), Hand sealer polythine packing machine (01), Knapsack sprayer (01), Digital penetrometer (01), Refrigerator (01), microwave oven (01), Brush cutter (01).
Plant Pathology	Student Microscope (25), Trinocular compound microscope (01), Stereozoom microscope (01), Hot Air Oven (01), Laminar Air Flow Cabinet (01), BOD incubator (01), Incubator shaker (01), Autoclave vertical (Big) (01), PH Meter (01), Precision balance (01), Refrigerator (03), Induction Stove (01), Mixer Grinder (01), Centrifuge (01).
Soil Science and Agriculture Chemistry	Digital electronic balance (03), pH meter (02), Electrical Conductivity meter (EC) (02), Flam Photometer (02), Hot air oven (02), UV-Vis Spectrophotometer (02), Orbital Shaker Incubator (01), Nitrogen analyzer (01), Ion analyser (01), Refrigerator (01), Microwave oven (01), B.D. Apparatus (01), Shaker Horizontal (02), Heating Mantle (02), Hot plate (01), Distillation Assembly (02), Atomic Absorption Spectrophotometer (AAS) with accessories (01), Mixer Grinder / Heat convector (01), Computer with Printer (2+2), Lab RO with DM (8 LPH) (01).

Laboratory	Major Equipments/Instruments
Extension Education and Communication	LCD projector (01), Camera (SLR) with zoom, wide-angle, tele-photo lens (01), Computers (workstation) with editing software (01), Video camera with tripod, lighting accessories and editing facility (01), Digital voice recorders (05), Audio recording-mixing consoles (01), Computation software for statistics (01).
Genetics and Plant Breeding	Seed Analyzer (01), Seed Germinator (01), Top pan balance capacity 10 kg. (01), Spring balance capacity 20 kg (01), Electric weighing machines 5-20 kg (03), Digital Vernier caliper (01), Binocular Research Microscope (04), Digital Bricks Meter (01), Laboratory oven (01), Bagging Machine (01), AC godown with modern seed storage facilities (01), Automatic Seed Processing Unit (01), Seed Cabinet (01), Refrigerator (01), Cane juice Extractor (01), Moisture meter (01).
Entomology	Insect Stretching Board (Adjustable) (18), Insect Collecting Net with Iron Handle (20), Insect Dissecting Kit (02), Insect Dissecting Tray (03), Insect Display Showcase (05), Insect Storage Box Wooden (80), Insect Display Showcase wooden (06), Insect Storage Box Wooden (06), Laboratory weighing Balance (01), Compound Microscope (01), Laboratory Stools (10), Knife (02), Hive Tool (04), Smoker (02), Insect Killing Jar (41), Bee Well (06), Pollan Trap (02), Queen Gate (11), Queen Cage (11), Feeder (02), Mini Super (01), Queen Excluder (01).

Farm Facilities

The college instructional farm is having total area of 39.75 ha out of which 30.0 ha is under cultivation. It has irrigation facilities, various farm implements and machineries including tractor with trolley, seed drill, harrow, rotavator, cultivator, submersible pump, centrifugal water pump, tube well, irrigation pipes, water tanker, power sprayer, bund former etc. These implements are helpful in smooth functioning and development of instructional farm for students experiments, research, orchard development and seed production purpose.

Average Number of Students in Theory and Practical Batches

Degree	Academic Year	Theory Batch	Practical Batch	
			A	B
B.Sc. (Hons.) Agriculture	2018-19	60	30	30
	2019-20	66	33	33
	2020-21	66	33	33
	2021-22	66	33	33
	2022-23	65	33	32

6.4.5. Conduct of Practical and Hands-On Training

With a view to realize the student's applicability of the concepts of theory, practical classes are conducted. To acquire essential skills, understand the process of scientific investigation and to probe the deeper layers of scientific concepts, students are engaged in practical sessions. Students are taught both basic and applied techniques to meet the demands of the Agriculture profession.

With this objective, practical classes are conducted both in laboratory and field conditions. Based on the requirements of clear understanding of the concepts, students are guided to conduct objective based practical classes. Students are grouped into 4-5 members for a clear monitoring and experience in the practical classes. Each group will exercise the experiments under the supervision of instructors. Results of the experiments are displayed on the board and discussed before the conclusion is drawn. Methods and aims of conducting practical classes can be summed up as follows:

- Groups of 4-5 students are made for easy monitoring and to provide opportunity for close observations.
- Each group is allotted with a specific topic to conduct experiment and record the observations.
- Course teacher instructs each batch and closely monitors progress.
- Exposure visits to well established laboratories/fields are also organized.
- Field visits to breeding blocks, progressive farmers, research institutes, agriculture universities, etc. are conducted for further exposure.
- Hands on training on propagation techniques (grafting, budding, layering and cuttings etc.) are demonstrated and made to practice.
- Individual student is encouraged to collect and present insect and disease specimen.
- Hands on training on handling of laboratory equipments, learning methods for estimation of nutrients, soil and plant elements, growth regulators etc. are held.
- Practical participation of each student is evaluated on the basis of their method of conducting experiments and ability to interpret the results.



Practical



Hands on Training

Student READY Programme

The Student READY Programme is being conducted to reorient graduates of agriculture for ensuring and assuring employability and develop entrepreneur for emerging knowledge intensive Agriculture. The major components are Experiential Learning, Rural Agriculture Work Experience, In-Plant Training/ Industrial Attachment and Students Projects. The Student READY Programme is offered in last two semesters of the four-year degree programme. The detail of Student READY programme is as under:

S. No.	Components	Semester	Activities Undertaken	Duration	Credit
1.	Rural Awareness Works Experience (RAWE) and Agro-Industrial Attachment (AIA)	VII	General orientation & On campus training by different faculties	1 week	0+20
			Village attachment/ Unit attachment in KVK	13 weeks	
			Plant clinic	2 weeks	
			Agro-Industrial Attachment	3 weeks	
			Project report preparation, presentation and evaluation	1 week	
2.	Experiential Learning Programme (ELP)	VIII	Experiential Learning Module I	10 weeks	(0+10)
			Experiential Learning Module II	10 weeks	(0+10)

RAWE Work Through KVK

Agro- Industrial Attachment

The students would be attached with the agro-industries for a period of 03 weeks to get an experience of the industrial environment and working.

Agro Industrial Attachment

Details of Experiential Learning Units Established & Functional at the College for Student READY Programme

S.No.	Name of EL Unit	Year Wise No. of Students Allotted			
		2021-22		2022-23	
		EL-I	EL-II	EL-I	EL-II
1.	Production Technology for Bioagents & Biofertilizer	12	12	11	09
2.	Organic Production Technology	13	17	11	12
3.	Seed Production Technology	10	10	12	11
4.	Soil, Plant, Water and Seed Testing	07	09	10	10
5.	Commercial Beekeeping	15	-	12	11
6.	Food Processing	-	07	10	13
	Total	57	55	66	66

Soil, Plant, Water and Seed testing

Commercial Beekeeping

Production Technology for Bioagents & Biofertilizer

Food Processing

Seed Production Technology

Organic Production Technology

Educational Tours

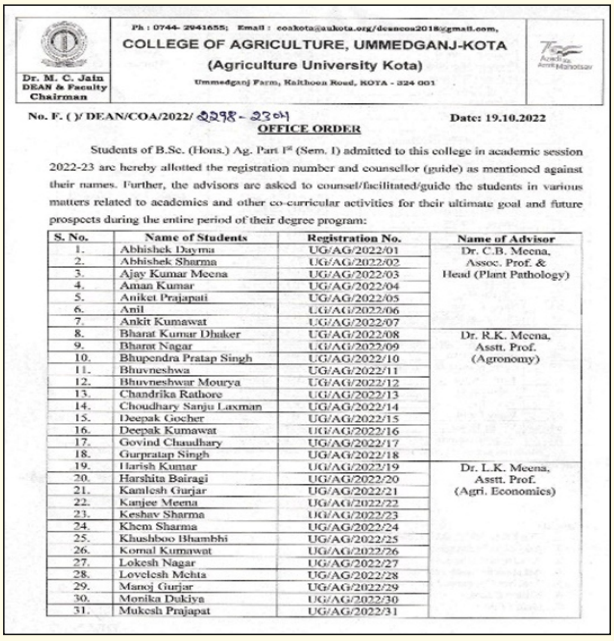
Following educational tours were conducted for the B.Sc. (Hons.) Ag. final year students to expose them for various research and developmental activities carried out at different institutions of state and country for better understanding as per details given below

S. No.	Duration	Places Visited	No. of Students Participated
1.	23-26 March, 2022	NRCSS Ajmer, CIAH Bikaner, CAZRI & AFRI Jodhpur etc.	52
2.	29 March-04 April, 2023	Various Institutes of Rajasthan, Haryana, Punjab, Chandigarh, Himachal Pradesh etc.	50


Glimpses of Educational Tour

6.4.6. Supervision of Students in UG Programmes

In UG degree programme, there is provision of faculty advisory for students. Each student is allotted a teacher for whole degree programme who advices, guides and counsels in various academic and curricular activities. For every 5-8 students, there is one teacher who acts as an advisor.



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COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA
(Agriculture University Kota)
Ummedganj Farm, Kaithoon Road, KOTA - 324 001

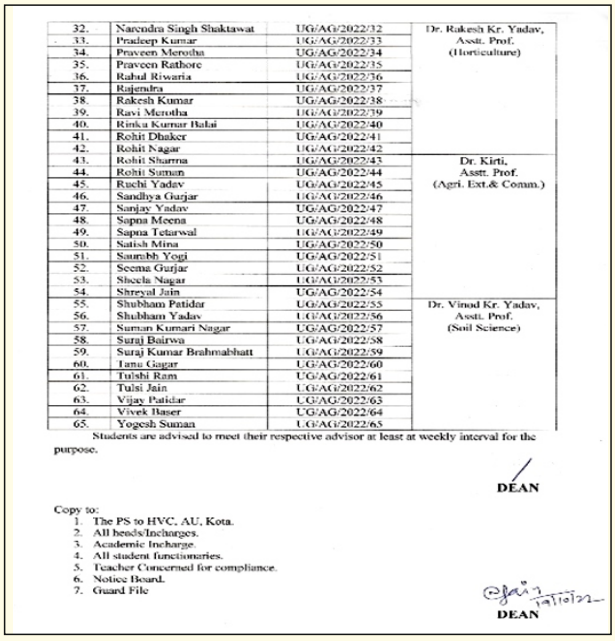
Dr. M. C. Jain
DEAN & Faculty Chairman

No. F. ( )/ DEAN/COA/2022/ ४२१६ - २३०५ Date: 19.10.2022

OFFICE ORDER

Students of B.Sc. (Hons.) Ag. Part I[st] (Sem. I) admitted to this college in academic session 2022-23 are hereby allotted the registration number and counsellor (guide) as mentioned against their names. Further, the advisors are asked to counsel/facilitated/guide the students in various matters related to academics and other co-curricular activities for their ultimate goal and future prospects during the entire period of their degree program:

S. No.	Name of Students	Registration No.	Name of Advisor
1.	Abhishek Dayma	UG/AG/2022/01	Dr. C.B. Meena, Assoc. Prof. & Head (Plant Pathology)
2.	Abhishek Sharma	UG/AG/2022/02	
3.	Ajay Kumar Meena	UG/AG/2022/03	
4.	Aman Kumar	UG/AG/2022/04	
5.	Aniket Prajapati	UG/AG/2022/05	
6.	Anil	UG/AG/2022/06	
7.	Ankit Kumawat	UG/AG/2022/07	
8.	Bharat Kumar Dhaker	UG/AG/2022/08	Dr. R.K. Meena, Asstt. Prof. (Agronomy)
9.	Bharat Nagar	UG/AG/2022/09	
10.	Bhupendra Pratap Singh	UG/AG/2022/10	
11.	Bhuvneshwa	UG/AG/2022/11	
12.	Bhuvneshwar Mourya	UG/AG/2022/12	
13.	Chandrika Rathore	UG/AG/2022/13	
14.	Choudhary Sanju Laxman	UG/AG/2022/14	
15.	Deepak Gocher	UG/AG/2022/15	
16.	Deepak Kumawat	UG/AG/2022/16	
17.	Govind Chaudhary	UG/AG/2022/17	
18.	Gurpratap Singh	UG/AG/2022/18	
19.	Harish Kumar	UG/AG/2022/19	Dr. L.K. Meena, Asstt. Prof. (Agri. Economics)
20.	Harshita Bairagi	UG/AG/2022/20	
21.	Kamlesh Gurjar	UG/AG/2022/21	
22.	Kanjee Meena	UG/AG/2022/22	
23.	Keshav Sharma	UG/AG/2022/23	
24.	Khem Sharma	UG/AG/2022/24	
25.	Khushboo Bhambhi	UG/AG/2022/25	
26.	Komal Kumawat	UG/AG/2022/26	
27.	Lokesh Nagar	UG/AG/2022/27	
28.	Lovelesh Mehta	UG/AG/2022/28	
29.	Manoj Gurjar	UG/AG/2022/29	
30.	Monika Dukiya	UG/AG/2022/30	
31.	Mukesh Prajapat	UG/AG/2022/31	



32.	Narendra Singh Shaktawat	UG/AG/2022/32	Dr. Rakesh Kr. Yadav, Asstt. Prof. (Horticulture)
33.	Pradeep Kumar	UG/AG/2022/33	
34.	Praveen Menoha	UG/AG/2022/34	
35.	Praveen Rathore	UG/AG/2022/35	
36.	Rahul Riwaria	UG/AG/2022/36	
37.	Rajendra	UG/AG/2022/37	
38.	Rakesh Kumar	UG/AG/2022/38	
39.	Ravi Menotha	UG/AG/2022/39	
40.	Rinku Kumar Balai	UG/AG/2022/40	
41.	Rohit Dhaker	UG/AG/2022/41	
42.	Rohit Nagar	UG/AG/2022/42	
43.	Rohit Sharma	UG/AG/2022/43	Dr. Kirti, Asstt. Prof. (Agri. Ext.& Comm.)
44.	Rohit Suman	UG/AG/2022/44	
45.	Ruchi Yadav	UG/AG/2022/45	
46.	Sandhya Gurjar	UG/AG/2022/46	
47.	Sanjay Yadav	UG/AG/2022/47	
48.	Sapna Meena	UG/AG/2022/48	
49.	Sapna Tetarwal	UG/AG/2022/49	
50.	Satish Mina	UG/AG/2022/50	
51.	Saurabh Yogi	UG/AG/2022/51	
52.	Seema Gurjar	UG/AG/2022/52	
53.	Shaela Nagar	UG/AG/2022/53	
54.	Shreyal Jain	UG/AG/2022/54	
55.	Shubham Patidar	UG/AG/2022/55	Dr. Vinod Kr. Yadav, Asstt. Prof. (Soil Science)
56.	Shubham Yadav	UG/AG/2022/56	
57.	Suman Kumari Nagar	UG/AG/2022/57	
58.	Suraj Bairwa	UG/AG/2022/58	
59.	Suraj Kumar Brahmabhatt	UG/AG/2022/59	
60.	Tanu Gagar	UG/AG/2022/60	
61.	Tulshi Ram	UG/AG/2022/61	
62.	Tulsi Jain	UG/AG/2022/62	
63.	Vijay Patidar	UG/AG/2022/63	
64.	Vivek Baser	UG/AG/2022/64	
65.	Yogesh Suman	UG/AG/2022/65	

Students are advised to meet their respective advisor at least at weekly interval for the purpose.

DEAN

Copy to:
1. The PS to HVC, AU, Kota.
2. All heads/Incharges.
3. Academic Incharge.
4. All student functionaries.
5. Teacher Concerned for compliance.
6. Notice Board.
7. Guard File

19/10/22
DEAN

6.4.7. Feedback of Stakeholders

- Questionaries circulated among student to collect the feedback.
- Suggestion boxes are fixed at various places in college/hostels.
- Suggestion diary is available in library and hostels
- All teaching faculties and Dean of the college frequently take feedback from the students and take necessary actions to excel the teaching and laboratory work so that students can complete their degree within the stipulated time frame.
- Final year outgoing students of B.Sc. degree programme give their feedback regarding the courses, teaching, laboratory, experiential learning, hands on training and RAWE programmes.
- Students as well as parents are advised to give feedback of complete degree programme.
- Feedback from industries, employers and farmers is also taken from time to time during interaction with Dean, HODs & faculty.

6.4.8. Student Intake and Attrition in B.Sc. (Hons.) Agriculture

Degree Programme	Year	Intake	Admitted	Attrition*	Attrition %
B.Sc. (Hons.) Agriculture	2018-19	60	60	06	10.00
	2019-20	70	70	04	5.71
	2020-21	66	66	06	9.09
	2021-22	66	66	08	12.12
	2022-23	65	65	11	16.92

* Students dropped to join Govt. job and admission through AIEEA-ICAR

6.4.9. ICT Application and Curricula Delivery

The College is having the following ICT based facilities to meet the current requirement of the students regarding the curricula delivery

(A) Common ICT Facility

- Technology-enhanced learning smart class room facility is available in three classrooms that enhances the quality of teaching and learning which is integrated with the digital displays, computer, whiteboards, and other audio/visual components that make lectures easier, engaging, and more interactive.
- Uninterrupted high speed internet connectivity with wi-fi facility is available in the college as well as hostels for providing easy access to online resources on the internet which enhances the exposure of students on different topics and also specifically to students involved in research.
- Two separate seminar halls are equipped with LCD projectors, smart podium, interactive white boards or smart boards, LED TV, which help students to learn their lessons in a smart approach ensures enhanced interactive learning experience that has increased productivity.

- College is having computer lab with good quality internet connected 20 computers and peripherals to offer students with quality education by helping them to understand concepts better, improve their reading and comprehension skills, and achieve academic excellence.

Online Teaching & Examination

- Online lectures are conducted through ZOOM, MS Team, Google Meet, etc.
- Study materials are shared through email, WhatsApp, Internet
- E-courses from ICAR and other sources are put on website for students and teachers.
- Organization of meeting, seminar, meeting of courses committee through online mode.

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information. Further, an online software has also been procured for the students for preparing JRF/SRF/NET/ARS and other competitive examinations of Agriculture and allied subjects.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and students to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Place : Kota, Rajasthan
Date :

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

SELF STUDY REPORT

M.Sc. (Agri.) Agronomy

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1. Brief History of the Degree Programme

The Department of Agronomy was established with inception of college in the year 2018, and since than offering M.Sc. (Agri.) Agronomy with intake of 5 seats through State Level Pre-PG entrance test. In this department significant research achievements have been made in natural resource management, organic farming, conservation agriculture, in-situ rain water management, farming system models, integrated nutrient management, dry land agriculture etc.

Objective

- To generate competent human resource with specialization in Agronomy.
- To carry out need base basic and applied research in Agronomy

Nomenclature of degree programme	M.Sc. (Agri.) Agronomy
Duration of the degree programme	Two years (04 semesters)
Admission procedure	70% seats through State Level Joint Entrance Test
	30% seats through AIEEA conducted by ICAR*
*Presently the degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.	

