



National Agriculture Education Accreditation Council

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**Report of the
Accreditation Inspection Committee
(AIC)**

**Prof. Dr. Mohammad Tariq Jan
Dr. Abdul Majid**

**Department of Agronomy
PMAS, Arid Agriculture University
Rawalpindi**

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ACKNOWLEDGMENT

The cooperation of the Dean (Faculty of Agriculture), Chairman, Faculty Members and Students of the Department of Agronomy, PMAS Arid Agriculture University Rawalpindi, is highly appreciated. The warm hospitality and facilitation by the accreditation council as well as caring support of Malik Muhammad Kashif Anwar (Admin Assistant) is greatly admired.

Accreditation Inspection Committee (AIC), NAEAC

Prologue

The Accreditation Inspection Committee (AIC) constituted by the National Agriculture Education Accreditation Council (NAEAC) for the external assessment of the Degree Programs of B.Sc (Hons), M.Sc (Hons) and Ph.D offered by the Department of Agronomy, PMAS Arid Agriculture University Rawalpindi, visited the department on March 3-4, 2009. The NAEAC officials welcomed the AIC members in the office of the Dean, Faculty of Agriculture and highlighted the aims and objectives of this review process. The AIC then visited the Department of Agronomy and briefed by the Chair. The tentative schedule provided by the NAEAC was followed by the AIC and detailed interviews and discussions were made with the Chair, Dean, faculty members and senior students of the department. Visits were also to review the lab, facilities, research programs, classrooms and offices. The report of the AIC is:

a) Accreditation of Agriculture Education Institutions in Pakistan

In pursuance to its mandate given by the HEC under clause 10 subsections (d) and (1) of the byelaws of NAEAC, an Accreditation Inspection Committee (AIC) was constituted comprised of the following scientists to review the Department of Agronomy of PMAS Arid Agriculture University Rawalpindi for assessment and accreditation of their degree programs:

- | | | |
|-----|---|----------|
| i) | Prof. Dr. Mohammad Tariq Jan
Chairman
Department of Agronomy
Agricultural University Peshawar
Khyber Pukhtoonkhwa, Pakistan | Convener |
| ii) | Dr. Abdul Majid
Country Representative
International Center for Agricultural
Research in the Dry Areas (ICARDA)
Pakistan | Member |

b) Terms of References (TORs)

The team visited the University from March 3-4, 2010 as per itinerary at Annex-I.

- To validate the Self Assessment Report prepared by the Department
- To carry out external evaluation of the degree programs for assessment and accreditation
- To submit synthesized and consolidated analytical report based on interaction with Dean, Chairman, Faculty members, students and support staff as well as detailed visits of infrastructure and other learning resources.
- To submit accreditation recommendations to NAEAC Chairman

c) Department of Agronomy

Introduction

Agriculture Universities play a vital role in the economy of Pakistan through education and undertaking research in various aspects or Agriculture Agronomists have the challenging job to contribute to this sector. The Department of Agronomy provides students with the knowledge, skills and understanding critical for professional success as well as meeting the challenge of food security Pakistan is blessed with different ecological zones and rainfed (Barani) area represent one of these zones. .

The Barani Agriculture College was established in 1980 with the objective to impart agricultural education with particular reference to improve agriculture in the vast rain-fed area of the Pothwar region of Punjab. Initially the college began the B.Sc Hons degree program in few major disciplines including Agronomy. The Department started M.Sc. (Hons) degree program in 1992. After approval of University Act in 1995, the department enrolled its first academic class of Ph.D. scholars in 1998.

Mission statements of the Department

The mission of Agronomy department is to equip and impart training to undergraduate and postgraduate students for high-quality education, which should result in increasing scientific knowledge and skill for employment, productive citizenship, and life-

long learning. The department should lead in the areas of food, agriculture and natural resources.

Objectives

The undergraduate and postgraduate curriculum is designed to train young men and women as professional crop scientists and prepare them to apply knowledge of plant and soil sciences for sustainable crop production.

