Pir Mehr Ali Shah

ARID AGRICULTURE UNIVERSITY RAWALPINDI

DEPARTMENT OF AGRONOMY

Self Assessment Report
(4th Cycle)
B.Sc. (Hons.) Agriculture
2014

Program Team

Prof. Dr. Fayyaz Ul Hassan	(Coordinator)
Dr. Ghulam Qadir	(Member)
Dr. Muhammad Rasheed	(Member)
Dr. Irfan Aziz	(Member)
Dr. M. Naveed Tahir	(Member)

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Introduction

Agronomy is a diverse profession that encompasses all aspects of crop production and soil management. The goal of the department is to increase crop production, quality and profit by utilizing crop resources and crop physiology. The department is involved in production of food, fiber and fodder encompassing many of the same agronomic principles and their application for the management of crop production.

Agronomy Department was established in 1984 in the Barani Agriculture College, Rawalpindi. In the beginning, department used to offer minor courses of Agronomy for the students of B.Sc. (Hons.) Agriculture specialization in disciplines other than Agronomy. The college was upgraded as University of Arid Agriculture in 1994. The department started its B.Sc. (Hons.) degree program in 1986. M.Sc. (Hons.) and Ph.D. degree programs were initiated in 1997 and 1998 respectively.

The Department of Agronomy offers research oriented B.Sc.(Hons.), M.Sc.(Hons.), and Ph.D. degrees in Agriculture, in Agronomy. Students who fulfill the criteria are admitted in B.Sc.(Hons.), M.Sc.(Hons.) and Ph.D. Agronomy degrees programs. Agronomy degree programs are designed to be flexible in order to meet the student's requirements in different areas of Agronomy viz. Nutrient Management / Nutrient Use Efficiency, Field Crop Physiology, Stress Physiology, Farming Systems, Field Crop Physiology, Crop Production Technology of Field Crops, Seed Production and Technology, Physical Properties of Soil, Breeding Field Crops, Crop Growth and Development, Principles of Plant Nutrition and Growth Regulator, Principles of Weed Science, Forage and Fodder Production, Soil Fertility and Fertilizers, Crop Water Management, Biological Nitrogen Fixation, Field Crop Ecology, Stress Physiology, Methods of Soil and Plant Analysis, Organic Farming, Conservation Agronomy, Environment and Crop Production, Project Planning, Execution and Scientific Writing, Crop Growth Modeling, Allelopathy and Weed Management.

The Department has highly qualified and experienced faculty mostly having post doctorate research experience from universities of International fame. The faculty has produced 45 publications during the reported period in journals of national and international reputed. The faculty members have specialization in the fields of Crop Modeling, Crop Physiology, Crop Production Technology, Seed Technology, Plant Nutrition, Forage and Fodder Production, Crop

Water Management, Biological Nitrogen Fixation, Organic Farming, Conservation Agronomy, Allelopathy/Weed Management etc. The department is running projects in collaboration with different national and international funding agencies.

Section 1

Components of Self Assessment Process: This Self Assessment has been arranged on the foundation of the following eight criteria described in self Assessment Manual.

Criterion-1: Programme Mission, Objectives and Outcomes

Agriculture is a fascinating and complex industry with international extents. The Department of Agronomy presents students with the acquaintance, ability and indulgent critical for professional achievement in a changing world. Agronomy is a diverse profession that encompasses all aspects of crop production and soil management. The goal of the programme is to increase yield production, quality and profit by utilizing crop possessions and crop physiology. The programme is concerned in the production of food, fiber and fodder encompassing many of the same agronomic principles and their relevance for the management of crops production.

Mission Statements of the Programme:

The Mission of programme is to equip and impart training to undergraduate and postgraduate students for high-quality education which should results in increasing scientific knowledge and skills for employment, productive citizenship, and life-long learning. The programme is leading in the areas of food, agriculture and natural resources.

Standards:

Standards 1.1: Documented measurable objectives

Objectives:

The main objectives of the programme are as below:

- ❖ To build up the programme on modern lines for education and research at undergraduate and postgraduate levels.

- ❖ To impart basic and practical knowledge and skills in appropriate field employing advanced analytical techniques.

- ❖ To provide guidance to students in their thesis research.

- ❖ Integration of related field.

- ❖ Anticipation of new teaching/researchable areas.

Outcomes:

- Strengthening of the programme, it was carried out on modern lines for education and research.
- The students and researchers were imparted basic and practical knowledge using advanced analytical techniques.
- The students were imparted guidance in their respective thesis research.
- Integration was achieved through interviews, discussion on latest developments in the field and translation in applied research projects/thesis research.
- Anticipation of new teaching/researchable areas was achieved through updating of the curricula.

Main elements of strategic plan to achieve mission and objectives

- ❖ Growth of sound training system based on occurrence and vision gathered from world reviews, writing, inventive, measures, symposia, workshops, etc for the award of degrees.
- ❖ Scheming and updating the curriculum if core subjects, elective subjects, specialized areas and study tours.
- ❖ Setting up of research laboratories equipped with up to date equipments.
- ❖ Publication of data in scientific papers, books and manuals. etc.

Programme objectives assessment

Table 1 : objective assessment

Sr. #	Objectives	How Measured	When Measured	Improvement Identified	Improvement Made
1	Development & Strengthening of Agronomy Department at PMAS-AAUR	On the basis of modern research facilities and practical application of new technology in the area of agriculture and their impact on farming communities	It is a continuous process as per requirement	Teaching methodology needed to be improved	Teaching method have been revised in order to make them more attractive and understandable
2.	To impart basic and applied knowledge to the undergraduates and postgraduate students	Background information and status of knowledge of students through entry tests and in turn feed back from students	At the time of new admission	Some new courses need to be included in the curriculum	Curriculum has been revised as per requirement of HEC
3	Provide guidance to students in their thesis research	Assessing interest of students in educational and research activities	Before start up research projects	To enable student to write the report and present the data in a scientific manner	Enhanced communication skill
4	Integration of related field	Through entry tests, interviews research of their own interest	Subject/courses to be offered are displace before start of every semester	Related subject to be recommended or studied	Enhancement of knowledge and vision
5	Anticipation of new teaching/researchable areas	With the need of current advancement in the relevant areas	Continuous activity	New courses to be included in curriculum, problem - research	Approval of new curriculum

Table 2 Standard 1.2

Objectives vs outcomes

	Objectives					
Outcomes	Sr. No.	1	2	3	4	5
	1	***	**	***	***	**
	2	**	**	**	**	**
	3	**	**	**	*	***
	4	***	**	***	**	**
	5	**	***	**	***	**