Accomplishment

Student Achievements- Total 13 students has been passed from Department of Agronomy whose details are as under:

Name of student	Year of Admission	Year of Pass out	Achievements/Present Status
Adarsh Sharma	2018	2020	Pursuing Ph.D. MPUAT, Udaipur
Bharat Lal Meena	2018	2020	Pursuing Ph.D. SKNAU, Jobner
Suman Kantwa	2018	2020	Pursuing Ph.D. SKNAU, Jobner
Suman Dhayal	2018	2020	Pursuing Ph.D. MPUAT, Udaipur Chancellor Medal 2020
Monika Choudhary	2019	2021	Pursuing Ph.D. MPUAT, Udaipur
Bhanu Pratap Ghasil	2019	2021	Pursuing Ph.D. SKNAU, Jobner
Jay Krishn Solanki	2019	2022	Own business
Pukhraj Pingoliya	2019	2022	Private Job
Uditi Dhaker	2020	2022	Pursuing Ph.D. AU, Kota
Shalini Meena	2020	2022	Pursuing Ph.D. AU, Kota
Deepak Parashar	2020	2022	Selected as Agriculture Supervisor
Sanjay Kumar Dhaker	2020	2022	Selected as Technical Assistant, MPUAT, Udaipur
Kamlesh Kumar Jat	2020	2022	Own Business and Preparing for Competitive Exams

Requirement of Degree Programme

A student admitted to a post-graduate programme shall have to successfully complete the following before award of a degree:

- An approved programme of study prepared by his/her advisory committee.
- Synopsis seminar and its approval
- Anti plagiarism certificate
- Pre-thesis seminar
- Submission of thesis and its evaluation report.
- Thesis viva-voce examination.
- Minimum residential requirement- Four Semester
- Minimum OGPA requirement. - 6.5 out of 10 point scale

A student for master's degree programme has require to complete a minimum of 70 credit hours for the degree as detailed below

Title		Approved Course Load (Credit Hours) as per BSMA
Major Courses	:	20 (Including 12 as core courses)
Minor Courses	:	08
Supporting Courses	:	06
Common Courses	:	05
Seminar	:	01
Thesis / Research Credit Hours	:	30
Total	**:**	**70**

Accreditation of Degree Programme

The PG programme is offered for the accreditation to National Agricultural Education Accreditation Board, ICAR, New Delhi.

Academic Programme	Degree Programme	Duration
Post graduate	M.Sc. (Agri.) Agronomy	Two Years (Four Semesters)

Year Aise Admission to Master's Programme in Agronomy

Year of Admission	Intake	Admitted			Dropped			Passed			Year of Degree Awarded
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	05	3	2	5	1*	-	1	2	2	4	2020
2019-20	05	3	2	5	1*	-	-	2	2	4	2021
2020-21	05	3	2	5	-	-	-	3	2	5	2022
2021-22	05	4	1	5	4*	-	-	-	-	-	
2022-23	06	5	1	6	-	-	-	-	-	-	

* Student got admission through ICAR at other University and Institute

List of the PG Courses Offered by the Department

Status	Course No.	Title of Course	Credit Hrs.
Major Courses (20 Credit Hrs)	AGRON 511*	Modern Concepts in Crop Production	3(3+0)
	AGRON 512*	Principles and Practices of Water Management	3(2+1)
	AGRON 513	Principles and Practices of Organic Farming	3(2+1)
	AGRON 514	Conservation Agriculture	2(1+1)
	AGRON 521*	Principles and Practices of Weed Management	3(2+1)
	AGRON 522*	Principles and Practices of Soil Fertility and Nutrient Management	3(2+1)
	AGRON 523	Dryland Farming and Watershed Management	3(2+1)
	AGRON 524	Cropping Systems and Sustainable Agriculture	2(2+0)
	AGRON 525	Agronomy of Fodder and Forage Crops	3(2+1)
	AGRON 531	Agronomy of Major Cereals and Pulses	3(2+1)
	AGRON 532	Agronomy of Oilseeds, Fibre and Sugar Crops	3(2+1)
	AGRON 533	Agrostology and Agro-Forestry	3(2+1)
	AGRON 534	Agronomy of Medicinal, Aromatic and Under Utilized Crops	3(2+1)
Minor Courses	Soil 513	Analytical technique and instrumental methods in soil and plant analysis	2(0+2)
	Soil 531	Soil Biology and Biochemistry	3(2+1)
	PP-531	Principles of Plant Physiology I - Plant Water Relations and Mineral Nutrition	3(2+1)
Supporting Courses	STAT-511	Statistical Methods for Applied Sciences	4 (3+1)
	STAT-521	Experimental Design	3 (2+1)
Common Courses	CC-511	Library and Information Services	1(0+1)
	CC-512	Technical Writing and Communications Skills	1(0+1)
	CC-521	Intellectual Property and its management in Agriculture	1(1+0)
	CC-522	Basic Concepts in Laboratory Techniques	1(0+1)
	CC-531	Agricultural Research, Research Ethics and Rural Development Programmes	1(1+0)
	AGRON 541	Seminar	**1**
	AGRON 542	Research	**30**

*Core course

6.4.2. Department Faculty Strength

S. No.	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position	Faculty Recommended by ICAR
			COA, Kota	AICRPs / AUK	Total		
1.	Professor	01	-	01	01	01	01
2.	Associate Professor	01	1	08	09	0	01
3.	Assistant Professor	02	1	05	06	01	04
	Total	**04**	**02**	**14**	**16**	**02****	**06**

** Recruitment of vacant positions is in progress

PG Recognized Faculty Available in Department of Agronomy

S.No.	Name of Faculty	Designation	PG Code	Teaching/Guiding
1.	Dr Pratap Singh	Professor	AGRON-R-04-25	Teaching & Guiding
2.	Dr. B. S. Meena	Assoc. Prof.& Head	AGRON-R-04-97	Teaching & Guiding
3.	Dr. A.K. Verma	Assoc. Prof.	AGRON-R-04-33	Teaching & Guiding
4.	Dr. K. M. Sharma	Assoc. Prof.	AGRON-R-04-107	Teaching & Guiding
5.	Dr. D. S. Meena	Assoc. Prof.	AGRON-R-04-96	Teaching & Guiding
6.	Dr. R. S. Narolia	Assoc. Prof.	AGRON-R-04-98	Teaching & Guiding
7.	Dr. Baldev Ram	Assoc. Prof.	AGRON-R-04-37	Teaching & Guiding
8.	Dr. J. P. Tetarwal	Assoc. Prof.	AGRON-R-04-40	Teaching & Guiding
9.	Dr. R.K. Bairwa	Assoc. Prof.	AGRON-R-02-103	Teaching & Guiding
10.	Dr. H.P. Meena	Assoc. Prof.	AGRON-R-04-120	Teaching & Guiding
11.	Dr. S. N. Meena	Asstt. Prof.	AGRON-R-02-95	Teaching & Guiding
12.	Dr. R.K. Meena	Asstt. Prof.	AGRON-R-04-101	Teaching & Guiding
13.	Dr. C.K. Jadon	Asstt. Prof.	AGRON-R-03-54	Teaching & Guiding
14.	Dr. Rajesh Kumar	Asstt. Prof.	AGRON-R-02-59	Teaching & Guiding
15.	Dr. Varsha Gupta	Asstt. Prof.	AGRON-R-02-88	Teaching & Guiding
16.	Dr. S. L. Yadav	Asstt. Prof.	AGRON-R-02-61	Teaching & Guiding

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1	Technical Assistant	0	00	02	02	Assistant, lab assistant, field assistant attendant messenger
2	Lab Assistant	01	-	-	0	
3	Agriculture Supervisor	01	01	01	02	
4	Farm manager	01	-	-	0	
5	Pump operator	01	01*	-	01*	
6	Attendant	01	-	-	-	
	Total	**05**	**02**	**03**	**05**	**06**

6.4.4. Classrooms and Functional Laboratories

S.No.	Classroom No.	Area (sq. ft.)	Seating Capacity	Other Facilities (LED, Projector, Computer, etc.)
1.	Classroom (one)	130	15	Yes
2.	Seminar Hall*	1200	100	LED, Projectors, Computers
3.	Agronomy Lab	400	20	All required Instruments

*Common Seminar Hall for all PG Departments of COA, Kota

Major Equipments/ Implements to Conduct Practical Classes

The College of Agriculture, Agricultural Research Station, Ummedganj and Mechanized Agricultural Farm are established & operated from the same campus. The resources in terms of teachers, technical staff, laboratories, farm machinery etc. are shared and available for the post graduate programme at the Department of Agronomy. The required major equipment to run the PG programme in the Department are available as mentioned below.

S.No.	Name of Equipments	Quantity
1.	Digital burette	2
2.	Digital electronic balance	3
3.	Digital Electrical Conductivity meter (EC)	2
4.	Micro controller-based Flame Photometer	2
5.	Atomic Absorption Spectrophotometer (AAS)	1
6.	UV-Vis Double beam Spectrophotometer	2
7.	Nitrogen Analyzer	1
8.	Refrigerator	1
9.	Microwave oven	1
10.	Shaker Horizontal	2
11.	Hot plate	2
12.	Distillation Assembly	2
13.	Kjeldahls Distillation Unit	2
14.	Digital P^H meter	2
15.	Hot air Oven	1
16.	Digital pocket refractometer	1
17.	Tensiometer	1
18.	Soil Moisture Indicator	1
19.	Orbital shaker with lotus clamp Rivotek	1
20.	Digital pH meter with electrode-335	1
21.	Digital Conductivity meter with cell	1
22.	Digital Balance	1
23.	Mixer Grinder	1
24.	Magnetic Stirrer with hot plate 21LIT	1
25.	Sprayer machine	1
26.	Measuring tape 50 meter	1

Hot Air Oven

Nitrogen Analyzer

BOD Incubator

Farm Facilities and Instructional Unit

S.No.	Name of the Department	Farm Area (ha)	Irrigated / Non-irrigated	Major Crops Grown/Instruments
1.	Agronomy Research Farm	30.00	Irrigated	Soybean, urdbean, rice, wheat, chickpea, mustard, lentil, linseed, coriander
2.	Agro-meteorology	-	"B" class meteorological observatory	All meteorological tools are available in GKMS running at the same campus Agricultural Research Station, Ummedganj, Kota. the Agromet Advisory Services forecast the krishi mausam information bi-weekly (every Tuesday & Friday) through SMS for benefitted to the farmers.
3.	Live units			
a*	Integrated farming system unit	2.0	Irrigated/ pressurized irrigation system	Soybean, urdbean, maize, rice, fodder sorghum, wheat, mustard, linseed, vegetables, quinoa, chia, boundary plantations (Ardu, Karonda, Pomegranate,
b*	Organic and Natural farming model unit	4.0	Irrigated/ pressurized irrigation system/ solar pump	Soybean, urdbean, maize, wheat, chickpea, garlic, coriander, linseed, fenugreek, pea, okra, mustard
c*	Micro Irrigation Unit	2.5	Irrigated/ pressurized irrigation system/ water tank	Soybean, urdbean, mungbean, wheat, mustard, garlic, coriander, vegetables, aonla

* These facilities are available at ARS same campus and used for teaching also.

Research Farm

Meteorology Observatory

Organic Farming Unit

6.4.5. Conduct of Practicals and Hands-on Training

Every course has practical content, where all practical and field exercise viz. nutrition, weed and water management, plant protection etc. are conducted at the instructional farm of Department. Similarly, lab-oriented practical such as nutrient, soil, water and plant analysis are conducted in the departmental laboratory. Beside student plan their research programme and conduct experiment accordingly in the field as well as laboratory.

Hands-on Training

Average Number of Students in Theory and Practical Classes

Postgraduate students are less in number, hence are grouped into one theory and one practical batch

Department	Number of Batches		No of Student per Batch
	Theory	Practical	
Agronomy	01	01	06

6.4.6. Supervision of Students in PG Programmes

Every PG student has Advisory Committee with a Chairperson and at least three members among whom one is from major field of specialization, another one from minor field of study and one nominated by Director Education. Research Programme proposed by the Advisory Committee and submitted to Director Education through Dean for final approval. The research is carried out by the student under the supervision of Advisory Committee.



PG Research Monitoring

PG Research Monitoring Mechanism

The research experiment is carried out by every student under the supervision of his/her Advisory Committee. However, a monitoring committee is constituted by the Dean for effective monitoring and evaluation of field trials. In this committee Head of Department act as convener and rest are as members. Committee is submit a brief information in prescribed format to the Head of Department which is finally submitted to Dean at the time of final thesis submission.

PG Research Monitoring Committee of M.Sc. (Agri.) Agronomy

S. No.	Committee/ Position	Status
1.	Head	Convener
2·	Chairperson of student advisory	Member
3.	Major Member	Member
4.	Minor Member	Member
5.	Supporting Member	Member
6.	DE Nominee Member	Member

Teacher: Student Ratio

S. No.	Academic Year	No. of PG Recognised Teachers	Intake of Students	Teacher to Student Ratio
1.	2018-19	08	5	1:0.6
2.	2019-20	08	5	1:0.6
3.	2020-21	08	5	1:0.6
4.	2021-22	12	5	1:0.4
5.	2022-23	16	6	1:0.4

Theses Submitted by Students of M.Sc. (Agri.) Agronomy in Last Five Years

1.	Growth, Yield and Quality of Indian Mustard [*Brassica juncea* (L.) Czern & Coss] Influenced by Different Levels of Nitrogen, Phosphorous and Potassium in S-E Rajasthan
2.	Study on Comparative Efficacy of Herbicidal and Mechanical Weed Control in Soybean [*Glycine max* (L.) Merrill]
3.	Efficacy of Newer Molecules of Herbicides for Weed Management in Urdbean [*Vigna mungo* (L.) Hepper]

4.	Effect of Weed Management Practices on Productivity of Maize (*Zea mays* L.) in South-Eastern Rajasthan.
5.	Effect of Phosphorus, Sulphur and Gibberellic Acid on Growth, Yield and Quality of Soybean [*Glycine max* (L.) Merrill].
6.	Study on Comparative Efficacy of Herbicidal and Mechanical Weed Control in Soybean [*Glycine max* (L.) Merrill]
7.	Effect of Irrigation Schedules and Weed Management Practices on Productivity of Direct Seeded Rice (*Oryza sativa* L.) in Humid South-Eastern Plain Zone of Rajasthan
8.	Effect of Land Configuration and Irrigation Scheduling on Growth, Yield and Quality of Quinoa (*Chenopodium quinoa*) under Vertisols of Rajasthan
9.	Effect of Herbicides on Weed Dynamics and Yield of Indian Mustard [*Brassica juncea* (L.) Czern & Coss.]
10.	Effect of Varying Fertility Levels and Foliar Nutrition on Growth, Yield and Quality of Chickpea (*Cicer arietinum* L.)
11.	Effect of Nutrient Management on Growth and Productivity of Wheat (Triticum aestivum L.) Grown under Rice Based Cropping System in South-Eastern Rajasthan
12.	Response of Fieldpea [*Pisum Sativum* var. *arvense* (L.)] to Phosphorus and Zinc Fertilizers and Their Solubilizers on Productivity and Quality
13.	Bio-Efficacy Evaluation of Herbicides Alone and Mixtures for Weed Control in Soybean [*Glycine max* (L.) Merrill] and Their Residual Effect on Succeeding Rabi Crops

Major Research Publications from Student Theses

- Sharma, A., Meena, B.S., Meena, R.K., Yadav, R.K., Patidar, B.K., Dhayal, S. and Kumar, R. 2020. Response of nitrogen, phosphorus and potassium on quality parameters and economics analysis of Indian mustard (*Brassica juncea* (L.) Czern and Coss). *Journal of Pharmacognosy and Phytochemistry* 9(5): 911-913.
- Sharma, A., Meena, B.S., Meena, R.K., Yadav, R.K., Patidar, B.K., Dhayal, S. and Kumar, R. 2020. Effect of different levels of nitrogen, phosphorus and potassium on growth, yield attributes and yield of Indian mustard (Brassica juncea (L.) Czern and Coss) in S-E Rajasthan. *International Journal of Current Microbiology and Applied Sciences* ISSN: 2319-7706 Volume 9 (09) :2216-2221.
- Meena, B.L., D.S. Meena, Baldev Ram, M.K. Sharma, Chirag Gautam and Gajendra Nagar (2020) Effect of Herbicidal Weed Control on Growth and Yield of Soybean: *Int.J.Curr.Microbiol.App.Sci* (2020) 9(10): 2880-2884.
- Meena, B.L., D.S. Meena, Gajendra Nagar, Harkesh Meena and Suman Dhaya (2022) Yield and economics of soybean [Glycine max (L.) Merrill] as influenced by Pre and Post emergence herbicides. *The Pharma Innovation Journal* 11(5): 247-249.
- Meena, B.L., D.S. Meena, Baldev Ram, Gajendra Nagar,Suman Dhayal and Harkesh Meena (2022) Effect of pre- and post-emergence herbicides on weeds and yield of soybean. *Indian Journal of Weed Science* (2022) 54(2): 201–202
- Choudhary, M., J.P. Tetarwal, Baldev Ram, M.K. Sharma and C.B. Meena. (2021). Effect of land configuration and irrigation scheduling on growth, yield attributes and yield of quinoa under Vertisols of Rajasthan. *Ann. Agri. Res. New Series* vol.42 (3):299-307.

- Dhaker, S. K., Sharma, K.M., Meena, B.S., Sharma, M.K. and Meena, L.K.2022. Effect of nutrient management on growth and productivity of wheat (Triticum aestivum L.) grown under rice-wheat based cropping system in South-eastern Rajasthan. *The Pharma Innovation Journal*. 11(12): 2990-2994.

6.4.7. Feedback of Stakeholders (Students/Parents/Entrepreneur /Farmers etc.)

- The students provide the feedback of their academics and other problems to the Major Advisor and other members of advisory committee.
- Feedback at the end of each semester about class teaching including subject matter delivery, use of teaching aids, communication skills, subject discussion, course coverage and its achievement etc are taking from students. If any lacuna is found that is discussed in departments with teachers and are being solved within the time-frame.
- The PG students are allotted a major advisor and advisory committee and their academic activities are also monitored by a faculty coordinator. The Mentor conducts and held regular group discussion in which students provide feedback regarding their academics and other problems. The recorded issues are taken up with the concerned for solution.
- Parents are informed by the Academic in charge about the performance of student's time to time and if any problem they find they come to meet the Dean of the Faculty, teachers and other concerned. If any student remains absent for more than 7 working days his/her registration is cancelled and student has to get re-registered as per rules.
- Feedback of parents is also recorded and taken through teachers-parent telephonic conversation and whenever ask to parents visit the college to meet faculty.

S.No.	Name	Stakeholders	Important Remarks/Feedback
1.	Mr. Adarsh Sharma	Student	Being a research scholar in 2018-20 in department of Agronomy, understanding research methodologies was an interesting.
2.	Mr. Bharat Lal Meena	Student	Teaching skill was very good and helped me in easy understanding of research parameters.
3.	Ms. Suman Kantwa	Student	The teachers here are very supportive and given us all the facilities related to the research and education. Also helped for preparation of competitive examination of agriculture i.e SRF/Ph. D./NET/ agriculture job and providing guidance time to time for better and effective work.
4.	Progressive farmers	Farmers	Provides high quality seeds of wheat, mustard, chickpea, linseed, mungbean & urdbean.
5.	Vishnu Nagar	Innovative farmer	Learnt organic farming technologies at organic farming model unit and established vermicompost unit & start organic production of wheat and chickpea from their farm and sale at organic produce at high price (50%) to consumers.

6.4.8. Student Intake and Attrition in the Programme

M.Sc. (Agri.) Agronomy

Year	Sanctioned Seats	Actual Intake	Attrition	% Attrition
2018-19	5	5	1*	20
2019-20	5	5	1*	20
2020-21	5	5	0	-
2021-22	5	5	4*	80
2022-23	6	6	0	-

* Students' got admission through ICAR in other University and appointment in Govt. Jobs.

6.4.9. ICT Application and Curricula

ICT is the integral part of the teaching program of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

- Zoom and Microsoft team app- Zoom and Microsoft Team apps are used for online teaching and guiding students.
- College website-Subject wise PDF of different chapters are uploaded on college website i.e.wwwcoakota.com for future reference of students.
- E-mail–Research scholars are consulting with guide through email for advices to complete thesis in time.
- WhatsApp group for teaching- WhatsApp groups have also been created for teaching and other related information of college and university administration.
- Internet: The library is provided with separate internet lease line with speed of 100mbps. There is a separate digital library section equipped with 15 computers having internet connection.

Organization of Webinar- The faculty member and student take advantages through attending the webinar organized by colleges and other units of university

Topic	Date	No of Participants	Organizing Secretary
Climate Resilient Agriculture: Adaptations and Strategies for Sustainable Production	11th Aug., 2020	875	Dr. R.K. Meena

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information.

