

Confidential



**National Agriculture Education Accreditation Council**

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

**Prof. Dr. Muhammad Munir  
Dr. Naazar Ali**

**To Accredit  
Plant Breeding & Molecular Genetics Department  
Faculty of Agriculture, University of Poonch, Rawalakot ,  
Azad Jammu & Kashmir**

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## **ACKNOWLEDGMENT**

The Evaluation Team acknowledges the support and cooperation of the honorable Vice Chancellor, Dean Faculty of Agriculture, Chairman Plant Breeding & Molecular Genetics and Faculty / Staff members of the Department, The University of Poonch, Rawalakot, Azad Jammu and Kashmir. The immense help, guidance and logistic support of Mr. Naseer Alam Khan (Secretary), NAEAC and Raja Mr. Mehtab Yasin (Admn. and Finance Officer), NAEAC Secretariat is highly appreciated.

**Accreditation Inspection Committee (AIC), NAEAC**

# 1. General:

## 1.1 Introduction:

The Accreditation Inspection Committee (AIC) setup by the National Agriculture Education Accreditation Council (NAEAC) for the external review of the Degree Programs B.Sc. (Hons), M.Sc. (Hons) and Ph.D of the Department of Plant Breeding & Molecular Genetics, The University of Poonch, Rawalakot, Azad Jammu and Kashmir visited the Department on October. 16-17, 2012 for the in-depth review of the Department degree programs. The report of the Committee is presented below

The AIC met on October 16-17, 2012 in the Department of Plant Breeding & Molecular Genetics to carryout external review of the B.Sc.(Hons), M.Sc. (Hons) and PhD degree programs for accreditation.

## 1.2 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 comprising of the following scientists to review the Department of Plant Breeding & Molecular Genetics, The University of Poonch, Rawalakot, Azad Jammu and Kashmir for the assessment and accreditation for degree awarding academic programs:

- |     |  |          |
|-----|--|----------|
| i)  | Prof. Dr. Muhammad Munir<br>Ex-Dean, Faculty of Crop Sciences,<br>PMAS Arid Agriculture University Rawalpindi  | Convener |
| ii) | Dr. Naazar Ali<br>Ex-CSO/Deputy Director General, Crop Sci..Inst.<br>National Agri. Research Centre, Islamabad | Member   |

### **The main terms of reference (TORs) of the committee were as follows:**

- To validate the self-assessment report (SAR) of the degree programs (B. Sc. (Hons) Agri. and M.Sc. (Hons) Agri. and Ph.D.) prepared by the Department of Plant Breeding & Molecular Genetics The University of Poonch, Rawalakot, Azad Jammu and Kashmir.
- To carry out external evaluation of the degree programs in a transparent, neutral, holistic and participatory manner for accreditation and rating **based on the evaluation criteria given in the Evaluation Manual of NAEAC.**

- To submit synthesized and concise analytical report consisting of short introduction, criterion-wise analysis, self explanatory SWOT Analysis and actionable recommendations based on validation of SAR and interaction with the Chairman, Faculty Members, Students and Support Staff and Alumni as well as detail visit of physical infrastructure, facilities and other teaching-learning resources available for the degree programs.
- To submit clear, specific and justified degree programs accreditation and rating recommendations to the chairman NAEAC within two weeks of the on-site visit.

The itinerary of accreditation visit schedule is given at Annex-I.

### **1.3 The University**

The University of Poonch, Rawalakot was chartered in March, 2012. Originally it was the faculty of Agriculture at Rawalakot which was established in 1980 as a sub Campus of The University at Azad Jammu and Kashmir. Its objective was to expand the horizon of Agricultural Technology and to give productive incentives for agricultural development in the area. The University comprises of two major faculties, namely Faculty of Agriculture and Faculty of Veterinary and Animal Sciences. However, there are over 10 departments also including Computer Sciences, Eastern Medicines and Surgery, Administrative Sciences, etc. The university faculty consists of more than 82 highly qualified and distinguished teachers; many of them have obtained higher degrees from renowned international organizations and institutions. of higher education. The advancement in Information Technology gives a cutting edge to the vision of University of Poonch and ultimate focus rests on achieving excellence in a host of contemporary and emerging fields of Information Technology. Two new campuses are under construction, one of it is at Chotta Gala.