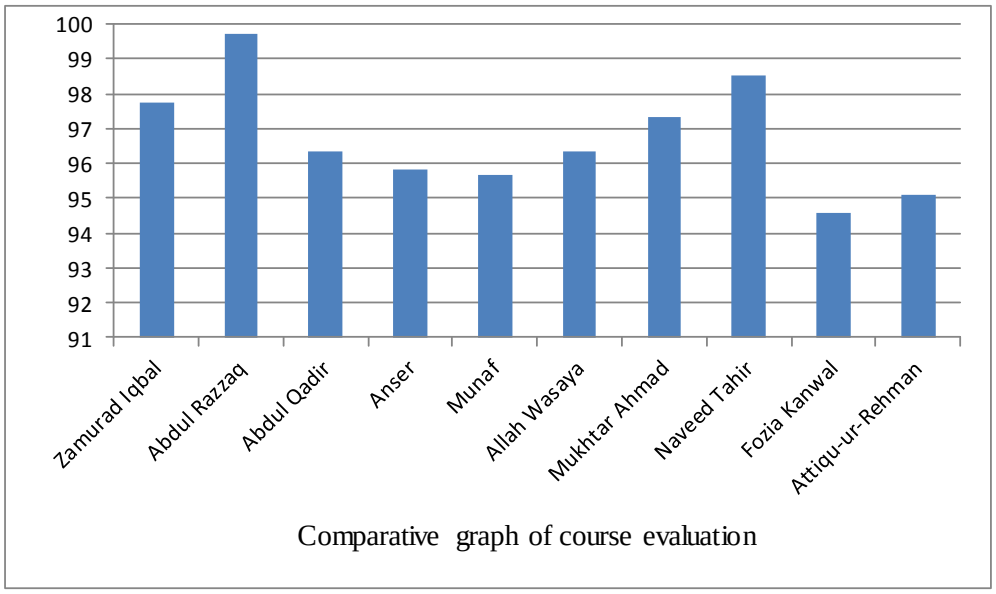
* Relevant
** Relevant and satisfactory
*** Highly relevant and satisfactory

Proforma 1 & 10 Course and Teacher Evaluation

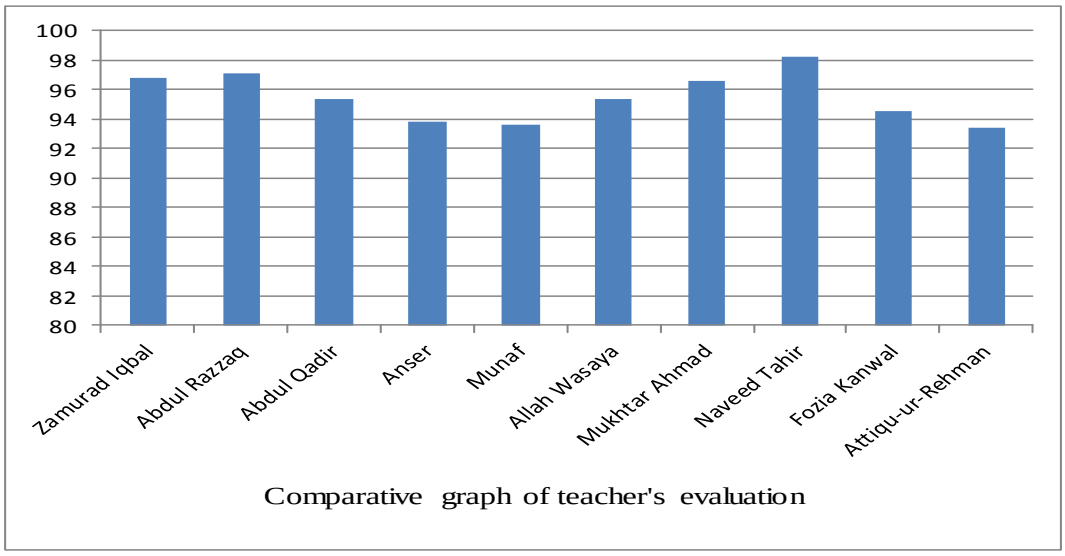
Preformat 1 & 10 Course and Teacher Evaluation

Comparative graph of courses evaluation:

The values were taken from the proformas filled by the students, and then the impact was calculated according to the formula given by QEC.



Comparative graph of teachers' evaluation:



1. **Dr. Zammurad Iqbal Ahmed**

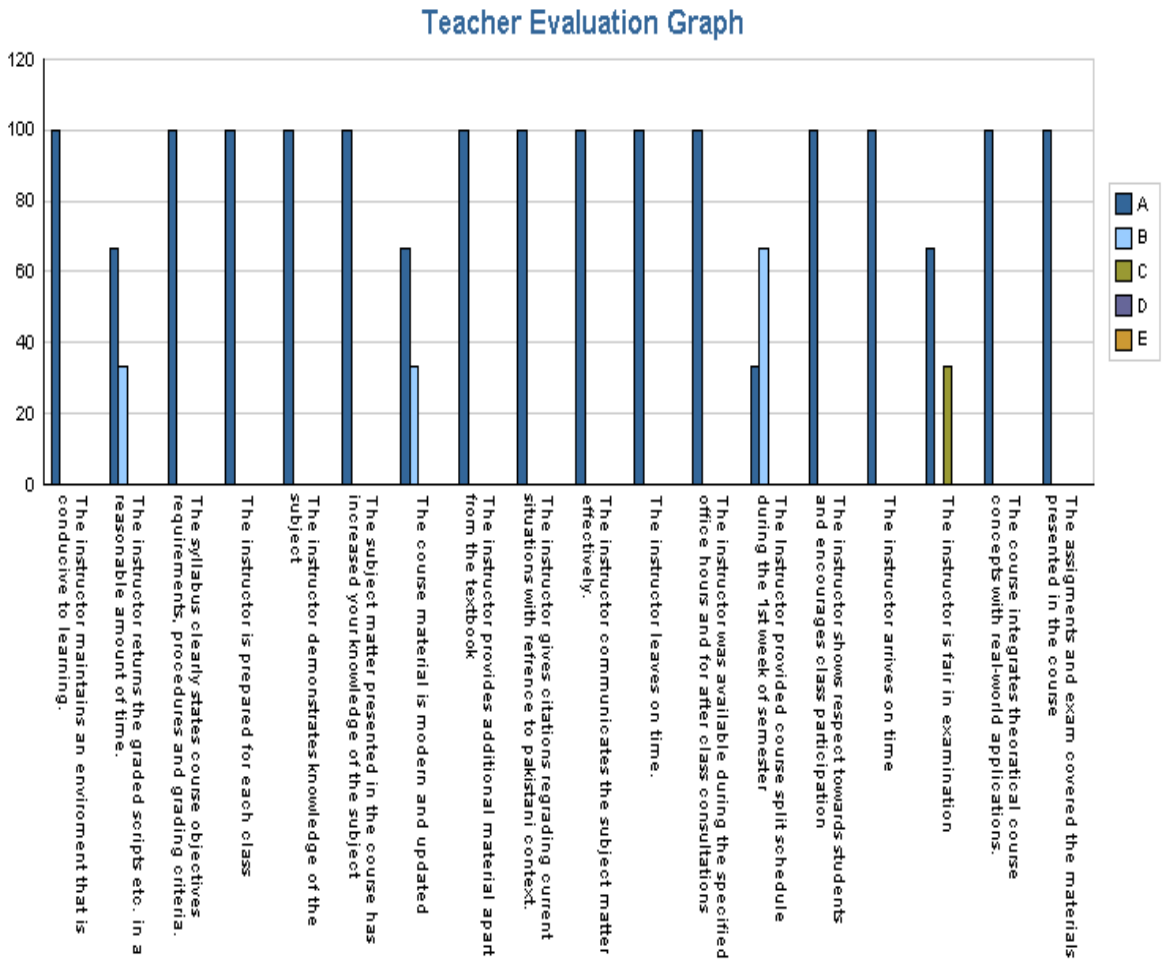
i. **Teacher Evaluation**

Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr. Zammuard Iqbal was calculated 96.66.