Use of ICT Application in Teaching and Practical for Curricula Delivery: Yes

The faculty members of Department of Agronomy use ICT in teaching and practical classes. There is two seminar room with computer, LCD projector and internet connection. All faculty members have computer printer and internet connection in their offices at the campus. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations and CD ROM in teaching all courses at UG, PG and Ph.D. level. For PG and Ph.D. students' emails are also used.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate class room enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

SELF STUDY REPORT

M.Sc. (Agri.) Soil Science

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1 Brief History of the Degree Programme

The College of Agriculture, Ummedganj-Kota is the constituent college of Agriculture University, Kota and since its inception in the year 2018, offering M.Sc. (Ag.) degree programmes for selected specializations. The programme of M.Sc. (Agri) Soil Science was started with the intake four students since 2018 and first batch has been passed out in 2020.

Objectives

1. To develop competent human resources specialized in Soil Science and Agricultural Chemistry.
2. To carry out need base research in the field of Soil Science and Agricultural Chemistry.

Nomenclature of degree programme	M.Sc. (Agri.) Soil Science
Duration of the degree programme	Two years (04 semesters)
Admission procedure	70% seats through State Level Joint Entrance Test
	30% seats through AIEEA conducted by ICAR*
*Presently the degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.	

Accomplishment

Total 12 students has been passed from Department of Soil Science & Agricultural Chemistry, whose achievements are as under

Name of Student	Year of Admission	Year of Pass out	Achievements/ Present Status
Kamlesh Bhil	2018	2020	Pursuing Ph.D. Soil Science at RCA, MPUAT, Udaipur (Raj.)
Neha Meena	2018	2020	University Gold Medalist Faculty in Private Agriculture College, Jaipur
Narendra Danga	2018	2020	Senior Research Fellow, AU, Jodhpur
Rajesh Meena	2018	2020	Faculty in Private Agriculture College, Indargarh
Krishna Murari Rathore	2019	2022	Agriculture Supervisor (State Government, Raj.)
Neelam Nama	2019	2021	University Gold Medalist Agriculture Officer, State Government, Raj.
Sunil Kumar Meena	2019	2021	Agriculture Supervisor (State Government, Raj.)
Yash Narayan Sharma	2019	2021	Preparation for Competitive Examination
Gaurav Kumar	2020	2022	Competition examination preparation
Manoj	2020	2022	Ph.D. Soil Science at SKNAU, Jobner (Raj.)
Pinky Yadav	2020	2022	University Gold Medalist Preparation for Competitive Examination
Sangeeta Danga	2020	2022	Senior Research Fellow, CAZRI, Jodhpur

Requirement of degree programme : A student admitted to a post-graduate programme shall have to successfully complete the following before award of a degree:

- An approved course programme
- Synopsis seminar and its approval

- Pre-thesis seminar
- Anti-Plagiarism certificate
- Submission of thesis to external expert and its evaluation report
- Thesis viva-voce examination
- Minimum residential requirement- Four Semesters
- Minimum OGPA requirement. - 6.5 out of 10-point scale

A student for **Master's programme** has require to complete a minimum of **70** credit hours for the degree as detailed below:

Title		Approved Course Load (Credit Hours)
Major Courses	:	20 (Including 12 as core courses)
Minor Courses	:	08
Supporting Courses	:	06
Common Compulsory Courses	:	05
Seminar	:	01
Thesis/Research	:	30
Total	:	**70**

List of the PG Courses Offered by the Department

Status	Course No.	Title	Credit Hrs.
Major Courses (20 Credit Hrs)	Soil 511*	Soil chemistry	3(2+1)
	Soil 512*	Soil mineralogy, genesis and classification	3(2+1)
	Soil 513	Analytical technique and instrumental methods in soil and plant analysis	2(0+2)
	Soil 514	Radioisotopes in soil and plant studies	2(1+1)
	Soil 521*	Soil fertility and fertilizer use	3(2+1)
	Soil 522*	Soil physics	3(2+1)
	Soil 523	Remote sensing and GIS technique for soil and crop studies	3(2+1)
	Soil 524	Soil, water and air pollution	3(2+1)
	Soil 525	Soil Survey and Land use Planning	2(2+0)
	Soil 531	Soil Biology and Biochemistry	3(2+1)
	Soil 532	Management of problematic soils and water	2(1+1)
	Soil 533	Soil erosion and conservation	3(2+1)
	Soil 534	Land degradation and restoration	1(1+0)
	Soil 535	Introduction to nanotechnology	3(2+1)

Status	Course No.	Title	Credit Hrs.
Minor Courses (08 Credit Hrs.)	AGRON-512	Principles and practices of water management	3(2+1)
	AGRON-523	Dryland farming and watershed management	3(2+1)
	BIOCHEM-511	Plant Biochemistry	3 (2+1)
	PP-521	Hormonal Regulation of Plant Growth and Develop.	3(2+1)
	PP-531	Principles of Plant Physiology I - Plant Water Relations and Mineral Nutrition	3(2+1)
Supporting Courses (06 Credit Hrs.)	STAT-511	Statistical Methods for Applied Sciences	4 (3+1)
	STAT-521	Experimental Design	3 (2+1)
	STAT- 522	Basic Sampling Techniques	3 (2+1)
Common Compulsory Courses (05 Credit Hrs.)	CC-511	Library and Information Services	1
	CC-512	Technical Writing and Communications Skills	1
	CC-521	Intellectual Property and its management in Agriculture	1
	CC-522	Basic Concepts in Laboratory Techniques	1
	CC-531	Agricultural Research, Research Ethics and Rural Development Programmes	1
Seminar & Research	Soil 541	Master's Seminar	1
	Soil 542	Master's Research	30

**Core courses (compulsory & evaluated externally)

Proposed Degree Programme for Accreditation

The following PG programme is proposed for accreditation to National Agricultural Education Accreditation Board, ICAR, New Delhi.

Academic Programme	Programme	Duration
Post graduate	M.Sc. (Agri.) Soil Science	Two years (Four Semesters)

Year Wise Admission to Master's Programme in Soil Science:

Year of Admission	Intake	Admitted			Dropped			Passed			Year of Degree Awarded
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	4	2	2	4	-	-	-	2	2	4	2020
2019-20	4	3	1	4	-	-	-	2	1	3	2021
2020-21	4	1	3	4	-	-	-	2	3	5	2022
2021-22	4	2	2	4	-	1*	1	-	-	-	Continue
2022-23	4	3	1	4	-	-	-	-	-	-	Continue
Total	20	11	9	20	-	1	1	6	6	12	-

* Admission else-where through ICAR entrance examination.

6.4.2 Faculty Strength

S. No.	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position	Recommended by ICAR
			COA, Kota	AICRPs/ Non-plan*	Total		
1.	Professor	-	-	-	-	-	01
2.	Associate Professor	01	-	01	01	01	01
3.	Assistant Professor	01	01	01	02	-	04
	Total	**02**	**01**	**02**	**03**	**01**	**06**

*Staff of research are engaged in teaching & guiding the students

PG recognized faculty available in Department of Soil Science and Agricultural Chemistry

S. No.	Name of Scientist	Designation	PG Code	Teaching/ Guiding
1.	Dr. M.K. Sharma	Assoc. Professor	SS-R-04-27	Teaching & Guiding
2.	Dr. R.K.Yadav	Asstt. Professor	SS-R-02-63	Teaching & Guiding
3.	Dr.Vinod Kr. Yadav	Asstt. Professor	SS-R-02-82	Teaching & Guiding

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1	Technical Assistant	0	0	01	01	
2	Lab Assistant	01	0	0	0	Assistant, lab assistant, field assistant, attendant
3	Agriculture Supervisor	00	0	02	02	
4	Attendant	01	01*	0	01	
	Total	02	01*	03	04	04

*Working on contractual basis

6.4.4 Classrooms and Laboratories:

S. No.	Classroom/Laboratory	Area (M2)	Seating capacity	Other Facilities (LED, Projectors, Computers, Smart board etc.)
1.	Classroom (one)	400 sq ft	15	Projector
2.	Seminar Hall*	1200 sq ft	100	LED, Projectors, Computers
3.	Laboratory	800 sq ft	30	

*Common Seminar Hall for all PG Departments of COA, Kota

Major Equipments to Conduct of Practical Classes

The College of Agriculture & Agricultural Research Station, Ummedganj are operated from the same campus. The resources in terms of teachers, technical staff and laboratories etc. are shared and available for the post graduate programme at the Department of Soil Science & Agriculture Chemistry. Department has its own soil science laboratory and Soil and Water Testing laboratory of ARS, Kota which are used for students teaching and research. The required major equipments such as Flam Photometer, UV vis spectrophotometer, AAS, nitrogen analyzer, water distillation assembly which are essentially required to run the PG programmes are available. The detailed list of equipment is given below

S. No.	Name of Equipments	Quantity
1.	Digital electronic balance (Sartorius)	3
2.	Atomic Absorption Spectrophotometer (AAS)	1
3.	Flam Photometer	2
4.	UV-Vis Spectrophotometer	2
5.	Nitrogen analyzer	1
6.	Hot air oven	2
7.	Electrical Conductivity meter (EC)	2
8.	Orbital Shaker Incubator	1
9.	Ion analyser	1
10.	Refrigerator	1
11.	Microwave oven	1
12.	B.D. Apparatus	1
13.	Shaker Horizontal	2
14.	Heating Mantle	2
15.	Hot plate (double round)	1
16.	Distillation Assembly	2
17.	Vacuum desiccator	1
18.	Magnetic stirrer with hot plate	1
19.	Core sampler	1
20.	Soil Auger	2
21.	Hydrometer	3
22.	pH meter	2
23.	Mixer Grinder / Heat convector	1

Student Working in Lab

Farm Facilities

To conduct the field experiment for PG students four ha land is exclusively allotted to the Department of Soil Science and Agricultural Chemistry. Moreover, the land earmarked for conducting research in the subject at ARS is also available to the students for their teaching and research purpose. All the fields are well connected with approach roads and internal roads. Entire farm is fully irrigated.

6.4.5 Conduct of Practicals and Hands-On Training

Every course has practical content, where all practical and field exercises related to soil physics, agriculture chemistry, management of problematic soil and nutrient management etc. are conducted at the instructional farm of Department. Similarly, lab-oriented practicals such as nutrient, soil, and water analysis, soil biology and microbiology, handling of instrumentation are conducted in the departmental laboratory.

Average Number of Students in Theory and Practical Classes

Postgraduate students as they are less in number are grouped into one theory batch and one practical batch.

Name of the Department	Number of Batches		No of Student per Batch
	Theory	Practical	
Soil Science and Agricultural Chemistry	1	1	04

6.4.6 Supervision of Students in PG Programme

Every student has Advisory Committee with a Chairperson and at least three members among whom one is from major field of specialization, another one from minor field of study and one nominated by Director Education. Research Programme proposed by the Advisory Committee and submitted through Dean to Director Education for final approval. The research is carried out by the student under the supervision of Advisory Committee. The research trials conducted by the students on experimental farms were also monitor and inspected by departmental research committee under chairmanship of the head of department and advisory committee members.

PG Recognized Teachers and Teacher: Student Ratio

S. No.	Year	Teacher	Intake of Students	Teacher to Student Ratio
1.	2018-19	03	04	1:1.33
2.	2019-20	03	04	1:1.33
3.	2020-21	03	04	1:1.33
4.	2021-22	03	03	1:1.00
5.	2022-23	03	04	1:1.33

Titles of Theses Submitted by Students for Master Degree Programme

1.	Assessment of Soil Fertility Status of Agricultural Research Station, Ummedganj-Kota
2.	Effect of Integrated Nutrient Management Practices on Soil Health and yield of Black gram (*Vigna mungo* L.)
3.	Effect of Integrated Nutrient Management on Growth, Yield and Soil Health in Soybean under Vertisols of Rajasthan
4.	Evaluation of Nutrient Management Practices and Foliar Nutrition on Productivity and Profitability of Field Pea *(Pisum sativum* L.) in Vertisols
5.	Effect of Liquid Bio-fertilizers and drought Mitigating Chemicals on Soil Physico-chemical Properties and Productivity of Mungbean [*Vigna radiata* (L.) Wilczek]
6.	Effect of Irrigation Schedules and Soil Amendments on Soil Physical Constraints, Water Productivity and yield of Soybean under Vertisols of South-Eastern Rajasthan
7.	Effect of Phosphorus, Zinc and their Liquid Bio-fertilizers on Soil Fertility and Productivity of Lentil
8.	Effect of Phosphorus and Sulphur Application on Soil Physico-chemical Properties, Yield, Quality and Nutrient Uptake of Soybean [*Glycine max* (L.) Merrill]
9.	Effect of Tillage, Irrigation and Nitrogen on Yield, Nitrogen use Efficiency and Water Productivity of Mungbean under South-Eastern Rajasthan
10.	Effect of Fe, Zn and Bio-fertilizers on Soil Quality and Productivity of Urdbean (*Vigna mungo* L.)
11.	Response of STCR Based Soil and Foliar application of Zn on Growth, Yield , Quality and Nutrient Uptake of Soybean [*Glycine max* (L.) Merrill]
12.	Effect of Soil Amendments and Irrigation Schedules on Soil Carbon Pools, Water use Efficiency and Yield of Soybean under Vertisol

Published Work in National and International Journals by the PG Students

- Nama Neelam, Sharma, M.K., Meena, D.S. Yadav, R.K., Verma Preeti and Sharma, Yash Narayan (2021). Consequence of liquid bio-fertilizers and drought mitigating chemicals on soil physico-chemical properties and nutrient availability of mungbean [Vigna radiata (L.) Wilczek] under SE-Rajasthan. *The Pharma Innovation Journal,* 10(7):1366-1370.
- Meena, Neha, Sharma, M. K., Meena, D. S., Choudhary, S., Bhil, K. and Danga, N. (2022). Effect of organic and inorganic sources of nutrients on growth, yield attributes and nutrient uptake of Soybean in *Vertisols* of Rajasthan. *Legume Research*. DOI: 10.18805/LR-4688.
- Meena, Neha, Sharma, M. K., Yadav, R. K., Meena, D. S., Choudhary, S., Bhil, K., Meena, R., Dhayal, S., Choudhary, M. and Danga, N. (2022). Effect of integrated nutrient management on soil health and nutrient balance sheet of Soybean under *Vertisols* of Rajasthan. *International Journal of Plant & Soil Science*. 34(18):286-295.
- Bhil, Kamlesh, Sharma, M. K., Yadav, R. K., Meena, B. S., Meena, N., Danga, N. And Meena, R. (2022). Appraisal of soil Physical Properties and Preparation of soil variability maps of Agricultural Research Station, Ummedganj-Kota. I*nternational Journal of Plant & Soil Science*. 34(20):41-51.

- Danga, N., Yadav, R.K. Danga, S., Sharma, M. K., Yadav, S. L., Ram, B., Bhil, K. and Yadav, V. K. (2022). Effect of integrated nutrient management on quality, yield, nutrient content and uptake of Black gram (*Vigna mungo* L.) in the South-eastern plain of Rajasthan. *Legume Research*. DOI: 10.18805/LR-4860.
- Rathor, K.M., Sharma, M.K., Manoj, Meena, H.P., Yadav, R.K., Yadav, V.K., Ghasil, B.P. and Yadav, S.L. (2023) Productivity and Quality of Urdbean (Vigna mungo L.,) Influenced by Fe, Zn and Biofertilizers. *Agriculture Association of Textile Chemical and Critical review Journal*. 162-166

6.4.7 Feedback of Stakeholders

S. No.	Name	Stakeholders	Feedback
1.	Ms. Neha Kumari Meena	Student	It was great experience throughout the course, everything went so smooth and fruitful for me whether in understanding the research methods, theoretical learnings, or practical understandings of various topics. College is providing opportunity to enhance our knowledge in course work as well as in research methodology.
2.	Mr. Narendra Danga	Student	The staff of the department was very supportive and motivating in lab work, thesis writing and for motivating for higher studies.
3.	Ms. Deepika Meena	Employee	Good and supportive staff members, providing guidance from time to time for better and effective work.
4.	Mr. Pawan Tak	Farmer	Soil water testing lab is well equipped and the analytical results are also accurate.

6.4.8. Student Intake and Attrition in the Programme

Year	Sanctioned Seats	Actual Intake	Attrition	% Attrition
2018-19	4	4	0	0
2019-20	4	4	0	0
2020-21	4	4	0	0
2021-22	4	4	1	25
2022-23	4	4	0	0

6.4.9 ICT Application and Curricula Delivery

ICT is the integral part of the teaching program of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.wwwcoakota.com for future reference of students.
- **E-mail–**Research scholars are consulting with guide through email for advices to complete thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university administration.
- **Internet:** The library is provided with separate internet lease line with speed of 100mbps. There is a separate digital library section equipped with 15 computers having internet connection.
- **Books and other reading materials-**The college library has procured sufficient reference & text books of soil science & agriculture chemistry including online e-journals, national and international journals and magazines. The library is provided with separate internet lease line with speed of 100mbps.

Organization of Webinar

Topic	Date	No of Participants	Organizing Secretary
Role of Organic Farming in Quality Production during Post Covid-19 Era	10th June, 2020	3315	Dr Vinod Kumar Yadav

Webinar on "Role of Organic Farming in Quality Production During Post Covid-19 Era"

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including **anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader** are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

SELF STUDY REPORT

M.Sc. (Agri.) Plant Pathology

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1. Brief History of the Degree Programme

The M.Sc. (Agri.) Plant Pathology degree programme is offering in Department of Plant Pathology with intake of 4 students every year through Pre-PG entrance examination conducted by SAUs since establishment of College of Agriculture, Ummedganj-Kota in 2018. Till academic session 2021-22 three batches has been passed out consisting of 11 students and most of these students have secured good ranks in State Level Ph.D. entrance examinations and pursuing Ph. D degree in various SAUs.

Objectives

1. To develop competent human resources specialized in the area of Plant Pathology.
2. To conduct applied research in Plant Pathology in consonance to agricultural needs of the zone, state and country.

Nomenclature of degree programme	:	M.Sc. (Agri.) Plant Pathology
Duration of the degree programme	:	Two years (04 semesters)
Admission procedure	:	70 per cent seats through State Level Joint Entrance Test & 30 per cent seats through AIEEA conducted by ICAR*
*Presently the degree programme is not accredited by ICAR hence, 100 percent seats are filled through State Level Joint Entrance Test.		

Accomplishments: 11 students have been passed out so far from this department and achievements of those students are given below:

Name of Student	Year of Admission	Year of Passed out	Achievements/Present Status
Karan Singh (Gold medalist in 2020)	2018	2020	• Got first rank in State level Ph.D. entrance examination (2020) and pursuing Ph. D from MPUAT, Udaipur • Published 05 Research papers from Master thesis in 5 or more NAAS rated journals. • Serving as Technical Assistant in MPUAT, Udaipur
Meenu Kumari Meena	2018	2020	• Pursuing Ph. D from SKNAU, Jobner
Priyanka Kumari Meena	2018	2020	• Pursuing Ph. D from SKNAU, Jobner
Balram Jewaliya	2018	2020	• Preparing for competitive exams
Ritika Hada (Gold medalist in 2021)	2019	2021	• Selected as Agriculture Officer in Govt. of Rajasthan through RPSC
Aditi Mathur	2019	2021	• Got first rank in State level Ph.D. entrance examination (2021) • Selected as Agriculture Officer in Govt. of Rajasthan through RPSC
Mahesh Kumar Meena	2019	2021	• Preparing for competitive exams
Hansraj Kumawat	2019	2022	• Serving as Agriculture Supervisor in Govt. of Rajasthan

Name of student	Year of Admission	Year of Passed out	Achievements/Present Status
Neeraj Kumar Shakyawal	2020	2022	• Serving as Agriculture Supervisor in Govt. of Rajasthan
Hemant Gurjar	2020	2022	• Serving in private organization
Brijesh (Gold medalist-2022)	2020	2022	• Pursuing Ph. D. from MPUAT Udaipur

Requirement of Degree Programme

A student admitted to a post-graduate programme shall have to successfully complete the followings before award of a degree:

- An approved course programme.
- Synopsis seminar and its approval
- Pre-thesis seminar.
- Requirement of Anti-Plagiarism certificate.
- Submission of thesis to external expert and its evaluation report.
- Thesis viva-voce examination.
- Minimum residential requirement- Four Semester
- Minimum OGPA requirement. - 6.5 out of 10-point scale

A student during Master's degree programme has to complete a minimum of 70 credit hours for the award of degree as detailed below:

Title		Approved Course Load (Credit Hours)
Major Courses	:	20 (Including 12 credit as core courses)
Minor Courses	:	08
Supporting Courses		06
Common Courses	:	05
Seminar	:	01
Research	:	30
Total	**:**	**70**

List of the PG Courses of the Department : As per need and credit requirements of the student, the courses are selected out of following basket.