### **1.4 The Department of Plant Breeding & Molecular Genetics (PB&MG)**

The Department of Plant Breeding & Molecular Genetics (PB&MG) is one of the pioneer departments and integral part of Agriculture Faculty. It started the undergraduate program in 1984. The department was established in 2000 and the MSc. Hons/MPhil degree program was started during the same year. PhD degree program was started during the year 2003.. At present there are seven full time faculty members in the department. Out of these faculty members four are Ph.D., one staff member is M.Phil and two have M.Sc.(Hons.). Two staff members earned PhD from abroad while the other two earned their PhD degrees locally. Two faculty members also earned their Post Doc from abroad.

## 1.5 Program Mission

The mission of Department of Plant Breeding and Molecular Genetic is to establish the best of academic and research environment to produce quality graduates of intellectual and professional potency in crop improvement for the prosperity of the society.

### Program objectives

- To produce graduate and post-graduate professionals in plant breeding and genetics
- Training of manpower by exploiting conventional and modern plant breeding tools for crop improvement.
- To develop collaborations with National and International Research Organizations and Universities to strengthen the department and collaborative research.

- **Section-2: Point wise Analysis**

### 2.1 Strength and Quality of Faculty

Sufficient and well qualified faculty members are in the department (Six regular, one adhoc, one part time and two Research Associates). Out of these faculty members four are Ph.D., one staff member is M.Phil and three have M.Sc. (Hons.). Two Research Associates also have M.Sc. (Hons) and are registered for PhD in the department. Two staff members earned PhD from abroad while the other two earned their PhD degrees locally. Two faculty members also earned their Post Doc from abroad, whereas one member has got six months training in UK during his local Ph.D. The faculty has many publications in impact factor and HEC approved Journals. Existing teaching load of each faculty member is within the prescribed limits of HEC. Two members received Research and Productivity awards, two won Best Teacher Award and one got Star Laureate Award. Most of the faculty members are young and energetic and while developing their own career they will put maximum efforts for the advancement of research and teaching in the department.

### Academic Programs:

Following academic programs are being catered within the Department of Plant Breeding & Molecular Genetics.

**A) B.Sc. (Hons) Agriculture majoring in PB&MG.** The students are taken after F.Sc. and are being offered general introductory courses of agriculture and allied subjects as per HEC guidelines for the 1<sup>st</sup> half (4 semester). The students opt for major in 5<sup>th</sup> semester and spend two years in the department with internship/ research project in other institutions or within the department. Presently the department has 22 and 15 students in two major classes which is an ideal number of students in a class according to universal standards.

**B) MSc. (Hons) / M Phil Degree Program:** The students after graduation in Plant Breeding & Molecular Genetics (PB&MG) with minimum CGPA of 2.5 + general GRE are offered MSc.(Hons) / M Phil. degree program comprising of two years courses and thesis research. The number of MSc (Hons) / M Phil students taken in each semester is about 15. There are 29 courses for post graduate students with 92 credit hours. However, a student has to take 35 credit hours courses and thesis research (10 credit hours) .

**C) PhD Program:** The students having MSc (Hons) / M. Phil. degree with minimum CGPA of 3.0 + Subject GRE are offered PhD degree program. A student has to take at least 18 credit hours courses and thesis research work. Each Ph.D. student has to publish at least one research paper during their studies as a requirement of HEC.

Salaries of the teachers are according to the National pay-scales except for the teachers on tenure track system (TTS). All the faculty members interviewed were found satisfied with their job and working environment except a few small problems.

## **2.2 Curriculum Design and Development**

The curriculum followed is according to the national curriculum developed by HEC. The curriculum implemented was designed as per HEC curriculum review program. and revised during the year 2010 .