Teacher evaluation parameters showed that the 100% of the students strongly agreed that the instructor was prepared for each class. The data of rest of the parameters indicated that main percentage of the students were agreed that the teacher is fair in examination, the instructor came with good preparation the instructor demonstrated knowledge of the subject, instructor had completed the whole course, the instructor provided additional material apart from the textbook, the instructor gave citations regarding current in context with Pakistan, the instructor communicated the subject matter, the instructor showed respect towards students and encourages class participation effectively, the instructor maintained an environment that was conducive to learning, the instructo rarrived on time, the instructor returned the graded scripts etc. in a reasonable amount of time, the instructor was available during the specified office hours after class for consultations, the subject matter presented in the course had increased their knowledge of the subject, the syllabus clearly stated course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is current and updated.

Comments / Suggestions

- Conceptual way of communication in each lectures
- More practicals must be arranged in labs.
- Good behavior of the teacher and was available any time
- The course was completed in time



ii. Course Evaluation

AGR-504	Principles of Plant Nutrition and Growth	3(2-2)	Dr. Zammurad Iqbal Ahmed

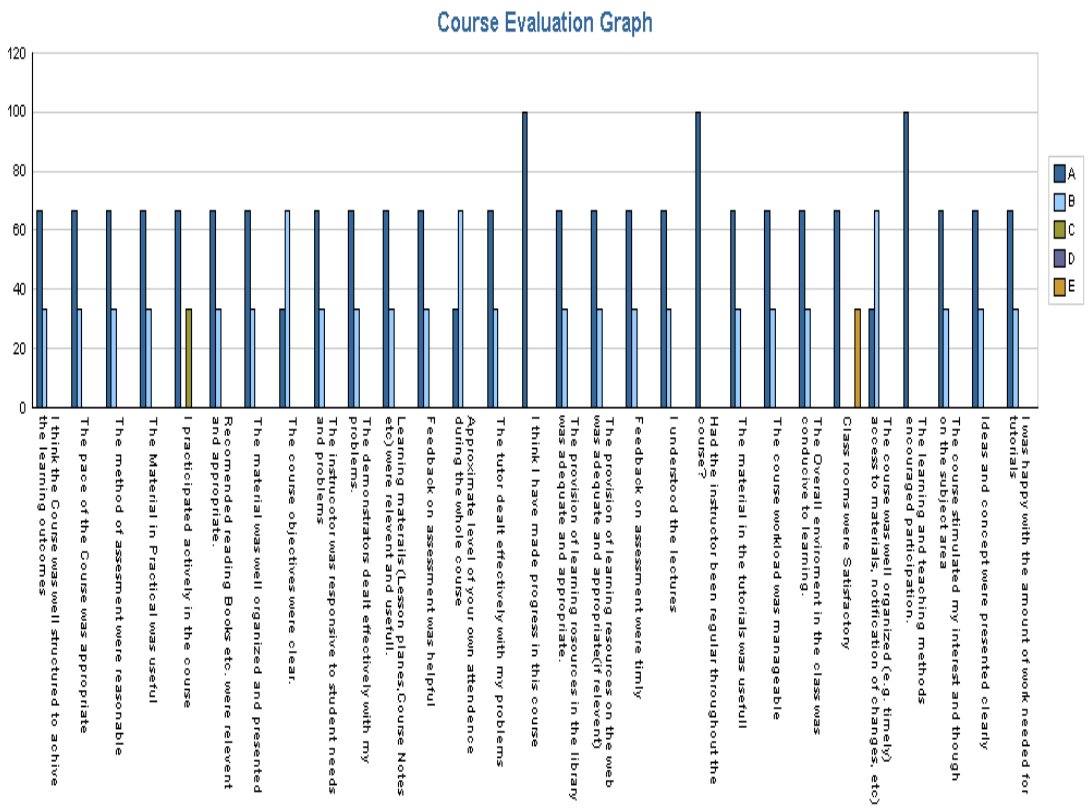
Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed that the course (AGR-504) taught by Dr. Zammurad Iqbal Ahmed had a performance value of 97.76.

Course evaluation parameters showed that 95% of the students are strongly agreed, 5% agreed that the course objectives were clear. Data regarding other parameters showed that most of the students agreed about the effectiveness and objectivity of the course, the course workload

was manageable, well organized, the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials were relevant, recommended reading books etc. were relevant and appropriate, provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area,, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable, the material was well organized and presented, the instructor was responsive to student needs and problems, instructor was regular throughout the course and the material in the tutorials was useful.

Comments / Suggestions

- Increasing intensity of practicals and innovative techniques the course can be improved.
- The course was thought inspiring and useful.
- Lab facilities are needed to be updated and improved..
- The course was interesting and conceptual.
- Class rooms are needed to be furnished ones.