Status	Course No.	Title	Credit Hrs.
Major Courses (20 Credit Hrs.)	PL PATH 511*	Mycology	3(2+1)
	PL PATH 512	Techniques in Detection and Diagnosis of Plant Diseases	2(0+2)
	PL PATH 513*	Principles of Plant Pathology	3(2+1)
	PL PATH 514	Plant Nematology	3(2+1)

Status	Course No.	Title	Credit Hrs.
	PL PATH 521*	Plant Virology	3(2+1)
	PL PATH 522*	Plant Pathogenic Prokaryotes	3(2+1)
	PL PATH 523	Diseases of Fruits, Plantation and Ornamental Crops	3(2+1)
	PL PATH 524	Detection and Management of Seed Borne Pathogens	3(2+1)
	PL PATH 525	Chemicals and Botanicals in Plant Disease Mangt.	3(2+1)
	PL PATH 526	Ecology of Soil-borne Plant Pathogens	2(1+1)
	PL PATH 527	Disease Resistance in Plants	2(2+0)
	PL PATH 528	Biological Control of Plant Diseases	2(1+1)
	PL PATH 529	Integrated Disease Management	3(2+1)
	PL PATH 531	Diseases of Vegetable and Spices Crops	3(2+1)
	PL PATH 532	Principles of Plant Disease Management	3(2+1)
	PL PATH 533	Diseases of Field and Medicinal Crops	3(2+1)
	PL PATH 534	Epidemiology and Forecasting of Plant Diseases	1(1+0)
	PL PATH 535	Post-Harvest Diseases	3(2+1)
	PL PATH 536	Plant Quarantine and Regulatory Measures	1(1+0)
Minor Courses (8 Credit Hrs.)	BIOCHEM-511	Plant Biochemistry	3 (2+1)
	PP-521	Hormonal Regulation of Plant Growth and Development	3 (2+1)
	PP-531	Principles of Plant Physiology I - Plant Water Relations and Mineral Nutrition	3 (2+1)
	ENT-513	Concepts of Integrated Pest Management	2 (2+0)
	ENT-523	Pests of Field Crops	3 (2+1)
	ENT-531	Pests of Horticultural and Plantation Crops	3 (2+1)
Supporting Courses (6 Credit Hrs.)	STAT-511	Statistical Methods for Applied Sciences	4 (3+1)
	BIOCHEM-512	Basic Biochemistry	4 (3+1)
	STAT-521	Experimental Designs	3 (2+1)
	STAT- 522	Basic Sampling Techniques	3 (2+1)
	MCA-521	Computers Fundamentals and Programming	3 (2+1)
Common and Compulsory Courses (5 Credit Hrs.)	CC-511	Library and Information Services	1(0+1)
	CC-512	Technical Writing and Communications Skills	1(0+1)
	CC-521	Intellectual Property and its management in Agriculture	1(1+0)
	CC-522	Basic Concepts in Laboratory Techniques	1(0+1)
	CC-531	Agricultural Research, Research Ethics and Rural Development Programmes	1(1+0)
	PPATH 541	Seminar	1
	PPATH 542	Research	30

***Core courses (compulsory & evaluated externally)**

Course Committee Meetings of Department of Plant Pathology

Date of Meeting	Committee Members	Major Suggestions
19.10.2019	Dr. C.B. Meena Dr. K.L. Jain Dr.R.P. Ghasolia Dr. D.L. Yadav	Modifications in UG and PG syllabi

Date of Meeting	Committee Members	Major Suggestions
30.12.2020	Dr. M.C. Jain Dr. C.B. Meena Dr. K.L. Jain Dr.R.P. Ghasolia Dr. Chirag Gautam	Modification in UG and PG syllabi
15.01.2022	Dr. C.B. Meena Dr. Amit Trivedi Dr. M.L. Meena Dr. Chirag Gautam	Implementation Broad Subject Matter Area (BSMA) committee for PG Programme. Approved credit load as per BSMA report
24.12.2022	Dr. C.B. Meena Dr. Amit Trivedi Dr. M.L. Meena Dr. Chirag Gautam	Reviewed the content of courses of BSMA offered for PG degree

Accreditation of Master Degree Programme :

The following PG programme is offered for the accreditation to National Agricultural Education Accreditation Board, ICAR, New Delhi.

Academic Programme	Programme	Duration
Post graduate	M.Sc. (Agri.) Plant Pathology	Two Years (Four Semesters)

Year Wise Admission to Master's Programme in Plant Pathology

Year of Admission	Intake	Admitted			Dropped			Passed out			Year of Degree Awarded
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	4	2	2	4	-	-	-	2	2	4	2020
2019-20	4	2	2	4	-	-	-	1	2	3	2021
2020-21	4	3	1	4		1	1	4	-	4	2022
2021-22	4	2	2	4	1	-	1	-	-	-	Continue
2022-23	4	2	2	4	-	-	-	-	-	-	Continue
Total	**20**	**11**	**9**	**20**	**1**	**1**	**2**	**7**	**4**	**11**	

6.4.2. Faculty Strength of Department

S. No.	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position*	Faculty Recommended by ICAR
			COA, Kota	AICRPs/ University	Total		
1	Professor	-	-	-	-	-	-
2	Associate Professor	1	1	-	1	-	1
3	Assistant Professor	1	-	2	2	1	2
	Total	2	1	2	**3**	1	**3**

* Recruitment on vacant positions is in progress

PG Recognized Faculty in Department of Plant Pathology

S. No.	Name of Scientist	Designation	PG Code	Teaching /Guiding
1.	Dr. C.B. Meena	Associate Professor	PATH-R-04-26	**Teaching & Guiding**
2.	Dr. D.L. Yadav	Assistant Professor	PATH-R-03-100	**Teaching & Guiding**
3.	Dr. Chirag Gautam	Assistant Professor	PATH-R-03-115	**Teaching & Guiding**

6.4.3. Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1.	Technical Assistant	-	0	1	1	Assistant, lab assistant, field assistant attendant messenger
2.	Lab Attendant	1	-	1	1	
3.	Lab Assistant	1	1*	0	1	
	Total	2	1	2	3	04

6.4.4. Classrooms and Laboratories

S. No.	Classroom /Laboratory	Area (sq ft)	Seating Capacity	Other Facilities
1.	Classroom	130 sq ft	15	Black Board, white board
2.	Seminar Hall	500 sq ft	30	LED, Projectors, Computers & Furniture.
3.	Laboratory	800 Sq ft	30	As detailed below

Major Equipments for Conducting Practical Classes

The College of Agriculture, ARS and Mechanized Agricultural Farm are operated at the same campus. The resources in terms of teachers, technical staff, laboratories, farm machinery etc. are shared and available for the post graduate programme at the Department of Plant Pathology. There are different AICRPs on crops in operation at the campus, hence, all the resources available with the project are being used for students teaching and research. The list of major equipments available in the department is given as under:

S. No.	Name of Equipments	Quantity
1.	Student microscope	25
2.	Trinocular compound microscope	02
3.	Stereozoom microscope	02
4.	Hot air oven	02
5.	Laminar Air Flow Cabinet	02
6.	BOD incubator	02
7.	Incubator shaker	1
8.	Autoclave vertical	02
9.	pH Meter	1

S. No.	Name of the Equipments	Quantity
10.	Precision balance	1
11.	Micro Pipette	1 set
12.	Refrigerator	03
13.	Induction Stove	1
14.	Mixer Grinder	1
15.	Deep Freezer	01
16.	Orbital Shaking Incubator	01
17·	Multimedia Projector (MMP)	01
18.	Fermenter	01
19.	Florescence Microscopy	01
20.	Packing & sealing machine	01

Autoclave

Laminar Airflow

Microscope

BOD Incubator

Hot Air Oven

Farm Facilities

For the field experimentation and field exposure of UG and PG students the required farm facilities are available at college or at ARS and are being utilized. All the fields are well connected with approach roads and internal roads. Entire farm is fully irrigated. The details of farm facilities utilized by department is as under.

Name of Department	Farm Area	Irrigated / Non-irrigated	Crops Grown
Plant Pathology	1.0 ha	Irrigated	Soybean, Coriander, Chickpea and Mustard

Average Number of Students in Theory and Practical Classes

Postgraduate students are less in number, hence are grouped into one theory and one practical batch.

Name of the Department	Number of batches		No of Students per Batch
	Theory	Practical	
Plant Pathology	1	1	4

6.4.5. Conduct of Practical and Hands-On Training

Every course has practical content, where all practical and field exercise viz. survey & diagnosis of diseases, collection of disease samples, testing of bio-efficacy of pesticide etc. are conducted at the farm of Department and farmer's field. Similarly, lab-oriented practicals such as isolation and purification, characterization of pathogen, bioagent etc. are carried out in the departmental laboratory.


Students Conducting Practical


Field Trial of M.Sc. Students

6.4.6. Supervision of Students in PG Programmes

Every student has Advisory Committee with a Chairperson and at least three members among whom one from major field of specialization, another one from minor field of study and one nominated by Director Education. Research Programme proposed by the Advisory Committee and submitted to Director Education through Dean for final approval. The research is carried out by the student under the supervision of Advisory Committee.

PG Recognized Teachers and Teacher: Student Ratio

Academic Year	Number of Teachers	Students Enrolled	Teacher Student Ratio
2018-19	3	4	1:1.33
2019-20	3	4	1:1.33
2020-21	3	4	1:1.33
2021-22	3	4	1:1.33
2022-23	3	4	1:1.33

Titles of Theses Submitted by Students for M.Sc. (Agri.) Plant Pathology

1.	Investigations on *Alternaria alternate* causing blight disease in tomato (*Solanum lycopersicum* L.)
2.	Management of Collar Rot caused by *Sclerotium rolfsii* (Sacc.) in Chickpea (*Cicer arietinum* L.)
3.	Management of Lentil Wilt Caused by *Fusarium oxysporum* f. sp. *lentis*
4.	Detection and Management of Early Blight of Potato Caused by *Alternaria alternata*
5.	Isolation and Characterization of Antagonistic Bacteria from the Rhizosphere of Chickpea (*Cicer arietinum* L.)
6.	Epidemiology and Management of Early Blight in Potato Caused by *Alternaria alternata*
7.	Epidemiology and Management of Stem Necrosis Disease of Potato in South-Eastern Rajasthan
8.	Studies on *Alternaria alternata* causing leaf blight disease of Indian mustard (*Brassica juncea* L.)
9.	Morphological and biochemical studies on canker disease of acid lime (*Citrus aurantifolia*) caused by *Xanthomonas axonopodis* pv. *citri*
10.	Survey and Management of Stem Gall Disease of Coriander (*Coriandrum sativum* L.) Caused by *Protomyces macrosporus* Unger in South-Eastern Rajasthan
11.	Study and Management of Collar Rot of Brinjal Caused by *Sclerotium rolfsii* Sacc

List of Publication from Research of Students

S.No.	Author(s)	Title of Paper /Publication	Name of Journal / Publisher	Volume/ Issue/ ISBN No.	Publishing Year	NAAS Rating
1.	Karan Singh, C. B. Meena, Chirag Gautam, B. K. Patidar and N. R. Koli	Nutritional and Epidemiological Requirements for Growth and Sclerotia Formation by *Sclerotium rolfsii* (Sacc.) Causing Collar Rot of Chickpea (*Cicer areitinum*L.)	*International Journal of Current Microbiology and Applied Sciences*	ISSN: 2319 - 7706 Volume 9 Number 7: 645-656	2020	5.38
2.	Meenu Kumari Meena, C. B. Meena, D. L. Yadav, H. P. Meghwal, Sandhya and Karan Singh	Nutritional and Epidemiological Requirements for Growth and Sporulation of *Fusarium oxysporum* f. sp. *lentis* caused Lentil Wilt	*International Journal of Current Microbiology and Applied Sciences*	ISSN: 2319 - 7706 Volume 9 Number 7: 4092-4100	2020	5.38
3.	Balram Jewaliya, Chirag Gautam, C.B. Meena, S.C. Sharma, Yamini Tak and Karan Singh	First Report on Severity of Early Blight Disease of Tomato Caused by *Alternaria alternata* in Hadoti Region of Rajasthan	*Biological Forum – An International Journal*	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 13(1): 307-311	2021	5.11
4	Jewaliya, Balram, Chirag Gautam, C. B. Meena, Yamini Tak, S. C. Sharma and Karan Singh.	In-vitro Efficacy of Fungicides against *Alternaria alternata* causing Blight Disease of Tomato (*Solanum lycopersicum* L.).	*International Journal of Current Microbiology and Applied Sciences*	10(03): 915 - 920. doi: https:/ /doi .org/10.2054 6 / ijcmas. 2021.1003.115.	2021	5.38
5.	Karan Singh, C. B. Meena, Chirag Gautam and Meenu Kumari Meena	Preliminary Studies on Bio-efficacy of Different Botanical Extracts against *Sclerotium rolfsii* (Sacc.) Causing Collar Rot of Chickpea (*Cicer arietinum*L.)	*Legume Research- An International Journal*	DOI: 10.188 05/ LR -4929 Article Id: LR-4929	2022	6.59
6.	Karan Singh, C. B. Meena and D. L. Yadav	Relative antagonistic efficacy of Trichoderma spp. against *Sclerotium rolfsii* (Sacc.) causing collar rot of chickpea (*Cicer arietinum* L.)	*Journal of Eco-friendly Agriculture*	ISSN: 2229 - 628X (print) e-ISSN: 2582-2683 (online) 17(2): 350 - 356. 2022	2022	5.23
7.	Karan Singh, C .B. Meena, B .K. Patidar, Preeti Verma and Mahesh Kumar Meena	Pot screening of promising chickpea varieties against collar rot caused by *Sclerotium rolfsii* (Sacc.) under artificial inoculation in net-house.	*The Pharma Innovation Journal*	ISSN (E): 2277- 7695 ISSN (P): 2349-8242 SP-11(4): 982-985	2022	5.23

S.No.	Author(s)	Title of Paper /Publication	Name of Journal / Publisher	Volume/ Issue/ ISBN No.	Publishing Year	NAAS Rating
8.	Karan Singh, C. B. Meena, Chirag Gautam and Balram Jewaliya	Symptomatology, isolation and pathogenicity test of the collar rot of Chickpea (Cicer arietinum L.) Incitant by *Sclerotium rolfsii* (Sacc.)	*The Pharma Innovation Journal*	ISSN (E): 2277- 7695 ISSN (P): 2349-8242 11(3): 23-29	2022	5.23
9.	Jewaliya, B., Gautam, C., Meena, C.B., Sharma, S.C., Tak, Y. and Singh, K.	First Report on Severity of Early Blight Disease of Tomato Caused by Alternaria alternata in Hadoti Region of Rajasthan.	*Biological Forum –An International Journal*	13(1): 307 - 311	2021	5.11
10.	Priyanka Kumari Meena, D. L. Yadav, C. B. Meena, B. K. Patidar and Pratap Singh.	Efficacy of Bio -agents and Media against the Early Blight of Potato	*International Journal of Current Microbiology and Applied Sciences*	9(07): 2208 - 2213. doi: https:/ /doi .org/ 10. 20546/ ijcmas.2020. 907.258	2020	5.38
11.	Mahesh Meena, Dhuni Lal Yadav Harphool Meena, C. B. Meena and Rajendra Kumar Yadav	Survey And Estimation of Yield Loss due to Stem Necrosis Virus of Potato Growing Areas of South - Eastern Rajasthan	*Plant Cell Biotechnology and Molecular Biology*	23(39&40):68-74 ISSN: 0972-2025	2022	4.88

6.4.7. Feedback of Stakeholders

S. No.	Name	Stakeholders	Important Remarks/Feedback	Action Taken
1.	Karan Singh	Student	Overall teaching is good but facilities available for conducting PG research are required to be strengthened.	In Lab Refrigerator. microscopes, BOD incubator are procured.
2.	Priyanka Kumari	Student	Good guidelines were given during the course of study along with demonstration and use of recent technologies for conduct of research. more books and journal are required in library	Purchased more printed book and subscribed Journals
3.	Mukesh Pankaj	Employee	Good and supportive staff members, providing guidance from time to time for better and effective work.	-

S. No.	Name	Stakeholders	Important Remarks/Feedback	Action Taken
4	Sh. Bhabut Singh	Parents	Timely completion of degree in Corona	Online evaluation of thesis was done in corona period
5	Shri Girdhar Shringi ji	Farmers	Good diagnostic services and control measures suggested for diseases.	Diagnostic visit was done
6	Mr. Brijesh	Student	During my degree program I have great experience of learning about basic Plant Pathology & laboratory skills.Faculty of Department have given valuable and inspiring guidance, constructive counsel and criticism and suggestions throughout my degree program.	Student was guided for Ph.D. Entrance examination
7	Neeraj Kumar Shakyawal	Student	The department has an enthusiastic working environment and supportive seniors. I was blessed to work under my major advisor who is a man of wisdom and Knowledge. He always motivated me to work for excellence	-
8	Ritika Hada	Agriculture officer	I would like to say that I am very fortunate to be a part of this esteemed organization. It is one of the most remarkable and lovable times of my life. The teachers here are very supportive whether it was related to my studies and cultural activities	Selected as AO

At the end of semester, each course teacher takes the feedback from the students related to the course. The course teacher analyses the feedback for further improvement in teaching methodology.

6.4.8. Student Intake and Attrition of M.Sc. (Agri.) Plant Pathology

Year	Intake Capacity	Actual Intake	Attrition	% Attrition
2018-19	4	4	0	0
2019-20	4	4	0	0
2020-21	4	4	1	25
2021-22	4	4	1	25
2022-23	4	4	0	0

6.4.9. ICT Application and Curricula Delivery

ICT is the integral part of the teaching programme of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.www.coakota.com for future reference of students.
- **E-mail–**Research scholars are consulting with guide through email for advices to complete Thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university.
- **Internet:** The library and hostels are provided with separate internet facility with speed of 200mbps. There is a separate digital library section equipped with 20 computers having internet connection.
- The seminar room is well equipped with computer, LCD Projector, Digital podium.

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including **anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader** are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information. Further, a online software has also been precured for the students who are preparing for JRF/SRF/NET/ARS and other competitive examinations of Agriculture and allied subjects.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

SELF STUDY REPORT

M.Sc. (Agri.) Genetics & Plant Breeding

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1 Brief History of the Degree Programme

The College of Agriculture, Ummedganj-Kota is the second constituent college of Agriculture University, Kota and since its inception in the year 2018, started offering M.Sc. (Ag.) and Ph.D. degree programmes for selected specializations. Genetics and Plant Breeding is one of the most important tools of agricultural sciences to fulfill its first and foremost purpose of the food demand of human population. Development of high yielding, high quality, resistant to abiotic and biotic stresses, widely adaptable as well as location specific varieties is the main research areas of the department. In view of the importance of the subject, the programme of M.Sc. (Ag) Genetics and Plant Breeding was started in 2018 and since than three batches have been passed out up to 2022.

Objectives

1. To develop competent and specialized human resources in the area of Genetics and Plant Breeding through imparting quality education.
2. To conduct research in Genetics and Plant Breeding in consonance to agricultural needs of the zone, state and country.

Nomenclature of degree programme : M.Sc. (Agri.) Genetics and Plant Breeding
Duration of the degree programme : Two years (04 semesters)
Admission procedure : 70% seats through State Level Joint Entrance Test
30% seats through AIEEA conducted by ICAR*

*Presently the degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.