**Students Perception:** Undergraduate and post-graduate students were contacted for their views about the contents of the courses, the method of teaching, use of teaching aids, the conduct of practical and field exposure, examinations, grading and awards. The students were satisfied about the teaching methodology and the covering of the theoretical as well as practical components of the courses. According to the students views the teachers are excellently performing teaching duties apart from the research supervision and student's participation.

The objectives set out by the department were found clear and achievable. These included the capacity building, academic and applied research, and development of linkages with sister organizations and stakeholders

Net credit hours are according to HEC plans and courses are generally completed before the examinations. Course files are maintained by the teachers

Admissions, course registration and withdrawal policy well documented and matches with that planned by HEC.

The course evaluation system is more or less according to the HEC instructions. The mid semester, final semester and practical examinations are being held according to the schedule. Quizzes, Assignments are also given to the students.

Institutional Board of Study, Faculty Board and Academic Council exist and regularly meet in the faculty, and take input of stakeholders.

### **2.3 Infrastructure and Learning Resources**

A well equipped and fully functional biotechnological research laboratory along-with tissue culture facilities has been established for post graduate students. But the laboratory facilities for under graduates were inadequate. However, it is planned to have lab facilities available in the new campus. Only one regular Lab Assistant with 15 years experience is available for both undergraduate and post graduate students. There is a need of more qualified lab staff. There are two lecture rooms and one is equipped with multimedia. There is no separate space for sitting of students (Post graduate) where they can work peacefully after the lectures.

A limited farm field facilities along-with a green house are also available at the main campus for student's and faculty research and field activities. Sufficient (Sixty kanals) area is being provided on the new campus for field research activities.

The department library has 200 text books and 150 reference books for PB&MG in addition to the Main Library which has more than 4000 books apart from the large collection of reference books and subject books. International and National Journals received by faculty members are also available to the students. The students also take the advantage of the main library and are allowed to borrow books from both the libraries.

A reasonable number of computers with internet facilities are available for under graduate and post graduate students within the department but still require more to accommodate maximum under graduate students.

### **2.4 Students Support and Progression**

Admission system is transparent, and intake is adequate. The students' drop out percentage is very low. No merit scholarships are available from the university. However, a limited number of need based scholarship facilities to the students are available from other sources like Kashmir Council, Kashmir Education Foundation and Zakat Fund .

Adequate medical facilities for faculty and students are available. Limited indoor sports facilities are available at main campus. There is a need for proper play grounds and gym.

## **2.5 Research and Consultancy activities**

Research activities of the staff and the students were visited and some projects in the field were also observed. The post-graduate students were found involved in quality research. A few faculty members were actively involved in field and laboratory research. Sufficient research funds were received by the faculty from HEC and other resources. The faculty has research collaboration with National and International organizations. Faculty is also rendering the advisory services to, Agricultural Department, and other Organizations like NRSP and AKSP.

## **2.6 Governance and Leadership**

The departmental activities were well organized both in teaching and research. The allocated operational funds for student's practical and research are at the disposal of the Chairman of the Department who has all the administrative and financial powers. An amount of 1.2 millions is provided as an annual operational budget by the University which is very low for a faculty of heavy students strength. In addition to these funds a reasonable amount is available through research and development projects from other sources. There is not a proper Alumni' Association and Placement Bureau to develop a database of outgoing students, their employment record and feed back from them. However, a few prominent Alumni are in contact with faculty and they visit to deliver seminars and lectures. A newsletter is published by the university.

## **2.7. Adoption of Good Practices:**

Practice of curriculum review and development as arranged by HEC is followed. At university level the faculty make improvements according to the local environments. Audio-visual aids such as multimedia and overhead projectors are used for teaching by the faculty. Teachers get their assessment from the students informally. However, Quality Enhancement Cell as proposed by HEC may start functioning in near future at university level. Internship Program is practiced. Practical training is imparted to the students through on farm research , study tours and arranging/ encouraging the students participation in the scientific conferences and seminars. Research on the development/ maintenance of germplasm of beans, maize and seabuck thorn is being carried out by the faculty, which can lead for the development of varieties for the area.