The main objectives of the Agronomy Department are as below:

- To develop the Department of Agronomy on modern lines for teaching and research at undergraduate and postgraduate levels.
- To impart basic and applied knowledge and skills in relevant field employing advanced analytical techniques.
- To develop culture of modern research in the area of Agronomy.
- To guide and encourage the students to carry out basic, applied and problem-oriented research.
- To strengthen and streamline multi-disciplinary approach to solve the problem of farming community.
- To work with farmers to identify their problems and encourage their participation in the research activities.
- To transfer research findings to farmers of barani areas.

Main elements of strategic plan to achieve mission and objectives

- Development of sound teaching system based on experience and vision gathered from world reviews, literature, innovative, proceedings, symposia, workshops, etc for the award of degrees.
- Designing and updating the curricula of core subjects, elective subjects, specialized areas and study tours.
- Setting up of research laboratories equipped with modern equipments.

- Publication of data in scientific papers, books and manuals etc.

Degree plan

Presently three programs are organized by the Department:

B.Sc (Hons) Agriculture with specialization in Agronomy

The B.Sc (Hons) degree program consists of 4 academic years (8 semesters). As a whole, a student has to study 140 total credit hours. For each course 10% marks are reserved for the assignments, 30% marks are for mid-term examination while 60% marks for final examinations as per university rules. Degrees are awarded after completing the required number of credit hours (course) following by comprehensive examination and internship report submission and presentation.

M.Sc (Hons) in Agronomy

The M.Sc (Hons) degree program consists of 2 academic years (4 semesters) As a whole a student has to study 35 credit hours with 10 credit hours (research work and thesis writing) consisting of total 45 credit hours. Degrees are awarded after completing course work, one year research work, thesis writing and comprehensive examination. For each course 10% marks are reserved for the assignments, 30% marks are for mid-term examination while 60% marks for final examination as per university rules.

Ph.D in Agronomy

The Ph.D degree program was introduced in the, Department of Agronomy, PMAS-Arid Agriculture University Rawalpindi in 1998. The program designed for quality research completely coherent with HEC standards. The Ph.D study programme consists of three academic years (6 semesters). As per HEC rule, a student has to complete 18 credit hours for course work. Degrees are awarded after completion of 18 credit hours course work, two-year research work, thesis writing. And after the recommendation/approval of thesis from foreign examiners of technologically developed countries.

Criterion Wise Analysis

Criteria I. Strength and Quality of Faculty

The department has 13 regular faculty members having 1:9 ratio with students for the specialization in Agronomy. The faculty members are highly qualified as out of 13, 8 are Ph.Ds. The faculty is specialized in diverse disciplines of Agronomy with covering almost every aspect of the crop management and production technology. The following table shows qualification and specialty of the faculty members:

Position, Qualification and area of Specialization of Faculty

S. #	Name	Position	Qualification	Specialization
01	Dr. Muhammad Azim Malik	Professor	Ph. D.	Integrated Weed Management, Zero-Tillage
02	Dr. Muhammad Ashraf	Professor	Ph. D.	Growth and Development of Crop Plants, Allelopathic Effects of Crop Remains.
03	Dr. Fayyaz ul Hassan	Professor	Ph.D.	Oilseed Crops, Crop Water Management
04	Dr. Zammurad Iqbal Ahmad	Associate Professor	Ph. D.	Integrated Nutrient Management
05	Dr. Abdul Razzaq	Associate Professor	Ph. D,	Stress Physiology Genetic Transformations of Crops
06	Mr. Irfan Aziz	Assistant Professor	M.Sc (Hons)	Natural Resources Management, GIS
07	Dr. Muhammad Ansar	Assistant Professor	Ph. D.	Forage Production
08	Dr Muhammad Rasheed	Assistant Professor	M.Sc (Hons)	Crop Nutrient Management
09	Dr. Ghulam Qadir	Assistant Professor	Ph. D.	Crop Production, Coil Seed Crops Utilization in Rainfed
10	Mr. Naveed Tahir	Lecturer	M.Sc (Hons)	Plant Physiology, Crop Growth Modeling and Climate Change
11	Mr. Mukhtar Ahmed	Lecturer	M.Sc (Hons)	Crop Physiology, Crop Modeling
12	Dr. Abdul Manaf	Lecturer	M.Sc (Hons)	Oil Seed
13	Mr. Safdar Ali	Lecturer	M.Sc (Hons)	Seed Technology