Accomplishments : The current status of 13 passed out students of the department is as under:

S. No.	Name of Student & Year	Present Status
1.	Ashok Kumar Meena (2018-2020)	Ph. D. Scholar, SKNAU, Jobner. Qualified NET
2.	Deepak Meena (2018-2020)	Ph. D. Scholar, MPUAT, Udaipur, Qualified NET
3.	Jitendra Kumar Meena (2018-2020)	Ph. D. Scholar, MPUAT, Udaipur
4.	Sharmila Poonia (2020-2022)	Ph. D. Scholar, AU, Jodhpur
5.	Poonam Fozdar (2020-2022)	Ph. D. Scholar, AU, Kota
6.	Hemant Yadav (2019-2021)	Agriculture Officer, Govt. of Raj.
7.	Vijay Kumar Meena (2018-2020)	Agriculture Supervisor Govt. of Raj.
8.	Raj Govind Meena (2019-2022)	Agriculture Supervisor Govt. of Raj.
9.	Subhash Chand (2019-2022)	Agriculture Supervisor Govt. of Raj.
10.	Mumaldeep Kaur (2020-2022)	Teaching in Private College
11.	Vishnu Choudhary (2019-2021)	Preparing for competitive exams
12	Rajpal Singh (2019-2021)	Agriculture Supervisor Govt. of Raj.
13	Hariom Meena (2018-2020)	Preparing for competitive exams

Requirement of Degree Programme

A student admitted to a post-graduate programme shall have to successfully complete the following before award of a degree:

- An approved programme of study prepared by his/her advisory committee.
- Synopsis seminar and its approval
- Anti-plagiarism certificate
- Pre-thesis seminar
- Submission of thesis and its evaluation report.
- Thesis viva-voce examination
- Minimum residential requirement-Four Semester
- Minimum OGPA requirement. - 6.5 out of 10.0-point scale

A student for master's programme is required to complete a minimum of 70 credit hours for the degree as detailed below

Title		Approved Course Load (Credit Hours)
Major Courses	:	20 (Including 12 as core courses)
Minor Courses	:	08
Supporting Courses	:	06
Common Courses	:	05
Seminar	:	01
Research Credit Hours	:	30
Total	:	70

List of the PG Courses Offered by Department

Status	Course No.	Title	Credit Hrs.
Major Courses (20 credit hrs.)	GPB 511*	Principles of Genetics	3(2+1)
	GPB 512*	Principles of Plant Breeding	3(2+1)
	GPB 513	Mutagenesis and Mutation Breeding	3(2+1)
	GPB 514	Principles of Cytogenetics	3(2+1)
	GPB 515	Crop Breeding-I (*Kharif* Crops)	3(2+1)
	GPB 516	Germplasm Characterization and Evaluation	2(1+1)
	GPB 521*	Molecular Breeding and Bioinformatics	3(2+1)
	GPB 522*	Fundamentals of Quantitative Genetics	3(2+1)
	GPB 523	Crop Breeding-II (*Rabi* Crops)	3(2+1)
	GPB 524	Genetic enhancement for PGR Utilization	2(1+1)
	GPB 525	Breeding for Quality and Special Traits	3(2+1)
	GPB 526	Breeding for Vegetable Crops	3(2+1)
	GPB 531	Varietal Development and Maintenance Breeding	2(1+1)
	GPB 532	Hybrid Breeding	3(2+1)
	GPB 533	Breeding for Fruit Crops	3(2+1)
	GPB 534	Breeding for Ornamental Crops	3(2+1)
	GPB 535	Breeding for Stress Resistance and Climate Change	3(2+1)
	GPB 536	Seed Production and Certification	2(1+1)

Status	Course No.	Title	Credit Hrs.
Minor courses (8 credit hrs.)	Soil 513	Analytical technique and instrumental methods in soil and plant analysis	2(0+2)
	PP-521	Hormonal Regulation of Plant Growth and Development	3 (2+1)
	PP-531	Principles of Plant Physiology I - Plant Water Relations and Mineral Nutrition	3 (2+1)
Supporting Courses (Credit Hrs 6)	STAT-511	Statistical Methods for Applied Sciences	4 (3+1)
	BIOCHEM-512	Basic Biochemistry	4 (3+1)
	STAT-521	Experimental Design	3 (2+1)
	STAT- 522	Basic Sampling Techniques	3 (2+1)
	MCA-521	Computers Fundamentals and Programming	3 (2+1)
Common course (Credit Hrs 5)	CC-511	Library and Information Services	1(0+1)
	CC-512	Technical Writing and Communications Skills	1(0+1)
	CC-521	Intellectual Property and its management in Agriculture	1(1+0)
	CC-522	Basic Concepts in Laboratory Techniques	1(0+1)
	CC-531	Agricultural Research, Research Ethics and Rural Development Programmes	1(1+0)
	GPB 541	Seminar	1
	GPB 542	Research	30

*Core courses (compulsory and evaluated externally)

Course Committee Meeting of Department of Genetics & Plant Breeding

Date of Meeting	Committee Members	Major Suggestions
14.11.2019	Dr. J. M. Dhakar, Dr. N. R. Koli, Dr. B. R. Ranwah	Partial modification in syllabus of UG and PG
05.02.2021	Dr. J. M. Dhakar, Dr. B. R. Ranwah, Dr. Abhay Dashora, Dr. S. C. Sharma	-do-
15.02.2022	Dr. S. C. Sharma Dr. A. K. Sharma, Dr. Abhay Dashora, Dr. N. R. Koli	Implementation of BSMA committee for Ph. D programme

Accreditation of Master's Degree Programme – Proposed program for accreditation is-

Degree Programme	Nomenclature	Duration
Post graduate	M.Sc. (Agri.) Genetics and Plant Breeding	Two Years (Four Semesters)

Year Wise Admission to Master's Programme in Genetics and Plant Breeding :

Year of Admission	Admitted				Dropped			Passed			Year of Degree Awarded
	Intake	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	05	5	0	5	-	-	-	5	-	5	2020
2019-20	05	5	0	5	-	-	-	5	-	5	2021
2020-21	05	1	4	5	-	1	1	0	3	3	2022
2021-22	05	2	3	5	-	-	-	-	-	-	Pursuing
2022-23	06	3	3	6	-	-	-	-	-	-	Pursuing
Total	**26**	**16**	**10**	**26**	**-**	**1**	**1**	**10**	**3**	**13**	

6.4.2 Faculty Strength of Department

S. No.	Sanctione Faculty	Sanctioned	Faculty in Place			Vacant Position	Faculty Recommended by ICAR
			COA, Kota	AICRPs	Total		
1.	Professor	01	0	0	0	01	01
2.	Associate Professor	01	0	04	04	01	01
3.	Assistant Professor	01	0	06	06	01	03
	Total	**03**	**0**	**10**	**10**	**03**	**05**

PG Recognized Faculty Available in Department of Genetics & Plant Breeding

S. No.	Name of Scientist	Designation	PG Code	Teaching/ Guiding
1.	Dr. Preeti Verma	Assoc. Prof. & Head	PBG-R-04-113	Teaching & Guiding
2.	Dr. S.C. Sharma	Assoc. Professor	PBG-R-04-39	Teaching & Guiding
3.	Dr. N. R. Koli	Assoc. Professor	PBG-R-04-38	Teaching & Guiding
4.	Dr. P.K.P. Meena	Assoc. Professor	PBG-R-04-116	Teaching & Guiding
5.	Sh. B. L. Meena	Asstt. Professor	PBG-R-02-53	Teaching & Guiding
6.	Dr. Khajan singh	Asstt. Professor	PBG-R-02-64	Teaching & Guiding
7.	Dr Manoj Kumar	Asstt. Professor	PBG-R-03-109	Teaching & Guiding
8.	Dr Sandhya	Asstt. Professor	PBG-R-03-110	Teaching & Guiding
9.	Dr. Bhuri Singh	Asstt. Professor	PBG-R-03-124	Teaching & Guiding
10.	Sh. Rajesh Sharma	Asstt. Professor	HORT (VEG)-R-02-76	Teaching & Guiding

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1.	Technical Assistant	-	00	02	02	Assistant, lab assistant, field assistant attendant messenger
2.	Lab Assistant	01	00	0	0	
3.	Agriculture Supervisor	00	00	02	02	
4.	Attendant	01	01*	0	01	
	Total	02	01	04	05	05

6.4.4 Classrooms and Laboratories

S. No.	Classroom/Laboratory	Area (sq ft)	Seating Capacity	Other Facilities
1.	Classroom	400 sq ft	15	Projector
2.	Seminar Hall	1200 sq ft	100	LED, Projectors, Computers
3.	Laboratory	700 sq ft	20	

Major Equipments for Conduct of Practical Classes in Genetics and Plant Breeding

The College of Agriculture, Agricultural Research Station, Ummedganj and Mechanized Agricultural Farm are operated in the same premises. The resources in terms of teachers, technical staff, laboratories, farm machinery etc. are shared and available for the post graduate programme under Department of GPB. There are different AICRPs on major crops in operation on the campus; hence, all the resources available with the project are being used for students teaching and research. Presently, the following equipments are available for the study of students in various projects. The detailed list of equipment is provided as under.

S. No.	Name of Equipments	Quantity
1.	Automatic Seed Processing Unit	1
2.	Seed Germinator	1
3.	Digital Bricks Meter	1
4.	Laboratory oven	1
5.	Bagging Machine	1
6.	Seed Analyzer	1
7.	Top pan balance capacity 10 kg.	1
8.	Spring balance capacity 20 kg	1
9.	Electric weighing machines 5-20 kg	3
10.	Digital Vernier caliper	1
11.	Binocular Research Microscope	4
12.	Seed Cabinet	1
13.	Refrigerator	1
14.	Cane juice Extractor	1
15.	Moisture meter	1

Average Number of Students in Theory and Practical Classes

Postgraduate students are less in number, hence are grouped into only one theory and one practical batch.

Name of the Department	Number of Batches		No of Student per Batch
	Theory	Practical	
Genetics and Plant Breeding	1	1	06

Farm Facilities

To conduct field experiments and PG research 6.0 ha land is available under the department of Genetics and Plant Breeding, College of Agriculture, Ummedganj-Kota. Besides, experiment fields of AICRPs under ARS, Kota are also being utilized for practical and PG research purpose under Department of Genetics and Plant Breeding. All the experimental fields are well connected with approach roads and internal roads. Entire farm is fully irrigated and levelled. The agrometeorological data including temperature, relative humidity, precipitation and sunshine hours etc. and weather forecasting information is made available to students for their research trials.

Lentil

Rice

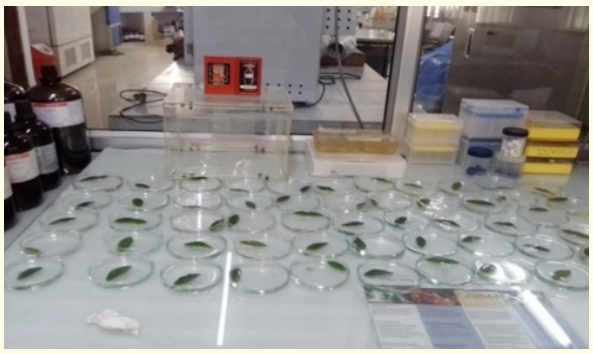
Soybean

Chickpea

Research Trials

6.4.5 Conduct of Practical and Hands-On Training

Every course has practical content, where all practical and field exercises about modern breeding techniques like germplasm and Plant Genetic Resources Management, hybridization, evaluation, selection, advancement of generation, varietal development technique, maintenance breeding, seed production etc. are conducted at instructional farm of Department. Similarly, lab oriented practicals on seed technology, biochemical and molecular aspects and handling of sophisticated equipment's are conducted in departmental laboratory




Practicals for PG Students


Hands on Training

6.4.6 Supervision of Students in PG Programme

Monitoring of Student's Trial by the Committee

Advisory Committee of a student consisting of a Chairperson and three members among whom one is from major field of specialization, another one from minor field of study and one nominated by Director Education. The research programme is proposed by the Advisory Committee and submitted to Director Education through Dean for final approval. The research is carried out by the student under the supervision of Advisory Committee. Besides this, a Monitoring Committee comprising of four members including Convenor and major advisor also supervises the experimental trials under PG research programme.

S. No.	Name of Scientists	Position
1	Dr. N. R. Koli	Convenor
2	Dr. Preeti Verma	Member
3	Dr. Khajan Singh	Member
4	Concerned Advisor	Member

PG Recognized Teachers and Teacher: Student Ratio

S. No.	Year	Teacher	Intake of students	Teacher to student ratio
1	2018-19	8	5	1:0.6
2	2019-20	8	5	1:0.6
3	2020-21	8	5	1:0.6
4	2021-22	8	5	1:0.6
5	2022-23	10	6	1:0.6

Title of Theses Submitted by Students for M.Sc. (Ag) Genetics and Plant Breeding

S. No.	Title of Thesis	Name of Student	Name of Advisor	Year
1.	Genetic Variability, correlation and path coefficient studies in chickpea (*Cicer arietinum L.)* genotypes	Vijay Kumar Meena	Dr. Preeti Verma	2020
2.	Genetic variability, correlation and path analysis in linseed *(Linum usitatissimum)* genotypes	Ashok Kumar Meena	Dr. Sandhya	2020
3.	Studies on genetic variability, characters association and genetic divergence among rice (*Oryza sativa)* genotypes	Deepak Meena	Dr. Manoj Kumar	2020
4.	Genetic divergence and character association in Indian mustard [*Brasica juncea (L.) Czern & Coss*].	Hariom Meena	Dr. P.K.P. Meena	2020
5.	Variability, correlation, and path analysis in lentil (*Lens culinaris medik.*) genotypes	Jitendra Meena	Dr. Khajan Singh	2020
6.	Assessment of selection parameters for yield and oil content in Indian mustard [*Brasica Juncea (L.) Czern & Coss*].	Hemant Yadav	Dr. P.K.P. Meena	2021
7.	Genetic Variability and Character Association Studies for yield and its contributing traits in coriander (*Coriandrum sativum* L.)	Vishnu Choudhary	Dr. Preeti Verma	2021
8.	Character Association and Genetic divergence studies in linseed *(Linum usitatissimum)* genotypes	Subhash Chand	Dr. Sandhya	2022
9.	Genetic Divergence Analysis for Seed Yield and Contributing Characters in Field Pea (*Pisum sativum* L.) Genotypes	Raj Govind Meena	Dr. Khajan Singh	2022
10.	Assessment of character association and diversity analysis for yield and its attributing traits in rice (*Oryza sativa)*	Rajpal Singh	Dr. Manoj Kumar	2022
11.	Genetic variability and character association in soybean [(*Glycine max* (L.) Merrill]	Sharmila Kumari	Sh. B. L. Meena	2022
12.	Character association and genetic divergence for seed yield and its attributing traits in black gram [*Vigna mungo* (L.) Hepper]	Poonam Fozdar	Dr. R. K. Mahawar	2022
13.	Genetic variability, association and divergence studies for yield and contributing traits in pigeonpea (*Cajanus cajan* (L.) Millsp.)	Mumaldeep Kaur	Dr. S. C. Sharma	2022

Publications from Research of M.Sc. Student

S. No.	Authors & Year	Title	Journal	Vol./Issue
1.	Ashok Kumar Meena, Sandhya Kulhari, Manoj Kumar, N. R. Koli, Yamini Tak, Deepak Meena and Neetu Meena (2020)	Studies on genetic variability and character association in linseed (*Linum usitatissimum* L.) genotypes	*Int. J. Curr. Microbiol. App. Sci.*	9(7):3949-3957
2.	Jitendar Kumar Meena, Khajan Singh, PKP Meena, Rajesh Kumar and Deepak Meena (2020)	Studies on Genetic Variability, Correlation and Path Analysisin Lentil (*Lens culinaris* Medik.) Genotypes	Int. J. Curr. Microbiol. App. Sci.	9(9): 2078-2087.
3.	Jitendar Kumar Meena1, Khajan Singh2, P.K.P. Meena2 , Deepak Meena* 3, Ashok Kumar Meena4 and Hitesh Kumar Koli (2020)	Analysis of Genetic Diversity in Lentil (*Lens culinaris* Medik.) Genotypes under Humid South-Eastern Plain Zone of Rajasthan	*Journal of Plant Developmen t Sciences*	14(4): 443-447.
4.	Deepak Meena, Manoj Kumar, Sandhya, N. R. Koli, Yamini Tak and Ashok Kumar Meena (2020)	Assessment of Correlation and Path Coefficient Analysis for Yield and it's Attributing Traits in Rice (*Oryza sativa* L.) Genotypes	*International Journal of Current Microbiology and Applied Sciences*	*9*(7): 3845-3851
5.	Hari Om Meena, P.K.P. Meena, Khajan Singh, H.P. Meena and Deepak Meena (2020)	Genetic Divergence Analysis in Indian Mustard [*Brassica juncea* (L.) Czern & Coss.], .	*Int.J. Curr. Microbiol. App. Sci*	***9***(10): 2185-2192
6.	Vijay Kumar Meena, Preeti Verma, Yamini Tak and Deepak Meena (2021).	Genetic variability, correlation and path coefficient studies in chickpea (*Cicer arietinum* L.) genotypes in South Eastern Rajasthan:	*Biological Forum*	13(3a): 93-98. 5.11
7.	Vishnu Choudhary, Preeti Verma, S. C. Sharma, D. L. Yadav and R. S. Narolia (2021).	Genetic variability and character association studies for yield and its contributing traits in coriander (*Coriandrum sativum* L.).	*The Pharma Innovation Journal*	10(11): 1830-1834. 5.23
8.	Ashok Kumar Meena, Sandhya and Manoj Kumar (2021)	Assessment of genetic diversity in linseed (*Linum usitatissimum* L.) genotypes	*Electronic Journal of Plant Breeding*	12(3): 3011-3015
9.	Deepak Meena, Manoj Kumar, Sandhya, Ravi Kishan Soni (2021)	Study of genetic diversity in rice (*Oryza sativa* L.) genotypes for grain yield under humid south eastern plain of Rajasthan	*Internationa l Journal of chemical studies*	*9*(1): 3472-3475

S. No.	Authors & Year	Title	Journal	Vol./Issue
10.	Rajpal Singh, Manoj Kumar, Sandhya, Yamini Tak, B.L. Nagar and Ravi Kishan Soni (2021)	Genetic Variability, Heritability and Character Association Studies for Yield and its Attributing Traits in Rice (*Oryza Sativa* L.)	*Frontiers in Crop Improvement*	Vol 9 : 3413-3417
11.	Hemant Yadav, PKP Meena, NR Koli, BS Meena and DL Yadav (2021)	Assessment of selection parameters for yield and oil content in Indian mustard [*Brassica juncea* (L.) Czern & Coss.]	*The Pharma Innovation Journal,*	10(9): 377-381.
12.	Ashok Kumar Meena, Sandhya Kulhari, Gaytri Kumawat, Giradhari Lal Yadav and Om Prakash Yadav (2022)	Study on genetic divergence in linseed (*Linum usitatissimum* L.) through principal component analysis	*Pharma Innovation*	11(4): 631-635
13.	Subhash Chand, Sandhya, Manoj Kumar, Yamini Tak and H. P. Meghwal (2022)	Analysis of genetic diversity in linseed (*Linum usitatissimum* L.) genotypes	*Biological Forum*	14 (4a): 526-529
14.	Sharmila Kumari, BL Meena, SC Sharma, NR Koli, Yamini Tak, Poonam Fozdar (2022)	Study on genetic variability parameters in soybean [*Glycine max* (L.) Merrill]	*Journal of Agriculture and Ecology*	14 (14): 72-76
15.	Rajgovind Meena, Khajan Singh, Manoj Kumar, SL Yadav and BK Patidar (2022)	Genetic variability and character association studies for yield and its contributing traits in Field pea (*Pisum sativum* L.)	*The Pharma Innovation Journal*	11(2): 694-697.
16.	P.K.P. Meena, Hari Om Meena and Harphool Meena (2022)	Correlation and path analysis studies for yield and its contributing traits in Indian mustard [*Brassica juncea* (L.) Czern & Coss.]	*Journal of Plant Development Sciences*	14(2): 215-218. 2022.
17.	Vishnu Choudhary, Preeti Verma, S. C. Sharma, D. L. Yadav and R. S. Narolia (2022).	Genetic divergence studies in coriander (*Coriandrum sativum* L.) genotypes.	*The Pharma Innovation Journal*	11(12): 141-143. 5.23
18.	Manoj Kumar, Sandhya, K.M. Sharma, Deepak Meena (2023)	Genetic Variability, Heritability and Character Association Studies for Yield and Yield Related Traits in Rice (*Oryza sativa* L.)	*Environment and Ecology*	*41 (2) : 831—838,*
19.	Ashok Kumar Meena, Sandhya Kulhari, Gaytri Kumawat, Giradhari Lal Yadav and Om Prakash Yadav (2023)	Genetic variability, heritability and correlation coefficient in linseed (*Linum usitatissimum* L.)	*Pharma Innovation*	12(3): 3011-3015

6.4.7 Feedback of Stakeholders

S. No.	Name of Student	Important Remarks/Feedback
1.	Ashok Kumar Meena	Very good and qualified faculty, hardworking and helping in nature, good research being done in the past and going ahead too.
2.	Deepak Meena	Good guidelines were given during the course of study along with demonstration and use of recent technologies for conduction of research
3.	Jitendra Kumar Meena	Learned a lot under the guidance of the faculty. Good facility for sports, library with Wi-Fi.
4.	Sharmila Poonia	Unwavering support and commitment of college and faculty. Well-designed theoretical and practical course curriculum.
5.	Poonam Fozdar	Excellent faculty, motivational for students.
6.	Hemant Yadav	Very good faculty and best environment to study. Good teacher-student interaction.
7.	Vijay Kumar Meena	Good behavior of the faculty and good overall environment of the college.
8.	Raj Govind Meena	Good teacher-student interaction. Best environment to study.
9.	Subhash Chand	Quality education, devoted faculty, comprehensive support.
10.	Mumaldeep Kaur	Very cooperative teachers having positive interaction with students.
11.	Karan Sachdeva	Teachers with good expertise, readily available to clarify doubts, conducive environment for academic growth

6.4.8. Student Intake and Attrition in the Programme

M.Sc. (Agri.) Genetics and Plant Breeding

Year	Sanctioned Seats	Actual Intake	Attrition	% Attrition
2018-19	5	5	0	0
2019-20	5	5	0	0
2020-21	5	5	1	20
2021-22	5	5	0	0
2022-23	6	6	0	0

6.4.9. ICT Application and Curricula

ICT is the integral part of the teaching program of college. Hence, the following ways are adopted for application of ICT in curricula delivery

To deliver curricula of this department following ICT tools are used:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.wwwcoakota.com for future reference of students.
- **E-mail–**Research scholars are consulting with guide through email for advices to complete thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university administration.
- **Internet:** The library is provided with separate internet lease line with speed of 100mbps. There is a separate digital library section equipped with 20 computers having internet connection.