2. Dr. Mukhtar Ahmed

i. Teacher Evaluation

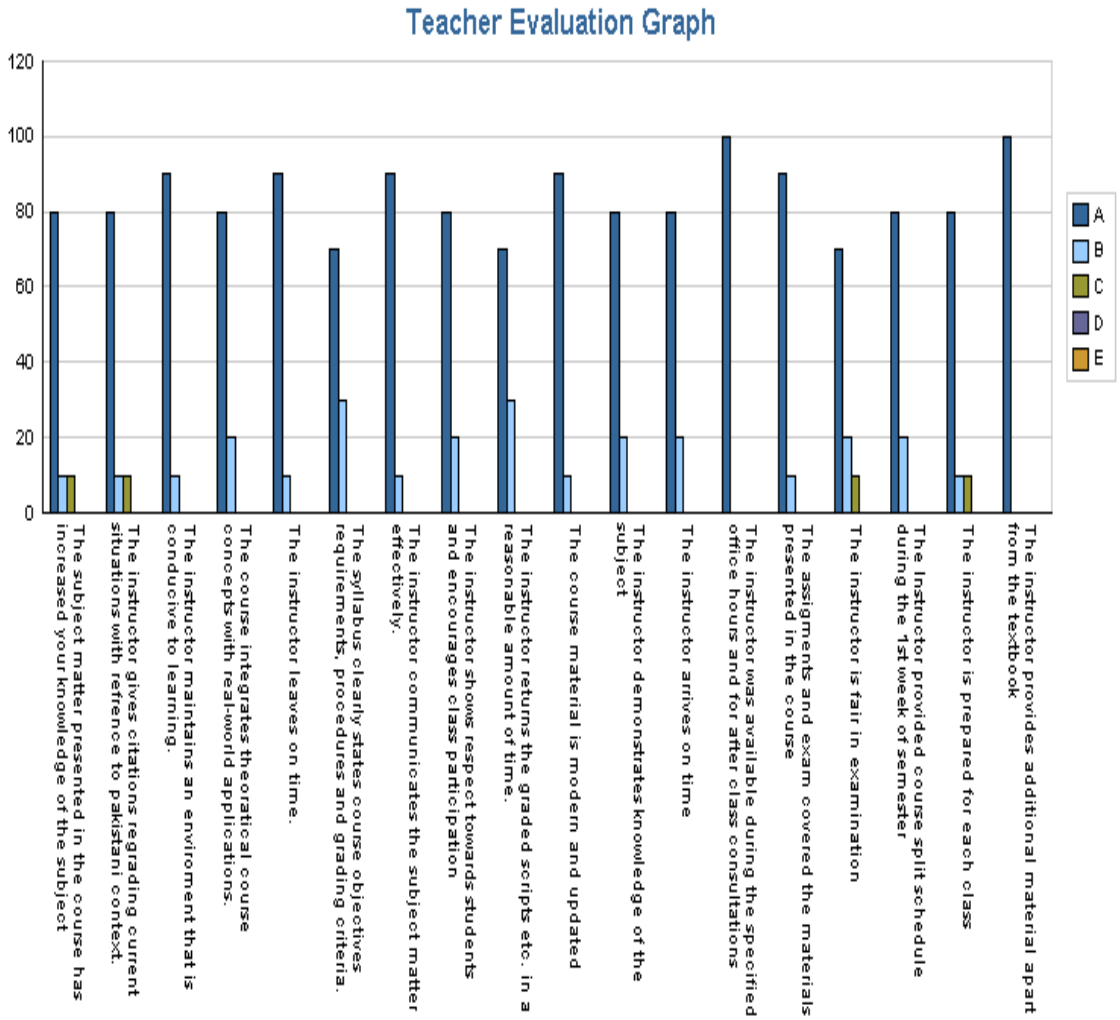
Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr. Mukhtar Ahmad was calculated 96.84.

The evaluation criteria parameters showed that the 80% of the students strongly agreed 10% agreed and 10% uncertain that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation,instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter,the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time,the Instructor was available

during the specified office hours after class for consultations,the subject matter presented in the course has increased their knowledge of the subject.

Comments / Suggestions

- Taching schedule was strictly followed by the teacher .
- The teacher was availabale during the specified office hours and for after class consultation
- The teacher provides additional materials



ii. Course Evaluation

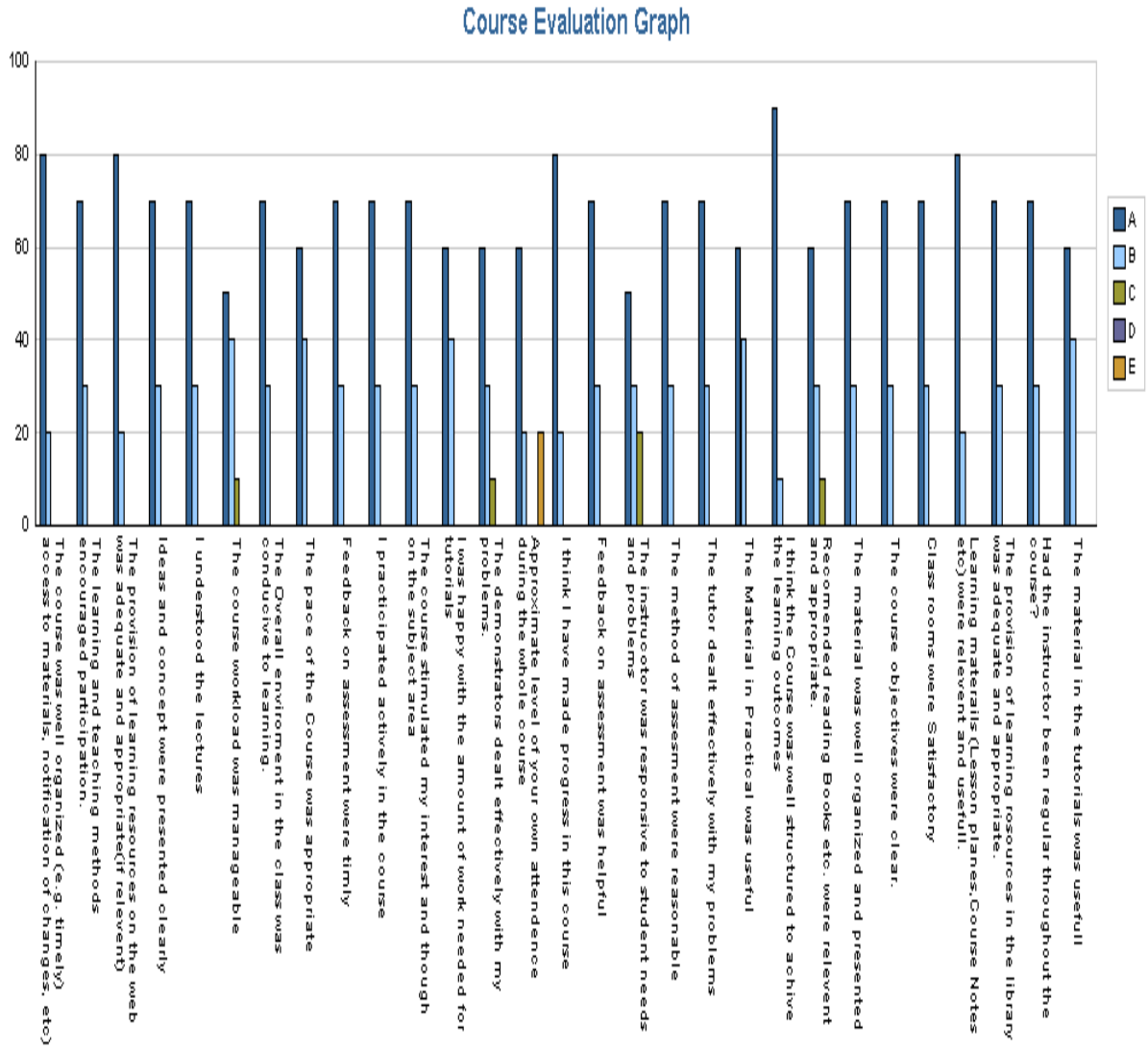
AGR-505	Crop Enviroment	4(3-2)	Dr. Mukhtar Ahmed

Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed, that the course (AGR-505) taught by Dr. Mukhtar Ahmad an impact value of 97.34.

The individual parameter showed that 75% students strongly agreed, 25% agreed and 0% students uncertain that the course objectives were clear.Data regarding other parameters showed that major proportion of the students agreed about the effectiveness and objectivity of the course, the course objectives were clear,the course workload was manageable, well organized , agreed that the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- The course load was more to be managed
- Delivering lecture is needed to be improved
- The course was well strucutured to achieve the learning outcomes
- Improved the progress of the students in this course
- The course was very broad spectrum.