The teaching load in the Department is distributed according to the faculty's position i.e. six credit hours per week for professor, 6 for Associate Professor, 10 for

Assistant Professor and 12 for lecturer. Similarly, graduate students are equally distributed amongst the faculty for research of their degree programs with given consideration to the aptitude as well as the mutual understanding of the faculty and student. Beside the teaching and research, the faculty is also shouldering various administrative responsibilities in various capacities i.e. Departmental administration, students counseling, hostel warden ship, sport in-charge, farm management etc.

The faculty properly and adequately use quizzes, assignments, projects/seminars, mid-term and final exams for students evaluation during the active semester. Similarly, course review report is prepared and submitted regularly by each faculty member. The program monitoring systems exist and exercised by the department. A Quality Enhancement Cell (QEC) is established in the University to facilitate course review and monitoring system, but practically the task is assigned to the faculty. This exercise seems an extra burden on the department and must be addressed and assured to accomplish by the QEC. No training facilities or arrangement at present exist in the department for newly inducted faculty. They get themselves acquainted with the teaching skills by attaching to a senior faculty. Majority of the faculty is Ph.D. and the rest are enrolled in the department for acquiring Ph.D. Post doc opportunity is rare for the faculty. The salaries and other fringe benefits seem attractive to the fresh and young faculty whilst senior faculty has been deprived from many benefits which are admissible in other Universities. Majority of faculty members believed that the working environment in the department is good with exception to few. The faculty stability index is excellent and option for the job in University is a top priority. Few international scholarship/fellowship awards are won by the faculty. The participation of Faculty members in professional seminars/conferences/workshops is reasonable. No textbook or chapter in the book has been written by the faculty but the need for such task in the back of mind of the senior faculty.

Graduate research supervision by the faculty is satisfactory as 11 Ph.D students are supervised so far, where the HEC indigenous program sponsored only two Ph.D. scholars. Similarly, HEC approved Professors/Associate/Assistant Professors supervised 97 M.Sc students. The students must be encouraged to compete for HEC sponsored indigenous M.Sc leading Ph.D. program.

The job satisfaction was comparatively greater in the young faculty to the senior and was found very much involved in their jobs. Senior faculty can be motivated with providing opportunities for TTS. Opportunities for academic progress are abundant subject to the devotion. The existing faculty members are satisfied with the department degree program other than Ph.D. where they think a bit tough criteria required at entrance time. The teaching-learning techniques and implementation seems professional.

Criteria II. Curriculum Design and Development

All the courses of the degree programs are developed by the HEC constituted committee and adopted by the Department (Annex-II). The objectives of curriculum are well defined and inline with the HEC guidelines. The curriculum is revised regularly and updated through different bodies at departmental level i.e. Board of Studies which comprised of senior faculty. The senior faculty is also made responsible for suggesting and revising the courses from time-to-time and submitting to the BOS for Approval. The approval of revised curriculum needs endorsement of the Board of Faculty and Academic Council. The meetings of various bodies take place on regular basis. The student input in the course is materialized by their evaluation of the course at the end of subject exams. The department is lacking recent text books and reference books. The faculty and students rely on the main library which is fully equipped with the textbook, references and journals. The length of the semester (19 weeks) is within the desired requirement of HEC. Completion of theory and practical courses are well in time as observed from faculty course files. The course registration and withdrawal policy is strictly followed as per University rules. Course evaluation is regularly been collected by the feedback from the students at the end of each semester. The admission policy is well defined and is adopted without any discrimination. All faculty members maintained course files and some were randomly checked by the AIC. The standard of course record was not up to the mark particularly in terms of samples of best, good and worst answer sheet. The curriculum adopted in the department for degree program is satisfactory and fulfill the desired objectives. The flexibility in modification of curriculum

prevails according to need and demand, and strongly recommended to practice. Meeting of Board of Studies and Board of Faculty is a permanent feature and conducted regularly. The mechanism of feedback from the stakeholders can broaden by participation of members from research and other relative bodies.