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan

Date :

SELF STUDY REPORT

M.Sc. (Agri.) Agricultural Extension Education

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1. Brief History of the Degree Programme

The Department of Agricultural Extension and Communication came into existence in the year 2018 since inception of this college. Agricultural Extension plays very important role in enhancing productivity of agricultural crops by transferring the latest improved scientific technologies to the farming community and ultimately strengthening the national economy. The technology transfer, however, does not take place in a vacuum and it needs a well-organized extension system. Keeping in view the importance of agricultural extension, Master Program was initiated in this department in 2019 with intake of Four students through Pre-PG entrance exam. The department has made significant stride since inception in development of effective paradigm and prototype for research including climate change adaptation, information and communication technologies, use of social media in farming, farming system research, farming management behaviour and capacity development.

Objectives

1. To generate competent human resources with specialization in Agricultural Extension Education.
2. To carry out need based social research in Agricultural Extension Education.

Nomenclature of degree programme	:	M.Sc. (Agri.) Agricultural Extension Education
Duration of the degree programme	:	Two Years (04 semesters)
Admission procedure	:	70% seats through State Level Joint Entrance Test
		30% seats through AIEEA conducted by ICAR*

*Presently the degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.

Accomplishments: 08 Students in two batches have been passed out so far from this department and achievements of these students are given below:

Name of Student	Year of Admission	Year of Passed out	Achievements/Present Status
Soniya Rishi	2019	2021	Pursuing Ph. D. from MPUAT Udaipur
Vikash Meena	2019	2022	Serving as Agriculture Supervisor in Govt. of Rajasthan
Naresh Kumar	2019	2022	Preparing for competitive examinations
Sonam Kumari Meena	2019	2022	Serving as Agriculture Supervisor in Govt. of Rajasthan
Jagdish Chand Dangi	2020	2022	Pursuing Ph. D. from MPUAT Udaipur
Ranjeet Kumar	2020	2022	Preparing for competitive examinations
Laxmi Meena	2020	2022	Preparing for competitive examinations
Umesh Chandra Choudhary	2020	2022	Preparing for competitive examinations

Requirement of Degree Programme

A student admitted to a post-graduate programme shall have to successfully completed the following before award of degree

- An approved course programme
- Synopsis seminar and its approval
- Antiplagiarism certificate
- Pre-thesis seminar
- Submission of thesis and its evaluation report
- Thesis viva-voce examination
- Minimum residential requirement- Four Semester
- Minimum OGPA requirement. - 6.5 out of 10-point scale

A student for master's programme has require to complete a minimum of 70 credit hours for the degree as detailed below

Title		Approved Course Load (Credit Hours)
Major Courses	:	20 (Including 12 as core courses)
Minor Courses	:	8
Supporting Courses	:	6
Common Courses	:	5
Seminar	:	1
Thesis	:	30
Total	**:**	**70**

List of the PG Courses Offered by the Department

Status	Course No.	Title	Credit Hrs.
Major Courses (20 Credit Hrs.)	EXT 511	Extension Landscape	2(2+0)
	EXT 512*	Applied Behaviour Change	3(2+1)
	EXT 513*	Research Methods in Extension	3(2+1)
	EXT 521*	Capacity Development	3(2+1)
	EXT 522*	ICTs for Agricultural Extension and Advisory Services	3(2+1)
	EXT 523	Evaluation and Impact Assessment	3(2+1)
	EXT 531	Organizational Behaviour and Development	3(2+1)
Minor Courses (8 Credit Hrs.)	EXT 514	Enabling Innovation	2(1+1)
	EXT 532	Managing Extension Organization	3(2+1)
	EXT 533	Gender Mainstreaming	3(2+1)
	AEC 515	Agricultural Development and Policy Analysis	2(2+0)
	AEC 533	Agricultural Finance and Project Management	3(2+1)
Supporting Courses (6 Credit Hrs.)	STAT 511	Statistical Methods for Applied/ Social Sciences	4(3+1)
	COMP 521	Computer Application for Agricultural Extension Research	3(2+1)
	STAT 522	Basic Sampling Techniques	3(2+1)

Status	Course No.	Title	Credit Hrs.
Common Compulsory Courses (5 Credit Hrs.)	CC 511	Library and Information Services	1(0+1)
	CC 512	Technical Writing and Communication Skill	1(0+1)
	CC 521	Intellectual Property and Its Management in Agriculture	1(1+0)
	CC 522	Basic Concepts in Laboratory Techniques	1(0+1)
	CC 531	Agricultural Research, Research Ethics and Rural Development Programmes	1(1+0)
Seminar	EXT541	Seminar	1
Thesis	EXT542	Research	30

*Core courses (compulsory & evaluated externally)

Accreditation of Master's Degree Programme : The following PG Programme is offered for the accreditation to National Agricultural Education Accreditation Board, ICAR, New Delhi.

Academic Programme	Programme	Duration
Post graduate	M.Sc. (Agri.) Agricultural Extension Education	Two Years (Four Semesters)

Year Wise Admission to Master's Degree Programme in Agricultural Extension Education

Year of Admission	Intake	Admitted			Dropped			Passed			Year of Degree Awarded
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2019-20	04	2	2	4	-	-	-	-	1	1	2021
2020-21	04	3	1	4	-	-	-	5	2	7	2022
2021-22	04	2	2	4	1	-	1	-	-	-	Continue
2022-23	04	1	3	4	-	-	-	-	-	-	Continue

6.4.2. Faculty Strength of the Department

S. No	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position	Faculty Recommended by ICAR
			COA, Kota	University /KVK	Total		
1.	Professor	-	-	1	1	-	1
2.	Associate Professor	1	-	2	2	1	2
3.	Assistant Professor	1	1	-	1	-	3
	Total	**2**	**1**	**3**	**4**	**1**	

PG Recognized Faculty

S. N.	Name	Designation	PG Code	Teaching /Guiding
1.	Dr. M.C. Goyal	Professor	EXTN-R-03-84	Teaching & Guiding
2.	Dr. K. C. Meena	Assoc. Prof. & Head	EXTN-R-04-99	Teaching & Guiding
3.	Dr. B. L. Dhaka	Associate Professor	EXTN-R-03-90	Teaching & Guiding
4.	Dr. Kirti	Assistant Professor	EXTN-R-02-81	Teaching & Guiding

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1.	Technical Assistant	0	0	0	0	Assistant, lab assistant, attendant messenger
2.	Lab Assistant	1	1	0	1	
3.	Agriculture Supervisor	0	0	0	0	
4.	Attendant	1	1*	0	1	
	Total	2	2	0	2	03

6.4.4. Classrooms and Laboratories

S. No.	Classroom	Area (sp. ft.)	Seating Capacity	Other Facilities (LED, Projector, Computer, etc.)
1.	Classroom	130	15	Interactive board, Projectors,
2.	Seminar Hall cum Extension Lab	600	50	LED, Projectors, podium, smart board, Computers

Classrooms

The lecture delivery is done through IT (smart class rooms/ interactive board etc.). The department is using smart class rooms/ interactive board etc. for teaching and practical. There are well ventilated class rooms adorned with modern facilities which suffice the requirements of the degree programme.

Extension Lab

A well-equipped extension laboratory created for practical hands-on training on Computers, LCD projector, PPT Preparation & Presentation, training on improvement of Communication Skills etc. The list of major items available in the department is given as under:

S. No.	Name of the Equipments	Quantity
1	LCD projector	1
2	Digital Podium	1
4	Camera (SLR) with zoom, wide-angle, tele-photo lens	2
5	Computers (workstation) with editing softwares	1
6	Video camera with tripod, lighting accessories and editing facility	1
7	Digital voice recorders	5
8	Audio recording-mixing consoles	1
9	Computation softwares for statistics	1

Extension Laboratory and Seminar Hall

6.4.5 Conduct of Practicals and Hands-on Training

"Learning by Doing" and "Seeing is Believing" principles are being followed to conduct practicals and hands-on- training. Practical exercises on organizational communication, analysis of organizational process, assessment of attitude, values, motivation, leadership, team building, group dynamics, need assessment of different stakeholders, case study, extension research methodologies and decision making etc. are being conducted. Communication skills, preparation of bulletins, pamphlets, booklet, preparation of news script, short educational film making, YouTube video, radio talk and mobile apps, other channels for effective dissemination of agricultural information are being taught with the help of visual and audio-visual aids.

Average Number of Students in Theory and Practical Classes

Postgraduate students are less in number, hence are grouped into one theory and one practical batch.

Name of the Degree	Number of Batches		No. of Students per Batch
	Theory	Practical	
M.Sc. (Agri.) Agricultural Extension Education	1	1	4

Practical on PRA tools

Exposure Visit to FPO

KVK Visit

Exposure Visit at Akasashwani , Kota

Data Collection by PG Students

6.4.6. Supervision of Students in PG Programmes

Advisory Committee is constituted for all students with a chairperson and three members each from major field of specialization, minor field of study and Director Education Nominee. Research Programme proposed by the Advisory Committee are submitted to Director Education through Dean for final approval. The research carried out by the student under the supervision of Advisory Committee. Advisory committee of the particular student supervise completely throughout their degree programme including credit seminars presentation, synopsis proposal for research work, Data collection, analysis as well as interpretation etc. Head of the Department keeps strict monitoring on the systems to be followed.

PG Recognized Teachers and Teacher: Student Ratio

S. No.	Academic Year	Teachers	Students Enrolled	Teacher Student Ratio
1.	2019-20	4	4	1:1
2.	2020-21	4	4	1:1
3.	2021-22	4	4	1:1
4.	2022-23	4	4	1:1

Thesis Submitted by Students

S. No.	Name of Students	Title of Thesis	Chairperson
1.	Soniya Rishi	Adaptive Capacity of Farmers towards Climate Change in Bundi District of Rajasthan.	Dr. B. L. Dhaka
2.	Vikash Meena	Role of social media in Sharing Farm Information among Farmers in Kota Division of Rajasthan.	Dr. K. C. Meena
3.	Naresh Kumar	Characterization of Farming System in Humid South-Eastern Plain Zone of Rajasthan.	Dr. M. C. Goyal
4.	Sonam Kumari Meena	Analysis of Competency and Training Need of Extension Functionaries in Kota Division of Rajasthan	Dr. Kirti
5.	Jagdish Chand Dangi	Adoption of Pressurized Irrigation Systems by the Farmers in Jhalawar District of Rajasthan.	Dr. Kirti
6.	Ranjeet Kumar	Irrigation Water Management behaviour of Farmers in Kota District of Rajasthan.	Dr. B. L. Dhaka
7.	Laxmi Meena	Farmer's Attitudes towards ICT in Transfer of Technology in Kota District of Rajasthan.	Dr. Kirti
8.	Ummesh Chandra Choudhary	Risk Management behaviour of Farmers in Kota District of Rajasthan.	Dr. B. L. Dhaka

Research Paper Published Out of M.Sc. Thesis

S. No.	Title	Authors	Name of Journal	Year & Month	Vol. & Page No.
1.	An assessment of in - service training needs for extension functionaries in Kota division of Rajasthan	Meena, S. K., Kirti, Dhaka, B. L. and Ojha. P.K.	*Agricultural Mechanization in Asia*	2022	53(3): 6945-6950
2.	Developing an instrument to measure adaptive capacity of farmers to climate change	Rishi, S., Dhaka, B. L., Kirti, Meena, L. K., and Meena, S. N.	*Indian Journal of Extension Education*	2021	57 (4) : 17-22
3.	A study on demographical profile of extension functionaries in Kota division of Rajasthan	Meena, S., K.,Kirti, Dhaka, B. L. and Gautam, C,	*Indian Journal of Agriculture and Allied Science*	2022	8 (3):41-44
4.	Constraint and their remedial measures towards social media use in farming	Meena, V., Meena, K. C., Goyal, M. C., and Meena, L. K.	*Indian Journal of Extension Education and Rural development*	2022	30 (1): 137-140
5.	Social media used by the farmers in sharing farm information	Meena, V., Meena, K. C., Goyal, M. C., Meena, L. K. and Kumar, R.	*Asian Journal of Agricultural Extension, Economics & sociology*	2022	40 (10) :954-960
6.	A Study on Socio - Economic Profile of Farmers Using ICT in Kota District of Rajasthan.	Meena, L., Kirti, Dhaka, B. L., Meena, L. K. and Goyal, M. C.	*Indian Journal of Agriculture and Allied Sciences*	2022	8 (3):51 - 55
7.	A Study on Socio - Economic Profile of PIS Farmers in Jhalawar District of Rajasthan.	Dangi, J. C., Kirti, Dhaka, B. L., Ram, B. and Meena, R. R.	*Indian Journal of Agriculture and Allied Sciences*	2022	8 (3):4 1-44
8.	Knowledge Level of Farmers about Various Irrigation Water Saving Techniques in Kota District of Rajasthan.	Kumar, R., Dhaka, B. L., Kirti, Meena, L. K. and Sharma, S. C.	*Indian Journal of Agriculture and Allied Sciences*	2022	8 (3):45-48
9.	Perception Level of Farmers About Various Source of Risk in Kota District of Rajasthan.	Choudhary, U. C., Dhaka, B. L., Kirti, Meena, L. K. and Gautam, C.	*Indian Journal of Agriculture and Allied Sciences*	2022	8 (4):114-116

Publication by Staffs

1. Research Paper

S. No.	Title	Authors	Name of Journal	Year	Vol. & Page No.
1.	Impact of Integrated crop management in cluster front line demonstration on yield and economics in Swai Madhopur	Sharma, N., Meena B. L., Meena, K. C. and Yadav, V.K.	*Agriculture Mechanization in Asia*	2022	53 (3) : 6929-6934
2.	Knowledge of improved dairy husbandry practices of farmers of Kauroli, district of eastern Rajasthan	Singh, B., Mahajani, K and Meena, K.C.	*Journal of Agriculture and Ecology*	2020	9: 48-54
3.	Production, Processing and Marketing Problems Faced by the Guava Producers in Sawai Madhopur, Rajasthan.	Meena, K. C., Meena, B. L., Meena, C. B. and Sharma, N	*HortFlora Research Spectrum*	2020	9, Issue 1 & 2: 50-54
4.	Performance of Pratap Urd 1 Variety of Blackgram in Agro Climatic Zone-V of Rajasthan.	Meena, K. C., and Meena, L. K.	*Journal of Krishi Vigyan*	2020	8 (2): 210-214
5.	Effectiveness of Farmer Producers Organization in Delivery of Services -A Case of Kurel Kisan Producer Company	Dhaka B. L, Bairwa, R. K. and Kirti	*International Journal of Science, Environment & Technology*	2020	9(1): 55-60
6.	Yield and economics analysis of urdbean under cluster front line demonstrations in Sawaimadhopur, Rajasthan.	Meena, B. L., Sharma, N. and Meena, K. C.	*Journal of Pharmacognosy and Photochemistry*	2020	9(1):1589-1592
7.	Augmenting the productivity of mustard through CFLD's in Sawaimadhopur, Rajasthan	Meena, K. C., Sharma, N. and B.L. Meena	Journal of Pharmacognosy and Photochemistry	2019	8(3):3313-3316
8.	Economic impact of Pratap Urd-1 variety of Urdbean crop in Agro-climatic zone-V of Rajasthan.	Meena, K. C., Meena, L. K., Meena, M. and Dhaka, B. L.	*Journal of Pharmacognosy and Photochemistry*	2019	8(6):1717-1721
9.	Knowledge level of farmers towards improved production practices of mustard in Karouli district of Rajasthan.	Meena, R. K., Tripathi, P., Meena, R. K. and Meena, K.C.	*Indian Journal of Social Research*	2019	60 (5) (Sept– Oct): 645-652
10.	A Study on Aspiration Profile of Digital Natives.	Kirti and Meena, L. K.	*Multilogic In Science*	2018	8 (SI) :115-116

2. Books/Manuals

S. No.	Author(s)	Title	Publisher	Year	ISBN
1.	Dhaka, B.L. & Kirti	Manual on RAWE & AIA	COA, Kota	2022	---
2.	Dhaka, B.L., Kirti & Ojha, P.K.	Human Values & Ethics	Kalyani Publishers	2021	978-93-90522-73-6
3.	Sivabalan, K.C, Kirti, Kumar, M., Srivastava, A. K, Nirmala, L. Balasubramaniam, P	Objective Agricultural Extension	Parmar Publisher	2018	978-81-925875-6-1
4.	Sivabalan, K.C, Kumar, M., Kirti, Srivastava, A. K, Nirmala, L. Balasubramaniam, P	Rural Sociology and Educational Psychology	Parmar Publisher	Nov., 2018	978-93-84113-43-8

Seminar/ Webinar Organized by Department of Agricultural Extension & Communication

The faculty member and student take advantages through attending the webinar organized by department.