3. Dr. Abdul Manaf

i. Teacher Evaluation

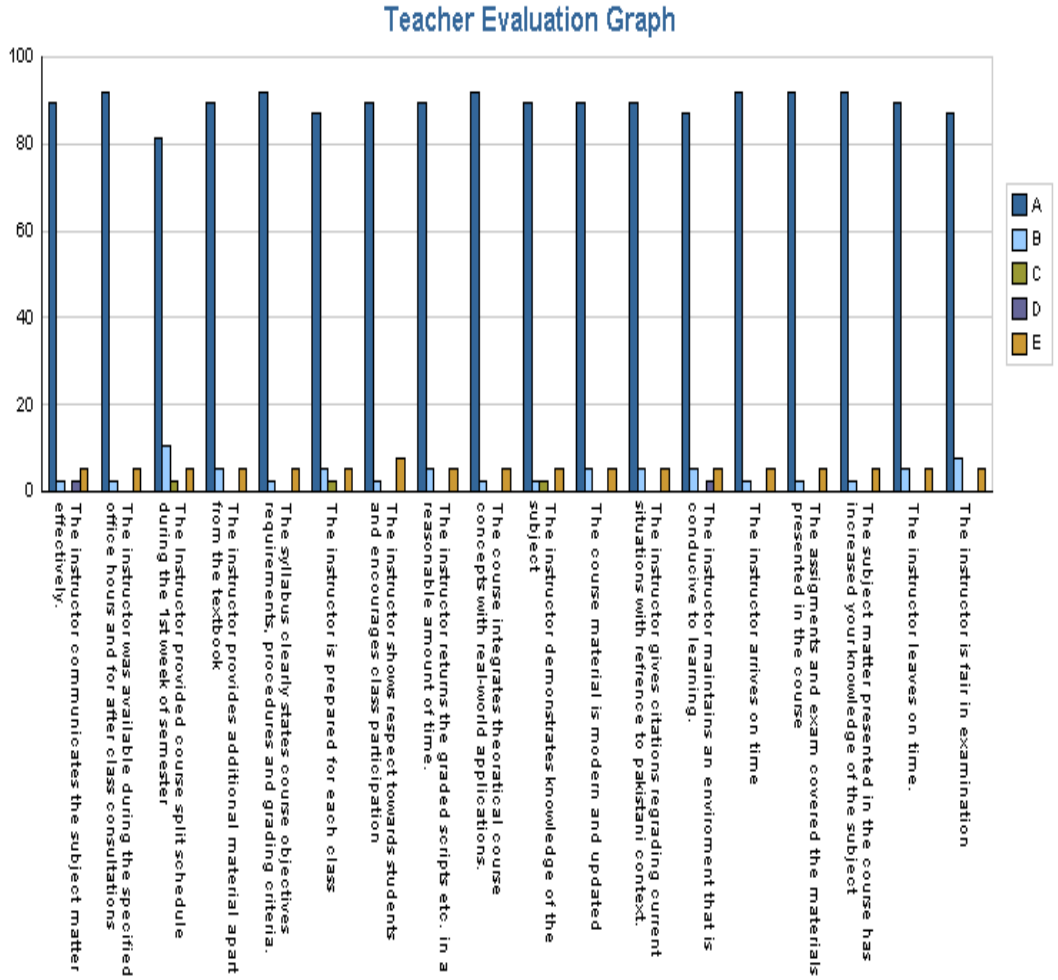
Data were collected from 84 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr. Abdul Munaf was calculated 93.52.

The teacher evaluation criteria showed that the 87% of the students strongly agreed and 3% agreed, 2% uncertain and 8% strongly disagree that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher was fair in examination, came with good preparation, the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided

additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations.

Comments/Suggestions

1. The teaching method of the teacher is very effective
2. Course was very motivating and was completed well in time.
3. The teacher behavior towards students was good



ii. Course Evaluation

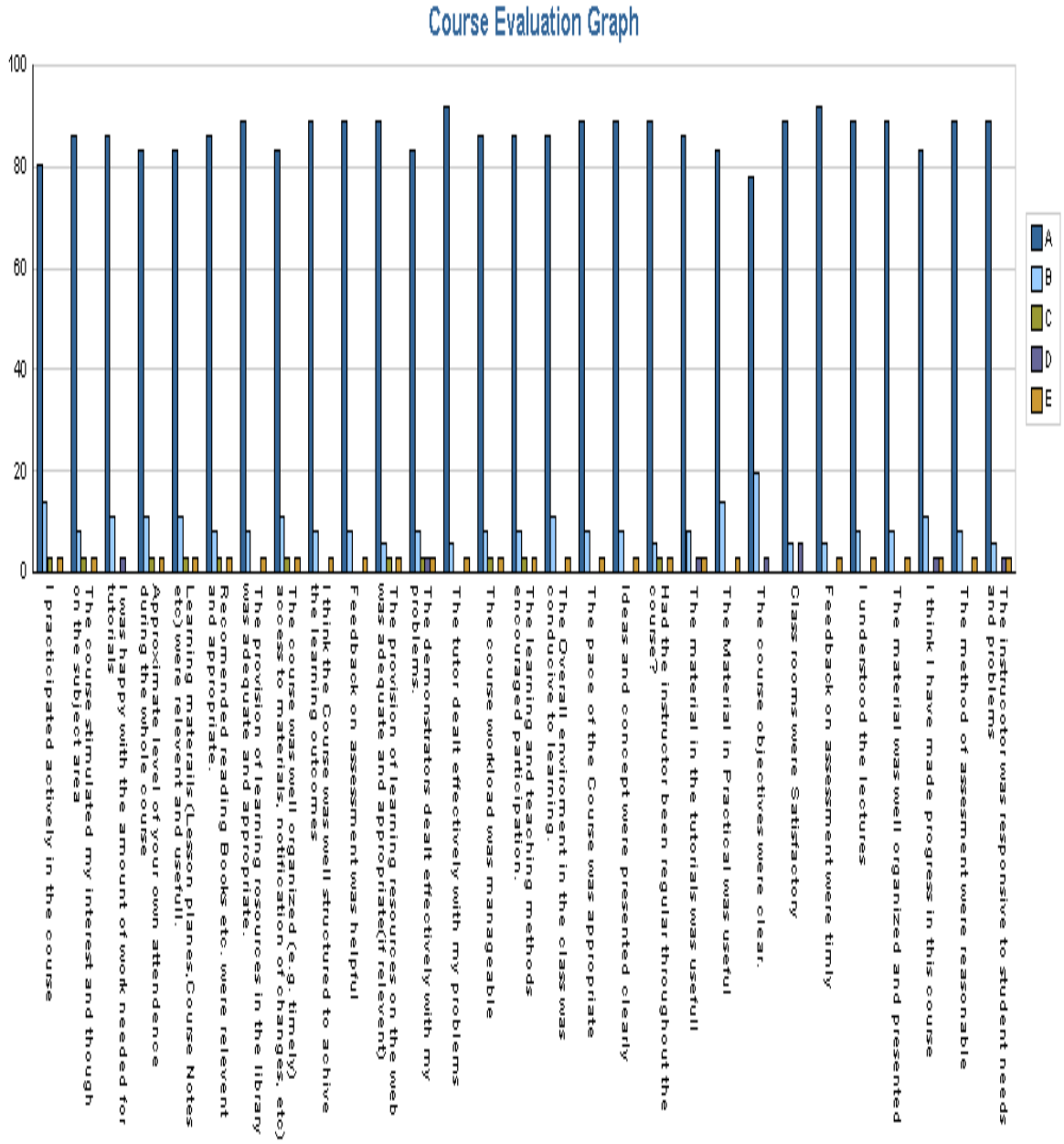
AGR-401	Winter Crops	3(2-2)	Dr. Abdul Manaf

Data were collected from 84 B.Sc. students. Comparative graph of course evaluation showed, that the course (AGR-703) taught by Dr. Abdul Munaf was an impact value of 95.65.