Criteria III. Students Support and Progression

Reasonably high number of students seeks admission in the department for specialization in 5th semester out of the total enrolled students for B.Sc (Hons) degree program in the University. Approximately 20 students per session (5th semester) get admission and almost all students opt for M.Sc (Hons) program in the department after graduation. The intake for Ph.D. is low. The graduation percentage at B.Sc (H) and M.Sc. (H) from 2007 -2009 was almost 100 percent. While Ph.D. yield index for the same period is less than 60 percent. Similarly, the drop out during B.Sc. (H) and M.Sc. (H) program is close to nil. Drop out in Ph.D. enrollment is variable and related to the job opportunities come across to the candidates. Merit scholarships are available to the top students while not much awareness is found in the students for interest free loans. One convocation Hall/Auditorium is present in the university to meet the University needs for various events. Indoor games facilities and a newly constructed gym is available for teachers/ students. Insufficient transport facilities exist for the students. The university has a dispensary where two full time doctors, one male and one female serve the faculty, students and support staff of the university. The internship program is a permanent feature of the B.Sc. (H) degree at final semester. The students are encouraged to conduct their internship assignment at progressive farmer fields or provincial / national research centers. The students / faculty, both considered it more than enough credit hours, assigned to internship program. The student's interaction with the teachers is pretty good while some shyness was observed in case of senior teachers. The student's attitude toward studies, their attendance and perception about degree program was very encouraging.

Criteria IV. Infrastructure and Learning Resources

Senior faculty members have independent offices but most of the faculty is sharing their office. Even a larger room is converted in office for junior faculty members. Some space is converted inside the laboratories to accommodate few faculty members. The department possess four labs in total, where two labs are been use for teaching purpose as well. One of the laboratories is well equipped and fully functions for advanced research while other one is used for agronomic data sampling and processing. The department has a well-established research farm where most of the field trails are conducted. The departmental labs are not equipped to the mark but the students have easy assessed to the central laboratory of the University, which is equipped with sophisticated and latest instruments. The available laboratory staff does not seem much trained and qualified. Four labs are currently used for both purposes i.e. teaching and research. The available spaces for faculty offices are by no means enough and appropriate. No budget on the disposal of department Chair is available rather demands are made on need base and facilitated by the University administration. The same is the case with M.Sc (Hons) and Ph.D. research program.

Facilities of computers and internet for the faculty are sufficient. Same facilities are available to senior students in a limit extent due to lack of any computer lab in the department for them. The department is also lacking of multimedia to teach M.Sc (Hons) and Ph.D. classes. Website of the University is there with efforts to update regularly.

Criteria V. Research and Consultancy activities

The faculty is actively conducting various research projects. The faculty through open competition wins these projects. Many project worth millions rupees are completed and some are still going on. The University also sponsored various projects of the faculty from its Research Promotion Funds. The finding and outputs of these research projects as well as post graduate students research is regularly published in HEC approved / impact factor journals. The research grants for more than three years is not

yet been won by any faculty. The department claims one book written by the faculty member so far.

The department has developed collaborations with many national and international organizations. The department has no budget for participation and organizing conferences and seminars. The task mostly accomplished by the donor agencies. Some of the senior faculty provides advisory services to various organizations from time to time. The dissemination of research work is done by publications in national and international journals. Some printed materials / brochure are also published for the students and farmers.

Criteria VI. Governance and Leadership

The administrative authorities and governance of the University as well as of the department are clearly defined. The implementations of statutory rules / regulations are intact. All the statutory bodies like syndicate, academic council, board of faculty, board of studies etc are properly functioning. The academic set up of the departments acts on its own while financial matters controlled by the Finance Directorate. The department is dependent on the treasurer office in financial matters. The department does not have its own funds generating resources. The financial resources of the department are mainly depended on the University. The University has its funds generating resources and gets grant from HEC. Departmental placement bureau and Alumni's association has not yet developed. The Departmental calendar for various activities was not observed

Criteria VII. Innovative / Best Practices

A Quality Enhancement Cell (QEC) has been developed in the University to ensure the quality of the degree programs. The distribution of all taught courses is well balanced in terms of theory and practical classes. The allotted credit hours to theory and practical are satisfactory and well maintained. The students and courses assessment are well adopted and operated through the questioners provided by QEC as per HEC directives. The AIC members observed that the compilation of data

generated through questioners is assigned to the faculty members. These tasks are an extra burden on the faculty and suppose to be done by the QEC staff.