S. No.	Title	Organized by	No. of Participant	Date
1.	Extension Advisory Services in post Pandemic situation	Deptt. of Agril. Ext. & Comm., COA, Kota	677	24th July, 2020
2.	Designing Research in the Social Sciences	Jointly organized by Deptt. of Agril. Ext. & Comm., COA, Kota, Deptt. of Home Science, Women College, BHU, Varanasi and Deptt. of Home Science, Government Women College, Thiruvananthapuram, Kerala	400	23-29 Sept. 2021
3.	A Talk on Stress management	Jointly organized by Deptt. of Agril. Ext. & Comm., COA, Kota, and ISKON	95	10th Jan. 2022

Awards Received by Staffs:

S. No.	Name & Designation	Year	Name of the Award	Organization
1.	Dr. K. C. Meena, Assoc. Prof.	2019	Best KVK Scientist Award	Indian Society of Extension Education
2.	Dr. Kirti, Asstt. Prof.	2018	Ganga Singh Chauhan Memorial Award	9th National Extension Congress 2018 held at CAEPHT, Ranipool, Sikkim, (CAU, Imphal, Manipur)
			Young Scientist Award	International Conference on Food Security and Sustainable Agriculture held at Pataya-Bankok, Thailand

6.4.7. Feedback of Stakeholders

S. No.	Name	Stakeholders	Important Remarks/feedback	Action Taken
1.	Sandeep Kumar	Student	I would appreciate more practical training opportunities within the program. While the theoretical foundation provided in the courses is crucial, hands-on experiences would further enhance our learning.	Practical exercises, field visits are being arranged regularly
2.	Laxmi Meena	Student	They encouraged the active learning strategies in the classroom.	Laboratory has been well equipped with different ICT gadgets to make the learning more interactive
3.	Suman	Student	The department has an enthusiastic working environment. I am blessed to work under my major advisor. She always motivated me to work for excellence.	Scholars are motivated to carry out research on current issues, outcomes of which further help policymakers.
4.	Antima Meghwal	Student	Teachers always helped me in personality development and other education professionals in their field of study to ensure all round success. I am blessed to work under the guidance of my major advisor who is man of wisdom and knowledge.	Students are groomed through motivating and organizing personality development trainings and Language exercises
5.	Soniya Rishi	Student	The teaching skills of teachers was very good and helped me in easy understanding of research methodology and other parameters.	Research dynamics are given utmost importance as its fundamental for carry out quality research.
6.	Jagdish Chand Dangi	Student	Teachers are supportive and given us all the facilities related to the research and education. They also helped for preparation of SRF/Ph. D and providing guidance time to time for better and effective work.	Selected as Ag. Supervisor in Govt. of Rajasthan
7.	Sonam Kumari Meena	Student	Teachers are supportive and given us all the facilities related to the research and education. They also helped for preparation of SRF/Ph. D and providing guidance time to time for better and effective work.	Selected as Ag. Supervisor in Govt. of Rajasthan

S. No.	Name	Stakeholders	Important Remarks/Feedback	Action Taken
8.	Naresh Kumar	Student	The academic work of department is very appreciable and they tried to completed P.G. teaching and research work with in stipulated time framework. Guidance for SRF/Ph.D. the students' exams.	The extra classes and regular guidance are provided by the teachers and
9.	Rajni Bala	Student	I learned many new things from my teachers who are very helpful in every way the can. The teacher-student interaction is great. The teachers are very friendly because of which I can clarify of my doubts.	Counselling on different facets of life is being arranged by the all the teachers
10.	Mr. Ganpat Lal Nagar	Progressive farmer	Staffs provided information about good quality new varieties seeds of pulses and cereal crops which help me in enhancing the productivity in adopted improved production technologies of the crops and asked that faculty and students are very cooperative & facilitated need-based information and agro-inputs	Guidance regarding the other units from where they can be benefited
11.	Mr. Dharamraj Gochar	Kurel Farmer Producer Company	Guidance regarding the various marketing and technical aspects given for the FPO were helpful.	Information regarding various training held at KVK in which they can participate and got benefited

6.4.8. Student Intake and Attrition in the Programme

M.Sc. (Ag.) Agricultural Extension Education

Year	Intake Capacity	Actual Intake	Attrition	% Attrition
2019-20	4	4	0	0
2020-21	4	4	0	0
2021-22	4	4	1*	25
2022-23	4	4	-	-

*Joined Govt. job

6.4.9. ICT Application and Curricula

ICT is the integral part of the teaching programme of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.wwwcoakota.com for future reference of students.
- **E-mail**–Research scholars are consulting with guide through email for advices to complete thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university administration.
- **Internet:** The library is provided with separate internet lease line with speed of 100mbps. There is a separate digital library section equipped with 15 computers having internet connection.

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including **anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader** are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 68 e-books for the students and faculty members of this college to acquaint with the desired information.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

SELF STUDY REPORT

Ph.D. Agronomy

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1. Brief History of the Degree Programme

The Department of Agronomy in COA, Kota came into existence in the year 2018.The department has attained the distinction of one of the biggest departments at the campus with faculty strength of 16 teachers and responsible for teaching, research and extension activities in the field of agronomy for Zone V of Rajasthan. It has well-equipped laboratories and research farm of 30 ha besides ARS and MAF Farms are also operated at the same campus. These are well supported by laboratory and field staff for proper conduction of research by faculty and post graduate students as well as farm practical of undergraduate students. The programme of Ph. D. Agronomy started in the year 2018, since the inception of the department, 13 M.Sc. and 3 Ph.D. students have completed their degree till date. Passed out post-graduate students have been selected in agriculture, and other allied services. Two teachers of the department have been bestowed with University Best Teacher Award (2019-20 and 2020-21). The academic rules and courses are implemented as per the guidelines of ICAR-BSMAs for offering Ph.D. degree programmes

The department offers 31 Courses (72 cr. hrs.) as major, minor, supporting and Common Courses for PG students on various agronomical aspects of crop production, water management, weed management, farming systems, organic farming, fertility and nutrient management, agrostology and agroforestry, fodder production and dryland agriculture every year. In addition, IFS, Organic Farming and Seed production EL units are in function at campus under the supervision of Department. Significant research achievements have been made in natural resource management, organic farming, conservation agriculture, in-situ rain water management, integrated farming systems, integrated nutrient management, dry land agriculture and field crops, etc. through different AICRPs and Ph. D degree programme students enrolled in Ph.D. Agronomy The developed technologies are constantly validated through on farm adaptive research for its promotion and diffusion in the region.

Objective

- To carry out need base basic and applied research in Agronomy.
- To develop competent human resource adequately skilled in field of agronomy.
- Dissemination of improved technologies to the farmers and capacity building.

Accomplishments of Ph.D. Programme

- 03 Ph. D. students has been passed out from Department of Agronomy out of which all have been passed National Eligibility Test conducted by the Agricultural Scientists Recruitment Board.

S. No	Name of Students	Achievements
1.	Anju Bijarnia	Working as SRF and Cleared NET
2.	Roshan Kumawat	Working as SRF and Cleared NET
3.	Gajendra Nagar	Serving in State Govt. and Cleared NET

List of Publications from Ph.D. Research

Bijarnia, A., Tetarwal, J.P., Ram, B., Bijarnia, A.L. Kumar, R., Kumawat, R. and Choudhary, M. 2021. Effect of nitrogen and phosphorus fertilization along with foliar spray of calcium chloride and potassium nitrate on performance of cowpea (*Vigna unguiculata*) + baby corn (*Zea mays*) intercropping systems. *Indian Journal of Agronomy* 66 (3): 355-360.

Bijarnia, A., Tetarwal, J.P., Ram, B., Singh, P., Yadav, R. and Gupta, A.K. 2022. Interactive effect of intercropping systems and fertility levels on yield and economics of summer cowpea intensified with baby corn. *Annals of Agricultural Research,* 43(2): 164-167.

Bijarnia, A., Tetarwal, J.P., Singh, P., Ram, B., Yadav, R.K. and Kumar, R. 2022. Effect of NP fertilization and stress-mitigating chemicals on productivity and profitability of summer cowpea (*Vigna unguiculata*) intensified with baby corn (*Zea mays*). *Indian Journal of Agricultural Sciences* 92(11): 1326-1330.

Bijarnia, A., Tetarwal, J.P., Ram, B., Kumawat, R. and Bijarnia, H.K. 2022. Growth, yield and quality response in cowpea-baby corn intercropping under NP fertilization and stress mitigating chemicals during summer season of south eastern Rajasthan. *Agricultural Mechanization in Asia, Africa & Latin America* 53 (01): 5361-5368.

Kumawat, R., Ram, B., Tetarwal, J.P., Yadav, R. Bijarnia, A. and Choudhary, M. 2021. Productivity and profitability of summer mungbean (*Vigna radiata* Wilczek L.) influenced by different phosphorus levels, biophos liquid biofertilizer and growth regulator. *The Pharma Innovation* 10 (12): 1246-1250.

Kumawat, R., Ram, B., Tetarwal, J.P., Yadav, R.K., Kumar, R. Bijarnia, A. and Choudhary, M. 2022. Growth, yield and quality parameters summer mungbean (*Vigna radiata* wilczek l.) influenced by different phosphorus levels, biophos liquid biofertilizer and growth regulator in south-eastern Rajasthan. *Agricultural Mechanization in Asia, Africa & Latin America* 53 (01): 5433-5443.

Kumawat, R., Ram, B., Sigh, P., Tetarwal, J.P., Yadav, R.K., Gupta, A.K., and Bijarnia, A. 2022. Respose of summer mungbean (*Vigna radiata* Wilczek L.) to phosphorus levels, biophos liquid biofertilizer and growth regulator. *Indian Journal of Agronomy* 76 (2): 170-174.

Nagar, G., Meena, D. S., Meena, B. S., Sharma, M. K., Patidar, B. K., Yadav, R. K., and Ram, B. 2023. Effect of organic formulations on growth and yield of wheat in South-Eastern Rajasthan. *Annals of Agricultural Research* 43(4) : 375–381.

The Detail of Ph. D. Degree Programme

Nomenclature of degree programme	:	Ph. D. Agronomy
Duration of the degree programme	:	Three Years (06 Semesters)
Admission procedure	:	70% seats through State Level Joint Entrance Test 30% seats through AIEEA conducted by ICAR*

*Presently the Ph.D. degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.

Requirement of Degree Programme

A student admitted to a Doctoral Degree programme shall have to successfully complete the following before award of a degree:

- An approved programme of study
- Synopsis seminar and its approval
- A preliminary examination
- Pre-thesis seminar
- Submission of thesis and its evaluation report from two experts.
- Thesis viva-voce examination by any one expert
- Minimum residential requirement- Six Semester
- Minimum OGPA requirement. - 6.5 out of 10-point scale

A student required to complete a minimum of 100 credit hours for Ph. D. degree programme as detailed below

Title		Course Load (Credit Hours) as per BSMA
Major Courses	:	12 (Including 6 as core courses)
Minor Courses	:	06
Supporting Courses		05
Seminar	:	02
Comprehensive Examination Oral		NC
Thesis / Research Credit Hours	:	75
Total	**:**	**100**

List of the Ph. D. Courses Offered by the Department

S. No.	Course No.	Title of Course	Credit Hrs.
Major Courses (12 credit hrs)	AGRON 611*	Current trends in Agronomy	3(3+0)
	AGRON 612	Recent trends in crop growth and productivity	3(2+1)
	AGRON 613	Integrated farming systems for sustainable agriculture	2(2+0)
	AGRON 614	Soil conservation and watershed management	3(2+1)
	AGRON 621	Irrigation management	3(2+1)
	AGRON 622	Recent trends in weed management	2(2+0)
	AGRON 623	Stress crop production	3(2+1)
	AGRON 624*	Research and publication ethics	2(2+0)
Minor Courses	Soil 511	Soil chemistry	3(2+1)
	Soil 524	Soil, water and air pollution	3(2+1)
Supporting Courses	BIOCHEM-513	Techniques in Biochemistry	4 (2+2)
	MCA-522	Information Technology in Agriculture	2 (1+1)
	AGRON 641	Doctoral Seminar	1(1+0)
	AGRON 642	Doctoral Seminar	1(1+0)
	AGRON 643	Comprehensive	NC
	AGRON 644	Doctoral Research	**75**

*Core course

Accreditation of Ph.D. Agronomy Degree Programme

Ph.D programme is offered for the accreditation to National Agricultural Education Accreditation Board as per BSMA, ICAR, New Delhi.

Academic Programme	Degree Nomenclature	Minimum Duration
Post graduate	Ph. D. Agronomy	Three years (Six Semesters)

Year Wise Admission to Ph. D. Degree Programme in Agronomy:

Year of Admission	Intake	No of Students Admitted			Dropped			Passed out			Year of Degree Awarded
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	02	-	2	2	-	-	-	-	2	2	2021
2019-20	02	2	-	2	1	-	1	1	-	1	2023
2020-21	02	1	1	2	-	1	1	-	-	-	-
2021-22	02	1	1	2	1	-	1	-	-	-	-
2022-23	04	2	2	4	-	-	-	-	-	-	-

6.4.2. Faculty Strength in Department

S. No.	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position	Faculty Recommended by ICAR
			COA, Kota	AICRPs	Total		
1.	Professor	01	-	01	01	01	01
2.	Associate Professor	01	1	08	09	0	01
3.	Assistant Professor	02	1	05	6	01	04
	Total	**04**	**02**	**14**	**16**	**02***	**06**

* Recruitment of vacant positions is in progress

PG Recognized Faculty Available in Department of Agronomy

S.No.	Name of faculty	Designation	PG Code	Teaching /Guiding
1.	Dr Pratap Singh	Professor	AGRON-R-04-25	Teaching & Guiding
2.	Dr. B. S. Meena	Assoc. Prof.& Head	AGRON-R-04-97	Teaching & Guiding
3.	Dr. A.K. Verma	Assoc. Prof.	AGRON-R-04-33	Teaching & Guiding
4.	Dr. K. M. Sharma	Assoc. Prof.	AGRON-R-04-107	Teaching & Guiding
5.	Dr. D. S. Meena	Assoc. Prof.	AGRON-R-04-96	Teaching & Guiding
6.	Dr. R. S. Narolia	Assoc. Prof.	AGRON-R-04-98	Teaching & Guiding
7.	Dr. Baldev Ram	Assoc. Prof.	AGRON-R-04-37	Teaching & Guiding
8.	Dr. J. P. Tetarwal	Assoc. Prof.	AGRON-R-04-40	Teaching & Guiding

S.No.	Name of faculty	Designation	PG Code	Teaching /Guiding
9.	Dr. H.P. Meena	Assoc. Prof.	AGRON-R-04-120	Teaching & Guiding
10.	Dr. R.K. Meena	Asstt. Prof.	AGRON-R-04-101	Teaching & Guiding
11.	Dr. Chaman Kumari Jadon	Asstt. Prof.	AGRON-R-03-54	Teaching

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1	Technical Assistant	0	00	02	02	Assistant, lab assistant, field assistant attendant messenger
2	Lab Assistant	01	-	-	0	
3	Agriculture Supervisor	01	01	01	02	
4	Farm manager	01	-	-	0	
5	Pump operator	01	01*	-	01*	
6	Attendant	01	-	-	-	
	Total	**05**	**02**	**03**	**05**	**06**

6.4.4. Classrooms and Functional Laboratories

S.No.	Classroom No	Area (sq. ft)	Seating Capacity	Other Facilities (LED, Projector, Computer, etc.)
1.	Classroom	100	08	Yes
2.	Seminar Hall*	1200	100	LED, Projectors, Computers
3.	Agronomy Lab	400	20	

*Common Seminar hall for all PG Departments of COA, Kota

Seminar Hall

Major Equipments/ Implements for Practical Classes

The College of Agriculture, Agricultural Research Station, Ummedganj and Mechanized Agricultural Farm are established & operated at the same campus. The resources in terms of teachers, technical staff, laboratories, farm machinery etc. are shared and available for the post graduate programme at the Department of Agronomy. Different AICRPs on field crops are running and in operation at the campus, hence, all the resources available with the projects are being used for students teaching and research. The required major equipment to run the PG programme in the Department such as Flame Photometer, UV vis spectrophotometer, AAS, Nitrogen analyzer, Water distillation assembly are available.

List of Major Equipment's/Instruments Available in Department Laboratory

S. No.	Name of the Equipments/Instruments	Quantity
1	Atomic Absorption Spectrophotometer (AAS)	1
2	UV-Vis Double beam Spectrophotomer	2
3	Nitrogen analyzer	1
4	Digital burete	2
5	Digital electronic balance	3
6	Digital Electrical Conductivity meter (EC)	2
7	Micro controller-based Flame Photometer	2
8	Refrigerator	1
9	Microwave oven	1
10	Shaker Horizontal	2
11	Hot plate	2
12	Distillation Assembly	2
13	Kjeldahls Distillation Unit	2
14	Digital pH meter	2
15	Hot air Oven	1
16	Digital pocket refractometer	2
18	Tensiometer	1
19	Soil Moisture Indicator	1
20	Orbital shaker with lotus clamp	1
21	Digital P^H meter with electrode-335	1
22	Digital Conductivity meter with cell	1
23	Digital Balance	1
24	Mixer Grinder	1
25	Magnetic Stirrer with hot plate 21LIT	1
26	Sprayer machine	10
27	Measuring tap 50 meter	5

laboratory equipment's

Farm Facilities and Instructional Unit

S. No.	Name of the Department	Farm Area (ha)	Irrigated / Non-irrigated	Major Crop Grown/Instruments
1	Agronomy Research Farm	39.50	Irrigated	Soybean, urdbean, rice, wheat, chickpea, mustard, lentil, linseed, coriander
2.*	Agro-meteorology	-	"B" class meteorological observatory	All meteorological tools are available in GKMS running at the same campus Agricultural Research Station, Ummedganj, Kota. The Agromet Advisory Services forecast the krishi mausam information bi-weekly (every Tuesday & Friday) through SMS for benefitted to the
3	**Live units**			
a.*	Integrated Farming System Unit	2.0	Irrigated/pressurized irrigation system	Soybean, urdbean, maize, fodder sorghum, wheat, mustard, linseed, vegetables, quinoa, chia, boundary plantations (Ardu, Karonda, Pomegranate, Drumstick), Livestock, Poultry
b.*	Organic and Natural Farming Model Unit	4.0	Irrigated/pressurized irrigation system/ solar pump	Soybean, urdbean, maize, wheat, chickpea, garlic, coriander, linseed, fenugreek, pea, okra, mustard
c.*	Micro Irrigation Unit	2.5	Irrigation system/water tank	Soybean, urdbean, mungbean, wheat, mustard, garlic, coriander, vegetables, aonla

* These facilities are available at same campus ARS and used for teaching also.

Live Units at the Campus

1. **Organic and Natural Farming Model Unit:** The unit is established under Maharshi Parashar Krishi Shodh Peeth (MPKSP) in the year 2018. In this unit different formulations on natural farming liquid manure and bio pesticides i.e. Jeevamrut, Beejamrut, Ganjeevamrut, Vermiwash, Neem extract, Butter milk, Bramastra,Neemastra and Aganistra are being prepared and used in research experiments on development of Organic and natural farming Modules for research Ph. D. Scholar. The unit is also fulfilling the purpose of the experiential learning programme for UG students.
2. **Waste Management Unit:** The unit is established at organic farming block in MPKSP of the campus to convert organic waste from the farm and landscape unit into compost. The unit composed of three sections, i) incubation unit, ii) mixing unit and iii) composting unit. Students carry out different operations beginning from waste collection to compost disposal in the field.
3. **Integrated Farming Systems unit:** Integrated Farming System Model of 1.0 ha area with the components viz; Crop components (0.45 ha), Two-tier horticulture system (0.30 ha), Livestock & other complementary/supplementary enterprises (0.25 ha) with vermicompost unit, azolla unit, NADEP compost unit, bio-gas unit, nutri garden, backyard poultry, green fodder block and Boundary plants i.e. drumstick/ardu/ pomegranate+karonda+ creeping vegetables (on boundaries)

6.4.5. Conduct of Practical's and Hands-on Training

Students are getting desired practical knowledge through hands-on-training as per the curriculum in the field as well as in lab. The practical classes are conducted in respective laboratories/experimental fields of the department as per the allotted credit hours. Each practical class consists of two hours in continuations. The college has well equipped labs of Agronomy, Soil and Agricultural Chemistry and other relevant department for practical classes.

- Practical knowledge of various models for estimation of crop responses.
- Study of the physiology of vegetative and reproductive growth in relation to productivity of different crops in various environments.
- Apprise about different enterprises suitable for different Agro-climatic conditions for sustainable agriculture.
- Various types of stresses in crop production and strategies to overcome them.
- Every course has practical content, where all practical and field exercise viz. nutrition, weed and water management, plant protection etc. are conducted at the instructional farm of department.
- Similarly, lab-oriented practical such as nutrient, soil, water analysis and handling of sophisticated equipment are conducted in the departmental laboratory. Beside student plan their research programme and conduct experiment accordingly in the field as well in laboratory.