The individual parameter showed that 78% of the students strongly agreed and 20% agreed and 2% disagree that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreedabout the effectiveness and objectivity of the course, the course objectives were clear, the course workload was manageable, well organized , the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course. Most of the students agreed that the course was well structured to achieve the learning outcomes,the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- Use of latest audio –visual learning resources needed to be provided in the classroom.
- Motivate the students to participate actively in the course
- University library needed to be updated for the availability of course
- Satisfy the students in the classroom during lecture.



4. Fouzia Kanwal

i. Teacher Evaluation

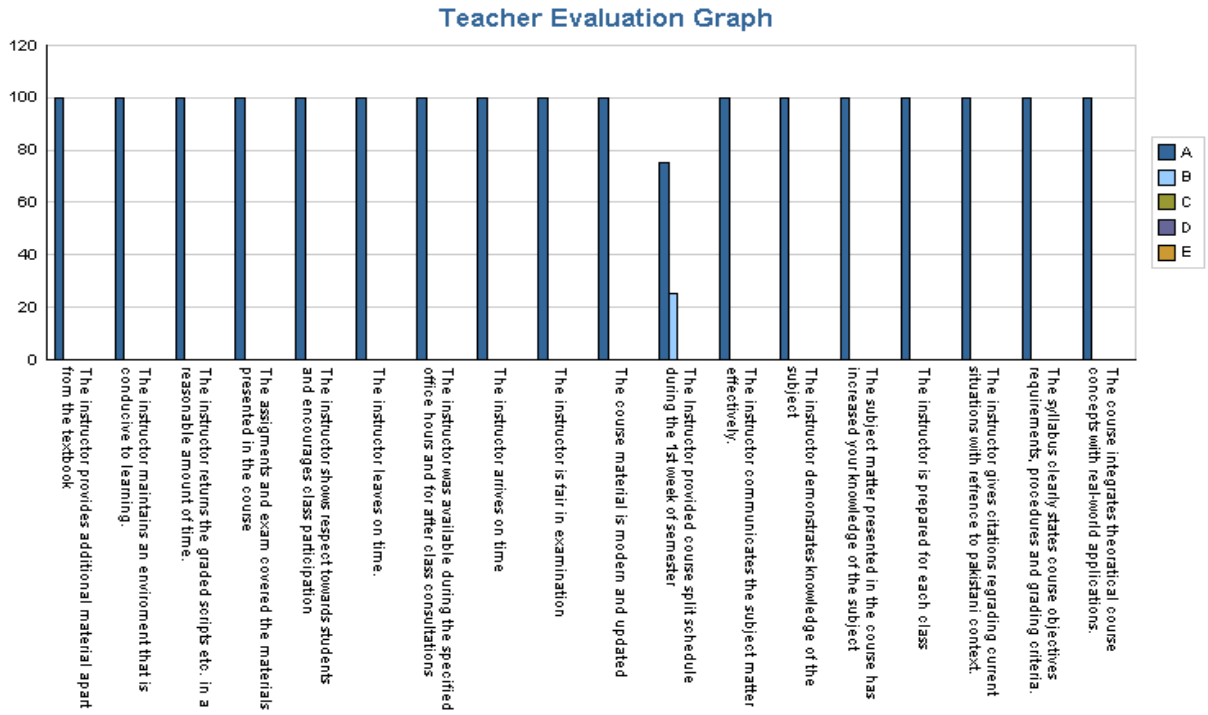
Data were collected from 84 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Miss Fozia Kanwal was calculated 94.67.

The evaluation criteria parameters showed that the 85% of the students strongly agreed 5% agreed, 5% uncertain and 5% diagree that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the

teacher is fair in examination, the instructor came with good preparation. ,instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

1. The teacher's attitude was amiable during and after his lectures with the students.
2. The pace of course covering was commendable and understanding of the theme of the course was also appreciable.
3. Provided course split schedule during the 1st week of semester



ii. Course Evaluation

AGR-402	Field Crop Physiology	3(2-2)	Fauzia Kanwal

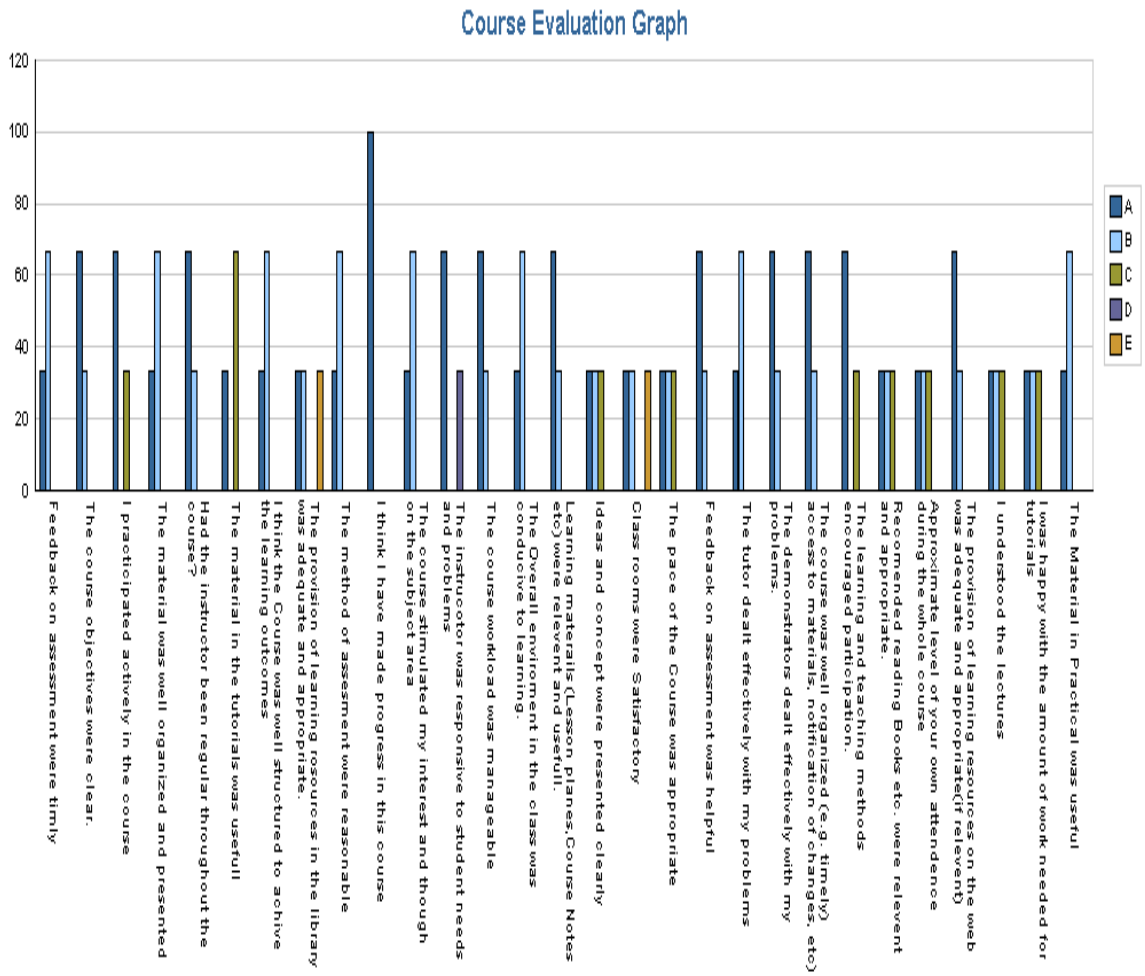
Data were collected from 84 B.Sc. (Hons.) students. Comparative graph of course evaluation showed, that the course (AGR-402) taught by Miss Fozia kanwal was an impact value of 95.10.