## **Section-3 Overall/ SWOT Analysis**

### **3.1 Major Strengths:**

The Degree Programs have the following major strengths :

1. Adequate qualified and competent faculty of eight teachers with four Ph.Ds. comprising three professors one Assistant Professor and four lecturers. Faculty members have sufficient impact factor publications and have also won a number of awards.
2. The department has well equipped laboratory with all the modern equipments required for advanced biotechnology research activities and limited tissue culture facilities.
3. The discipline has strong collaboration with national and international teaching and research organizations such as Institute of Botany Academy of Sciences Czech Republic, Institute of Biological, Environmental and Rural Sciences, Univ. of Aberystwyth, Wales, UK, NARC and Karachi University.

### **3.2 Major Weaknesses:**

Following weaknesses were identified during the visit.

1. Lack of green house with facilities to control the environmental factors to conduct research experiments, maintain and develop the promising material
2. The facility for undergraduate laboratory and qualified lab staff is insufficient.
3. A few Research Journals are subscribed for the departmental library which are not sufficient for review and reference.

### **3.4 Major Opportunities:**

1. The discipline of Plant Breeding & Molecular Genetics has well equipped Bio-technological laboratory with tissue culture facilities it can take lead in developing good varieties of local crops for commercial cultivation in that area.
2. Considerable scope for training program for the scientists with advanced techniques of plant breeding including MAS (marker assisted selection), double haploid production and gene transformation for which the expertise is readily available.
3. The students have good employment opportunities in public and private organizations / companies.

### **3.5 Major Threats / Challenges:**

1. As a result of the technological advancement in terms of status of their laboratories, training of students in new technologies is very important in future.
2. The documentation of important crop plant material (wild and cultivated) of the area based on molecular markers would be a challenge in future.
3. The production of improved genetic material, hybrid seed, improved varieties and their provision to the stake holders is a major challenge for the department.

### **Section- 4 Recommendations:**

1. The facility for undergraduate laboratory and qualified lab staff is required.
2. The tissue culture facilities need to be strengthened.
3. Computer facilities for the students within the department and university for approaching the online journals and textbooks are required
4. Independent offices for each faculty member should be made available.
5. Individual sitting arrangements for research students (Post-grads) within the department are required.
6. Rapid construction of new campuses is required.
7. Green house with facilities to control the environmental factors is needed to maintain and develop the promising material.
8. Gene bank facilities needs to be developed for use in the development of promising crop varieties for the area.
9. Post-graduate research funds of the department should be increased by the university according to the student strength.
4. University should arrange merit / need based scholarships.
5. More research journals need to be subscribed for the departmental /main library.
6. Functional tutorial groups and counseling for students may be started.
7. Alumni association and Placement Bureau needs to be established at university and made functional.
8. More furnished lecture rooms and teaching aids like the use of multimedia within the department are recommended.

9. Training of faculty in biometrics and of lab staff in operating the lab equipment is required.
10. Opportunities for the faculty to improve their qualifications should be provided.
11. The sports and co-curricular activities must be enhanced at the department / university. level.

On the basis of the inspection / evaluation, the team recommends Accreditation of the Degree Programs of Plant Breeding and Molecular Genetics department, Faculty of Agriculture, University of Poonch, Rawalakot, Azad Jammu and Kashmir in “X1” category of National Agriculture Education Accreditation Council/HEC.

#### 4.4 Signatures of AIC Members

##### Name and Designation

##### Signatures

<b>Dr. Muhammad Munir</b> EX-Dean Crop and Food Sciences/ Vice Chancellor PMAS Arid Agriculture University, Muree Road Rawalpindi	(Convener)	
<b>Dr. Naazar Ali</b> Ex-CSO/Deputy Director General, Crop Sciences Institute. National Agricultural Research Centre, Islamabad	(Member)	
Dated: November 20, 2012		

#### 4.5 Comments and Signatures of Chairman