The Department of Agronomy is having the highly qualified faculty in the University. These faculty members look very enthusiastic toward teaching and research. During visit, the involvement in some new dimensions of the research in Agronomy like biotechnology and quest for nanotechnology was noticed.

Criteria VIII. Overall Analysis

1. Major Strengths:

1. A sound and qualified faculty with specializations in diverse field of Agronomy
2. Access to sophisticated and well equipped central laboratories.
3. An established research farm governed by the department for graduate, postgraduate practical training, faculty research projects and demonstration of experimental trails.
4. Computer and internet facilities for faculty in their offices
5. Students' preference for admission in the department
6. Regular publication in national and international journals
4. Warm and friendly working environment in the department for teaching and research

2. Major Weaknesses:

1. Inadequate office space for the faculty, particularly for those accommodated in the teaching and research laboratories.
2. Inadequate laboratories, space, furniture and equipment for practical and research.
3. Lack of green house and controlled environment facilities.
4. Lack of common room and library for faculty and students.

5. Lack of computer laboratory / internet facilities for graduate and post graduate students in the department.
6. Limited opportunities for international visits, professional training for senior faculty and acquiring Ph.D. from technologically advanced countries for young faculty.
7. A limited number of qualified and trained laboratory staff.
8. Lack of mega project from the HEC or other donor.
9. Lack of collaboration with international Universities and national industries.
10. Limited out reach activities.

3. Major Opportunities:

1. Potential for training at post graduate level
2. Wining projects from national and international donors
3. Developing crop production and management technologies for rainfed farmers
2. Providing training to extension department & private sector; and advisory service to growers.
5. Abundant job opportunities for agronomy graduate different government and non-government organizations

4. Major Challenges:

1. Provide practical training with changing needs and climate.
2. Develop low cost and efficient production technologies for rainfed /dry land farmers of the country
3. Strong out reach activities
4. Develop collaborative projects with international organizations / Universities
5. Generate financial resources for the department

5. Salient Finding and Recommendations:

5.1 Salient Findings

1. The existing faculty members in the department are satisfactory and well qualified. The number of Ph.D. faculty is reasonable and degree holder of technological advances countries. The overall departmental evaluation indicated that the Department of Agronomy has a significant potential to produce quality graduate and post-graduate.
2. The variety of subjects offered and specialty of the faculty in various subjects is impressive but stressed of the number of courses on arid aspect in the specialization is lacking. Furthermore, M.Sc and Ph.D. research shall also be mandate oriented i.e. arid agriculture.
3. There is a lot of scope in improvement in the quality of teaching and research of graduate and post-graduate level.
4. Significant improvement is needed in the restructuring and facilities of the laboratories and classrooms.
5. Working environment for young faculty in terms of providing reasonable spaces for office need immediate attention
6. Number of research projects won by the faculty needs to be increased.

5.2 General Recommendations

1. The department desperately needs more space for faculty and support staff offices as well as for laboratories.
2. The working condition of laboratories needs significant improvement and facilities.
3. The budgetary status of the department needs to be increased. It should be at the disposal of chairman and major supervisor to meet student's research need. .
4. A computer room is essential for the students with the latest computers and internet facilities.
5. Departmental library shall be established and well equipped with latest book, national / internal journals and all other updated facilities.

6. Participation in national and international conferences and seminars shall encourage for both faculty and students.
7. Departmental seminars and workshop shall be regularly conducted.
8. The internship program shall be exercised on progressive farmers' field or well-reputed research centers.
9. Maximum advantage of the research farm shall be taken for practical, research, demonstration plots and display for farmers and public.
10. Facilities of green houses, controlled environment glass houses and growth chambers shall be established for the faculty and students' research.
11. Finding and out come of research must be published in quality journals. Farmers' newsletter shall also be made a regular feature of the department.
12. Incentives to the faculty shall be made at par with other public Universities
13. Opportunities of short trainings and Ph.D. must be provide to young faculty.
14. The department needs multimedia and Photostat machines as teaching aids resources.