The individual parameter showed that 70% of the students strongly agreed and 30% agreed that the course objectives were clear.Data regarding other parameters showed that major proportion of the students agreed that the course workload was manageable, well organized ,the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes ,the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful,

recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- More practicals will make the course better.
- Lab equipments were not ample.
- Projector and multimedia should be used to deliver lectures.
- There was lack of practical demonstrations in the practical part of the course.
- No doubt the course was enlightening and interesting.



5. Dr. Ghulam Qadir

i. Teacher Evaluation

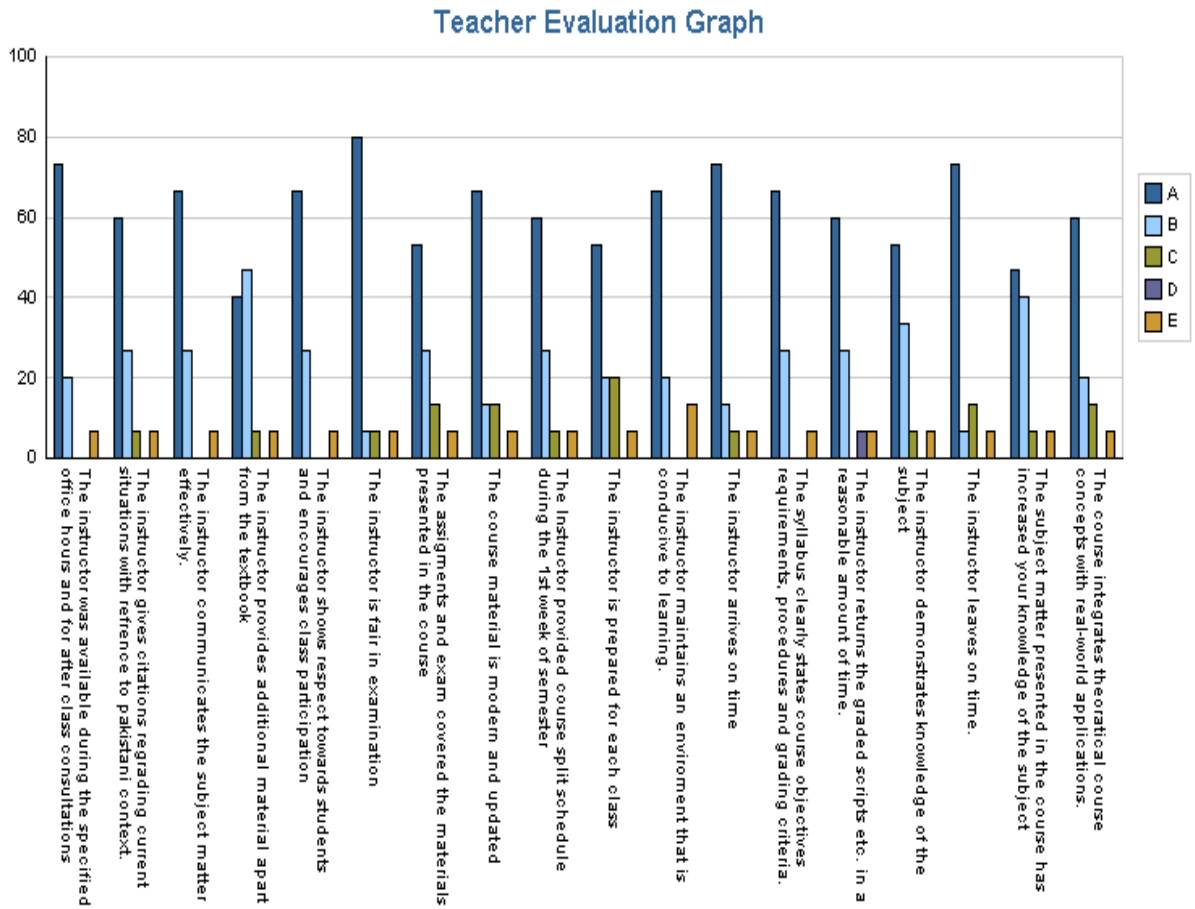
Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Ghulam Qadir was calculated 95.20.

The evaluation criteria parameters showed that the 55% students strongly agreed, 20% agreed, 20% uncertain and 50% strongly that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation,instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the

Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

- The teacher always relates the course topics with his practical experiences under the local environmental conditions for proper understanding of the students.
- The teacher's attitude was amiable during and after his lectures with the students.
- The pace of course covering was commendable and understanding of the theme of the course was also appreciable.