Theory and Practical Batches for Ph.D. programmes

Postgraduate students (Ph. D.) are less in number, hence are grouped into only one theory and one practical batch every year

Name of the Department	Number of Batches		No of Student per Batch
	Theory	Practical	
Agronomy	01	01	04

6.4.6. Supervision of Students in PG Programme

The research is carried out by the student under the supervision of Advisory Committee and the committee is consisting of followings.

Constitution of Advisory Committee of Ph. D. Agronomy Student

S. No.	Advisory Committee	Subject
1.	Chairperson	Agronomy
2.	Member	Agronomy
3.	Member	Minor field
4.	Member	Supporting subject
5.	Member	DE Nominee




Visit of PG Research Monitoring Team

PG Research Monitoring Mechanism

The research experiment is carried out by student under the supervision of his/her Advisory Committee. However, a monitoring committee is constituted by the Head of Department for effective monitoring and evaluation of student's field trials. In this committee, Head of department is act as convener and all advisory committee works as members. Committee is submitted a brief information in developed Performa to the department which is onward submitted to Dean for further evaluation at the time of final thesis submission.

PG Research Monitoring Committee of Ph. D. Agronomy Student

S. No.	Committee/ Position	Working Capacity
1.	Head	Convener
2.	Chairperson of student advisory	Member
3.	Major Member	Member
4.	Minor Member	Member
5.	Supporting Member	Member
6.	DE Nominee Member	Member

Details of Ph. D. Programme Offered by the Department (Teacher: Student Ratio)

S. No.	Academic Year	No. of PG faculty	Intake of Students	Teacher: Student Ratio
1.	2018-19	06	2	1:0.4
2.	2019-20	06	2	1:0.4
3.	2020-21	10	2	1:0.2
4.	2021-22	10	2	1:0.2
5.	2022-23	10	4	1:0.4

Title of Thesis Submitted by Students of Ph. D. Agronomy

S. No.	Title of Thesis	Year of Registration	Degree Awarded
1.	Effect of NP Fertilization and Stress Mitigating Chemicals on Growth and Yield of Summer Cowpea (*Vigna unguiculata* L.) Intensified with Baby Corn (*Zea mays* L.)	2018	2022
2.	Effect of Phosphorus, Liquid Biofertilizer and Growth Regulator on Growth, Yield and Quality of Summer Mungbean [*Vigna radiata* (L.) Wilczek]	2018	2022
3.	Effect of Organic Sources of Nutrients on Growth, Yield, Quality and Soil Health of Soybean -Wheat Cropping System in South-Eastern Rajasthan	2019	2023

6.4.7. Feedback of Stakeholders (Students/Parents/Entrepreneur/Farmers etc.)

S. No.	Name	Stakeholders	Important Remarks/Feedback
1.	Anju Bijarnia	Student	The teachers help ed me a lot and give n an opportunity to enhance knowledge in subject as well in research methodology and they provide guidance for job as well as self-entrepreneur in the field of agronomy.

S. No.	Name	Stakeholders	Important Remarks/Feedback
2.	Roshan Kumawat	Students	During corona pandemic college staff and faculty helped me a lot in completing my Degree in time.
3.	Gajendra Nagar	Student	The teachers here are very supportive and given us all the facilities related to the research and education. Also helped for preparation of competitive examination of agriculture.
4.	Ms. Yonika Saini	Student	The faculty of agriculture university Kota is excellent and rich in their subject knowledge. They freely interact with us and willingly clarify our doubts regarding research or course work. They also guided me with career options. They not only focus on the curriculum but also enhance our innate wisdom. It is a student-oriented institute whose sole purpose is students' success. The facilities the University offers are excellent, and I believe these are helping to make my education the best.
6.	Sh. Jinendra Chaudhary	Progressive Farmer	Learnt integrated farming system model and developed small scale cow-based dairy, gobar gas plant for multipurpose, organic vegetable cultivation and install an oil extraction unit for extraction of mustard, linseed & groundnut oil.
7.	Sh. Kunal Tripathi	Entrepreneur	Learnt preparation of flavoured linseed (alsi) technology at IFS unit and make a brand “Ayushman flavoured alsi” as a local to vocal for commercialization.
8.	Vishnu Nagar	Innovative farmer	Learnt organic farming technologies at organic farming model unit and established vermicompost unit & start organic production of wheat and chickpea from my farm.

6.4.8. Student Intake and Attrition in the Programme

Ph.D. Agronomy

Year	Sanctioned Seats	Actual Intake	Attrition	% Attrition
2018-19	2	2	0	0
2019-20	2	2	1	50
2020-21	2	2	1	50
2021-22	2	2	1	50
2022-23	4	4	0	0

6.4.9. ICT Application in Curricula Delivery

ICT is the integral part of the teaching program of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.www.coakota.com for future reference of students.
- **E-mail–**Research scholars are consulting with guide through email for advices to complete thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university administration.
- **Internet:** The library is provided with separate internet with speed of 200mbps. There is a separate library section equipped with 20 computers having internet connection.

Application of ICT in Library: College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including **anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader** are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 282e-books for the students and faculty members of this college to acquaint with the desired information.

Use of ICT Application in Teaching and Practical for Curricula Delivery: Yes

The faculty members of department of agronomy use ICT in teaching and practical. There is one seminar room with computer, LCD projector and internet connection. One seminar room is also equipped with LCD projector. All faculty members have computer printer and internet connection in their offices at the campus. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations and CD ROM in teaching all courses at UG, PG and Ph.D. level. For PG and Ph.D. students' emails are also used.

Shortfall in ICT for Curricula Delivery

There is urgent need of separate library building enabled with ICT facilities and well equipped with electronic gadget which favour faculty and student to access information floating worldwide along with agriculture and allied sciences. It would foster specially the faculty in best curricula delivery and also student to grasp subject matter delivered by faculty.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

SELF STUDY REPORT

Ph.D. Genetics & Plant Breeding

COLLEGE OF AGRICULTURE, UMMEDGANJ-KOTA

AGRICULTURE UNIVERSITY, KOTA (RAJ.)

6.4.1 Brief History of the Degree Programme

The College of Agriculture, Ummedganj-Kota is the second constituent college of Agriculture University, Kota and since its inception in the year 2018, started offering M.Sc. (Ag.) and Ph.D. degree programmes for selected specializations including Genetics and Plant Breeding. This subject is one of the most important tools of agricultural sciences to fulfill its first and foremost food demand of human population. Development of high yielding, high quality, resistant to abiotic and biotic stresses, widely adaptable as well as location specific varieties is the main function of any research and academic entity of agriculture sciences. In view of the importance of the subject, the programme of Ph.D. in Genetics and Plant Breeding was started since year 2018 with the following objectives.

Objectives

1. To develop competent human resources in the specialized area of Genetics and Plant Breeding.
2. To carryout research in Genetics and Plant Breeding in consonance to agricultural needs of the zone, state and country.

Nomenclature of degree programme	:	Ph. D. Genetics and Plant Breeding
Duration of the degree programme	:	Three Years (06 Semesters)
Admission procedure	:	70% seats through State Level Joint Entrance Test 30% seats through AIEEA conducted by ICAR*

*Presently the degree programme is not accredited by ICAR hence, all seats are filled through State Level Joint Entrance Test.

Accomplishment

S. No.	Name of Students		Accomplishment
1.	Mr. Rajesh Kumar Mahawar		Serving as Assistant Professor
2.	Mr. Ravi Kishan Soni		Cleared ICAR-NET
3.	Mr. Mohamad Aarif		Cleared ICAR-NET

Requirement of Degree Programme

A student admitted to a post-graduate programme shall have to successfully complete the following before award of a degree

- An approved programme of study
- Synopsis seminar and its approval
- A comprehensive or preliminary examination
- Pre-thesis seminar
- Submission of thesis and its evaluation report from two experts
- Thesis viva-voce examination by any one expert
- Minimum residential requirement- Six Semester
- Minimum OGPA requirement. - 6.5 out of 10-point scale

A student for Ph. D. programme required to complete a minimum of 100 credit hours for the degree as detailed below:

Title		Approved Course Load (Credit Hours)
Major Courses	:	12
Minor Courses	:	06
Supporting Courses	:	05
Seminar	:	02
Comprehensive	:	NC
Research Credit Hours	:	75
Total	:	100

List of the PG Courses Offered by Department

Status	Course No.	Title	Credit Hrs.
Major Courses (12 Credit Hrs.)	GPB 611*	Advances in Plant Breeding Systems	3(3+0)
	GPB 612	Advances in Biometrical Genetics	3(2+1)
	GPB 613	Crop Evolution	3(3+0)
	GPB 614	Breeding Designer Crops	2(1+1)
	GPB 621*	Genomics in Plant Breeding	3(3+0)
	GPB 622	Molecular Cytogenetics for Crop Improvement	2(2+0)
	GPB 623	Population Genetics	2(2+0)
	GPB 624*	IPR and Regulatory Mechanism (e-course)	1(1+0)
	GPB 625	Plant Genetics Resources, Conservation and Utilization	2(2+0)
Minor Courses (06)	PL PATH 512	Techniques in Detection and Diagnosis of Plant Diseases	2(0+2)
	ENT-513	Concepts of Integrated Pest Management	2 (2+0)
	ENT-523	Pest of Field Crops	3 (2+1)
	ENT-531	Pest of Horticultural and Plantation Crops	3 (2+1)
Supporting Courses (05 Credit Hrs.)	BIOCHEM-513	Techniques in Biochemistry	4 (2+2)
	STAT-512	Data Analysis Using Statistical Packages	3 (2+1)
	MCA-522	Information Technology in Agriculture	2 (1+1)
	MCA-523	Introduction to Communication Technologies, Computer Networking and Internet	2 (1+1)
	GPB 641	Seminar I	01
	GPB 642	Seminar II	01
	GPB 643	Preliminary	NC
	GPB 644	Thesis/ Research	75

*Core courses (compulsory)

Accreditation of Degree Programme

The following Ph. D. programme is offered for the accreditation to National Agricultural Education Accreditation Board, ICAR, New Delhi.

Academic Programme	Programme	Duration
Post graduate	Ph. D. Genetics and Plant Breeding	Three Years (Six Semesters)

Year Wise Admission to Ph. D. Programme in Genetics and Plant Breeding:

Year of Admission	Admitted				Dropped			Passed			Year of Degree Awarded
	Intake	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
2018-19	03	3	0	3	-	-	-	3	-	3	2022
2019-20	03	2	1	3	-	01	01	-	-	-	-
2020-21	02	1	1	2	-	-	-	-	-	-	-
2021-22	02	1	1	2	-	-	-	-	-	-	-
2022-23	03	1	2	3	-	-	-	-	-	-	-

6.4.2 Department Faculty Strength

S. No.	Sanctioned Faculty	Sanctioned	Faculty in Place			Vacant Position	Recommended by ICAR
			COA, Kota	AICRPs	Total		
1.	Professor	01	0	0	0	01	01
2.	Associate Professor	01	0	04	04	01	01
3.	Assistant Professor	01	0	06	06	01	03
	Total	**03**	**0**	**10**	**10**	**03**	**05**

** Recruitment of vacant positions is in progress

Ph.D. Recognized Faculty Available in Department of Genetics & Plant Breeding

S. No.	Name of Scientist	Designation	PG Code	Teaching/ Guiding
1.	Dr. Preeti Verma	Assoc. Prof. & Head	PBG-R-04-113	Teaching & Guiding
2.	Dr. S.C. Sharma	Assoc. Professor	PBG-R-04-39	Teaching & Guiding
3.	Dr. N. R. Koli	Assoc. Professor	PBG-R-04-38	Teaching & Guiding
4.	Dr. P.K.P. Meena	Assoc. Professor	PBG-R-04-116	Teaching & Guiding
5.	Dr Manoj Kumar	Asstt. Professor	PBG-R-03-109	Teaching
6.	Dr Sandhya	Asstt. Professor	PBG-R-03-110	Teaching
7.	Dr. Bhuri Singh	Asstt. Professor	PBG-R-03-124	Teaching

6.4.3 Technical and Supporting Staff

S. No.	Post	Sanction	Staff in Position		Total	Recommended by ICAR
			COA, Kota	AICRP		
1.	Technical Assistant	-	00	02	02	Assistant, lab assistant, field assistant attendant
2.	Lab Assistant	01	00	0	0	
3.	Agriculture Supervisor	00	00	02	02	
4	Attendant	01	01*	0	01	
	Total	02	01	04	05	05

6.4.4 Classrooms and Laboratories

S. No.	Classroom/Laboratory	Area (sq ft)	Seating Capacity	Other Facilities
1.	Classroom	200 sq ft	10	Projector
2.	Seminar Hall	1200 sq ft	100	LED, Projectors, Computers
3.	Laboratory	700 sq ft	30	

Major equipments for conduct of practical classes

The College of Agriculture, Agricultural Research Station, Ummedganj and Mechanized Agricultural Farm are operated in the same premises. The resources in terms of teachers, technical staff, laboratories, farm machinery etc. are shared and available for the post graduate programme at the Department of GPB. There are different AICRPs on crops in operation at the campus, hence, all the resources available with the project are being used for students teaching and research. At the moment following equipments are available for the study of students. The detailed list of equipment is given as under:

S. No.	Name of the Equipments	Quantity
1.	Automatic Seed Processing Unit	1
2.	Seed Germinator	1
3.	Digital Bricks Meter	1
4.	Laboratory oven	1
5.	Bagging Machine	1
6.	Seed Analyzer	1
7.	Top pan balance capacity 10 kg.	1
8.	Spring balance capacity 20 kg	1
9.	Electric weighing machines 5-20 kg	3
10.	Digital Vernier caliper	1
11.	Binocular Research Microscope	4
12.	Seed Cabinet	1
13.	Refrigerator	1
14.	Cane juice Extractor	1
15.	Moisture meter	1

Farm Facilities

To conduct field experiment and Ph.D. research 6.0 ha land is available in the department of Genetics and Plant Breeding, College of Agriculture, Ummedganj-Kota. Besides, experiment fields of AICRP operated under Department of Genetics and Plant Breeding at ARS, Kota is also being utilized for practical and Ph.D. research purposes. All the experimental fields are well connected with internal roads. Entire farm is fully irrigated.

Lentil

Rice

Soybean

Chickpea

Rice

Linseed

Ph.D. Research Experiement in Field

6.4.5 Conduct of Practical and Hands-On Training

Every course has practical content, where all practical and field exercises about modern breeding techniques like germplasm and Plant Genetic Resources Management, hybridization, evaluation, selection, advancement of generation, varietal development technique, maintenance breeding, seed production etc. are conducted at instructional farm of Department. Similarly, lab-oriented practicals on seed technology, biochemical and molecular aspects and handling of sophisticated equipments are conducted in departmental laboratory.




Ph.D. Research work at field

Average Number of Students in Theory and Practical Classes

Ph.D. students are less in number, hence are grouped into one theory and one practical batch.

Name of Department	Number of Batches		No of Student/Batch
	Theory	Practical	
Genetics and Plant Breeding	1	1	03

6.4.6 Supervision of Students in PG Programme

Every student has Advisory Committee with a Major Advisor and at least four members among whom two from major field of specialization, another two from minor field of study and one nominated by Director Education. Research Programme proposed by the Advisory Committee and submitted to Director Education through dean for final approval. The research is carried out by the student under the supervision of Advisory Committee.

Ph.D. Recognized Teachers and Teacher: Student Satio

S. No.	Year	Teacher	Intake of students Ph.D.	Total (Ph.D. students)	Teacher to student ratio
1	2018-19	3	3	3	1:1
2	2019-20	3	3	3	1:1
3	2020-21	3	2	2	1:1
4	2021-22	7	2	2	1:0.3
5	2022-23	7	3	3	1:0.4

Title of Theses Submitted by Students for Ph.D. Genetic and Plant Breeding

1. Combining ability, heterosis and stability studies in linseed *(Linum usitatissimum L.)*
2. Studies on combining ability and heterosis in rice (*Oryza sativa* L.*)*
3. Heterosis and combining ability analysis for seed yield, quality and physiological attributes in pigeonpea [*Cajanus cajan* (L.) Millsp.]

Publications: - Research Papers from Ph.D. Thesis

S. No.	Authors	Title	Year	Journal	Vol. No.
1.	M. Aarif, S.C. Sharma, M.K. Sharma and Yamini Tak	Genetic Studies for Seed Yield and it's Contributing Traits in Pigeonpea [*Cajanus cajan* (L.) Millsp.].	2021	*Frontiers in Crop Improvement*	9 : 2831-2836
2.	M. Aarif, S.C. Sharma, M.K. Sharma, and Yamini Tak	Implication of Hybrid Vigour in Pigeonpea [*Cajanus cajan* (L.) Millsp.],	2021	*Frontiers in Crop Improvement*	9 : 2837-2843
3.	Ravi Kishan Soni & N.R. Koli	Analysis of combining ability for yield and yield components in paddy using Line X Tester design under South Eastern Rajasthan	2022	Biological Forum -An International Journal	14(1) : 308-312
4.	Ravi Kishan Soni, N.R. Koli, Manoj Kumar, Yamini Tak, Mohammad Arif, C B Meena & B Ram	Studies on combining ability for grain yield and its quality characteristics in rice (*Oriza sativa* L.)	2021	The Pharma Innovation	10(12): 1468-1473
5.	Ravi Kishan Soni, N.R. Koli & Manoj Kumar	Estimation of combining ability using Line X Tester analysis in paddy	2021	Frontier in Crop Improvement	9(VII): 2903-2906
6.	R.K. Soni, N.R. Koli, M. Arif, Sandhya, Manoj Kumar, R K Mahawar, B.L.Meena, R.P. Singh, D. Meena & R. Kumar	Heterosis studies for grain yield &quality parameters in rice (*Oriza sativa* L.)	2021	*Frontiers in Crop Improvement*	9(VII): 2903-2906

6.4.7 Feedback of Stakeholders

S. No.	Name	Stakeholders	Important Remarks/Feedback
1.	R. K. Mahawar	Student	Overall teaching is good but required separate laboratory. Good facilities are available for conducting PG research.
2.	R.K. Soni	Student	Good guidelines were given during the course of study along with demonstration and use of recent technologies for conduction of research.
3.	Mohamad Aarif	Student	Teaching is very good, but infrastructure is limited

Ph.D. Oral Comprehensive Exam on 18.04.23

Ph. D Research Visit by HVC, Prof. Dr. A.K. Vyas

6.4.8. Student Intake and Attrition in the Programme

Ph.D. Genetics and Plant Breeding

Year	Sanctioned Seats	Actual Intake	Attrition	% Attrition
2018-19	3	3	0	0
2019-20	3	3	1	33
2020-21	2	2	0	0
2021-22	2	2	0	0
2022-23	3	3	0	0

6.4.9. ICT Application and Curricula

ICT is the integral part of the teaching program of college. Hence, the following ways are adopted for application of ICT in curricula delivery:

To deliver curricula of this department following ICT tools are used:

- **Zoom and Microsoft team app-** Zoom and Microsoft Team apps are used for online teaching and guiding students.
- **College website-**Subject wise PDF of different chapters are uploaded on college website i.e.wwwcoakota.com for future reference of students.
- **E-mail–**Research scholars are consulting with guide through email for advices to complete thesis in time.
- **WhatsApp group for teaching-** WhatsApp groups have also been created for teaching and other related information of college and university administration.
- **Internet:** The library is provided with separate internet lease line with speed of 100mbps. There is a separate digital library section equipped with 15 computers having internet connection.

Application of ICT in Library

College Library is fully automated with KOHA – Library Management software used for all operations similarly, RFID system, including anti-theft gate, staff station reader, book drop box, self-touch kiosk and hand-held reader are also installed at library for convenience of staff and students. Library is providing access of more than 300 online e-journals and 282 e-books for the students and faculty members of this college to acquaint with the desired information.

CERTIFICATE

I Dr. M. C. Jain, Dean, College of Agriculture, Ummedganj-Kota hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university

Signature Dean with Seal
College of Agriculture, Ummedganj-Kota

DEAN
College of Agriculture
Ummedganj, Kota

Place : Kota, Rajasthan
Date :

COLLEGE OF AGRICULTURE UMMEDGANJ -KOTA

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KOTA (RAJASTHAN)

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