5.3 Final recommendations

- Department of Agronomy has made valuable contribution. How ever there is always room for improvement to meeting national standards. There is a need to focus on weakness mentioned in the report.

Based on the inspection / evaluation, the AIC unanimously recommends Accreditation of the Degree Programs of Department of Agronomy, PMAS Arid Agriculture University Rawalpindi, in the "X" category of National Agriculture Education Accreditation Council / HEC with scope for up-gradation to category "W" after appropriate improvements in due course of time.

4.3 Signatures of AIC Members

Name and Designation

Signatures

Dr. Mohammad Tariq Jan (Convener)
Professor/ Chairman
Department of Agronomy
Agricultural University Peshawar
Khyber Pukhtoonkhwa, Pakistan

Dr. Abdul Majid (Member)
Consultant (Agronomy)
Country Representative
International Center for Agricultural
Research in the Dry Areas (ICARDA)
Pakistan

Dated: 16/04/2010

4.4 Comments and Signatures of Chairman

I agree with the observations and recommendations made by the peer team in this report.

**National Agriculture Education Accreditation Council****Itinerary of Accreditation Visit**

Host Institution: PMAS, Arid Agriculture University, Rawalpindi
Institute/ Program: Department of Agronomy

Review Team:

1. Prof. Dr. Mohammad Tariq Jan (Convener)
Chairman
Department of Agronomy
NWFP Agricultural University, Peshawar
2. Dr. Abdul Majid (Member)
Consultant ICARDA (Agronomy)
Pakistan

Institute Coordinator: Dr. Muhammad Rasheed, Associate Professor

NAEAC Resource Person: Mr.

Schedule of Visit: March 3-4, 2010 (Two Days)

Day 01	Time	Activity	Remarks
	09:00-09:30	Meeting with Dean of the Faculty <ul style="list-style-type: none">• AIC Convener Explains purpose of the visit• Describes the Program review process	Convener of AIC
	09:30-10:00	Meeting with Chairman, Department of PBG	All AIC Members
	10:00-11:30	Presentation: Chairman of Department of PBG <ul style="list-style-type: none">• History of Institute/ Academic Programs• Mission Statement• Program Goals and Objectives• Annual operational budget (08-09) & Human Resources (Total)• Curricula Summary, Revision/Update• Admission and withdrawal policy• Faculty Summary, Qualification/ Experience, Support Staff• Students Feed back• Grading System• Infrastructure Summary, Labs, Greenhouse, Library• Employers Feedback• Alumni Survey• Parents Viewpoint• Question/Answer Session	All AIC Members
	11:30-13:00	Curriculum Review: Department Coordinator <ul style="list-style-type: none">• Course files maintenance• Attendance requirements• Examination Record• Session/Semester Record	All AIC Members

		<ul style="list-style-type: none"> • Evaluation Instruments • Research Projects by faculty / students 	
	13:00-14:00	Zohar Prayers & Lunch	
	14:00-16:00	Infrastructure Visit: Department Coordinator <ul style="list-style-type: none"> • Research & Teaching Labs • Greenhouses & Experimental facilities • Departmental and main Library • Computer Labs, Internet and multimedia facilities • Classrooms number & size with multimedia • Faculty Offices & facilities 	All AIC Members
	16:00-17:00	Meeting of AIC for review and synthesis	

Day 02	Time	Activity	Remarks
	09:00-09:30	Meeting with Dean of the Faculty <ul style="list-style-type: none"> • Briefing on yesterday's activities of the visit • Seek guidance/help if required 	All AIC Members
	09:30-11:30	Faculty Meetings: 10-15 minutes for each faculty member <ul style="list-style-type: none"> • Graduation and Higher studies • Personal Background • Area of Interest Vs teaching –learning environment • Perception about the academic programs, Students and peers • Opportunities for professional growth • Research Opportunities • Salary Perception and other incentives • Teaching Load, student- teacher ratio • Meetings with Support Staff 	Individual AIC Member
	11:30-13:00	Classroom Visit: Two classrooms with 45 min. each <ul style="list-style-type: none"> • Students Interviews (B.Sc Hons final & M.Sc Hons) • Students Assessment System (Institute Coordinator) • Students Perception about Teaching-Learning Environment • Students Feedback Mechanism Exists • Senior students views and suggestions to improve teaching-learning environment and facilities 	All AIC Members
	13:00-14:30	SWOC Analysis: faculty /students point of view <ul style="list-style-type: none"> • Major Strengths of Academic Programs • Major Weaknesses of Academic Programs • Major Opportunities for Academic Programs • Major Challenges for Academic Programs 	All AIC Members
	14:30-15:30	Concluding Meeting with Chairman of the Department	
	15:30-16:30	Prayers and Lunch	
	16:30-17:30	Concluding/ Exit meeting with Dean/Exit Meeting <ul style="list-style-type: none"> • Salient Findings of the visit • Formulation of Recommendations • Next Procedure 	
	17:30-19:30	Discussions among the AIC for synthesis & report outline	
	19:30	End of Review Visit	

Major Courses offered during B. Sc. (Hons) Degree Program

<u>S. No.</u>	<u>Course No.</u>	<u>Title</u>	<u>Credit Hours</u>
1	Agro-301	Basic Agriculture	3(2-2)
2	Agro-302	Summer crops	3(2-2)
3	Agro-401	Winter Crops	3(2-2)
4	Agro-402	Field crop physiology	3(2-2)
5	Agro-501	Arid zone Agriculture	2(2-0)
6	Agro-503	Crop Growth & Development	3(2-2)
7	Agro-505	Crop Water Management	3(2-2)
8	Agro-507	Fundamental of See Technology	3(2-2)
9	Agro-509	Conservation of Agronomy	3(2-2)
10	Agro-511	Environments & Crop Production potential	3(2-2)
11	Agro-504	Principles of Plant Nutrition & Growth Regulators	3(2-2)
12	Agro-506	Stress Physiology	3(2-2)
13	Agro-508	Principles of Weed Management	4(2-2)
14	Agro-603	Agro-Technology of Non-Traditional Crops	3(2-2)
15	Agro-605	Biological nitrogen Fixation	3(2-2)
16	Agro-607	Field Crop Ecology	2(2-0)
17	Agro-609	Project Planning and Scientific Writing	2(1-0)
18	Agro-611	Farming System and Arm Records	2(2-2)

POST GRADUATE COURSES (M.Sc. (Hons). / Ph.D. Agri)

<u>S. No.</u>	<u>Course No.</u>	<u>Title</u>	<u>Credit Hours</u>
1	Agro-701	Advanced Field Crop Production	4(3-2)
2	Agro-702	Advanced Agronomy	4(3-2)
3	Agro-703	Dry land Agro-Management	3(3-0)
4	Agro-704	Crop Environment	3(2-2)
5	Agro-705	Sustainable Agriculture	3(3-0)
6	Agro-706	Weed Management	4(3-2)
7	Agro-707	Field Crop Experimentation	4(3-2)
8	Agro-708	Advanced Seed Technology	4(3-2)
9	Agro-709	Herbicides in crop Production	4(3-2)
10	Agro-710	Plant Nutrition	3(2-2)
11	Agro-711	Recent Advances in Agronomy	3(3-0)
12	Agro-712	Plant Water relations	3(2-2)
13	Agro-713	Seed Physiology	3(3-0)
14	Agro-714	Agro-Environment Conservations	3(3-0)
15	Agro-715	Seed production and Management	3(2-2)
16	Agro-716	Resoruces Ecology of Agiculture	3(3-0)
17	Agro-717	Integrated Agriculture	3(3-0)
18	Agro-719	Sprecial Problem	1(1-0)
19	Agro-720-I	Seminar	1(1-0)
20	Agro-720-II	Seminar	1(1-0)

Compulsory Courses for Ph.D.

- i. Statistics
- ii. Bio-chemistry
- iii. Integerated Agriculture