ii. Course Evaluation

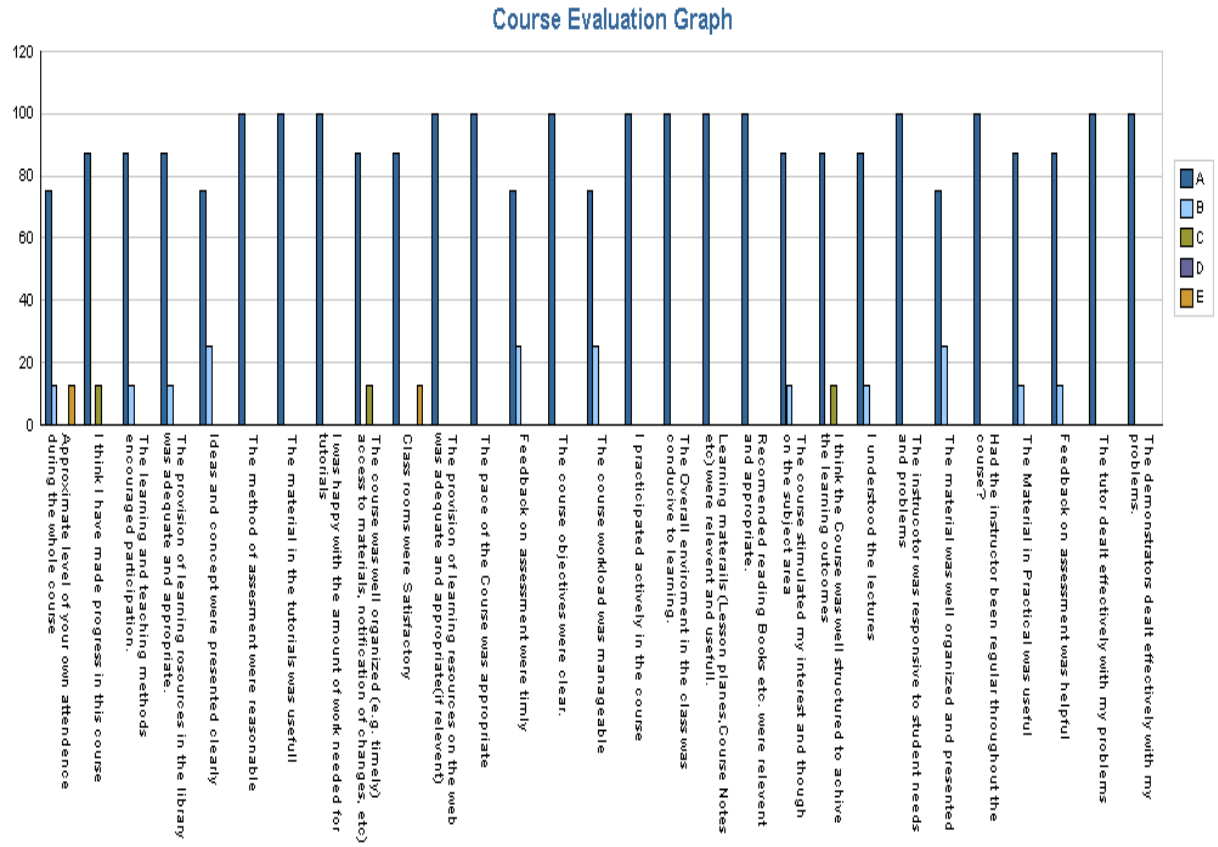
AGR-509	Conservation Agronomy	4(3-2)	Dr. Ghulam Qadir

Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed that the course (AGR-509) taught by Dr. Abdul GhulamQadir was an impact value of 96.34.

The individual parameter showed that 100% of the students strongly agreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course workload was manageable, well organized ,the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes ,the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- More practicals will make the course better.
- Lab equipments were not ample.
- Projector and multimedia should be used to deliver lectures.
- There was lack of practical demonstrations in the practical part of the course.
- No doubt the course was enlightening and interesting.



6. Dr. Allah Wasaya

i. Teacher Evaluation

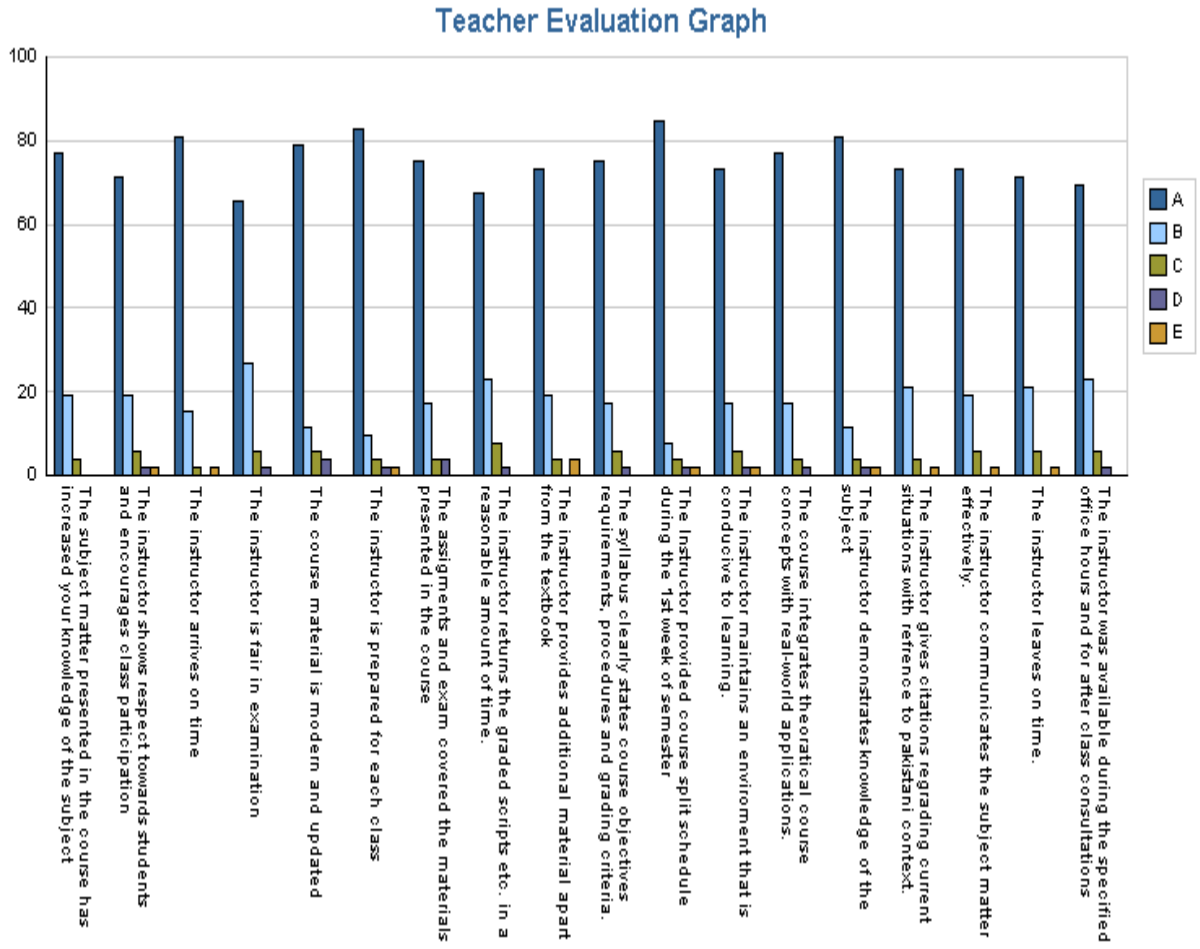
Data were collected from 84 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Allah Wasaya was calculated 95.24.

The evaluation criteria parameters showed that the 83% of the students strongly agreed and 10% agreed 4 % uncertain and 2% disagrred and 2% strongly disagreed. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation, instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was

available during the specified office hours after class for consultations, the subject matter presented in the course has increased their knowledge of the subject.

Comments / Suggestions

- Taching schedule was strictly followed by the teacher .
- The teacher thoroughly prepares himself before each lecture.
- While delivering his lecture, the teacher's concepts were clear



ii. Course Evaluation

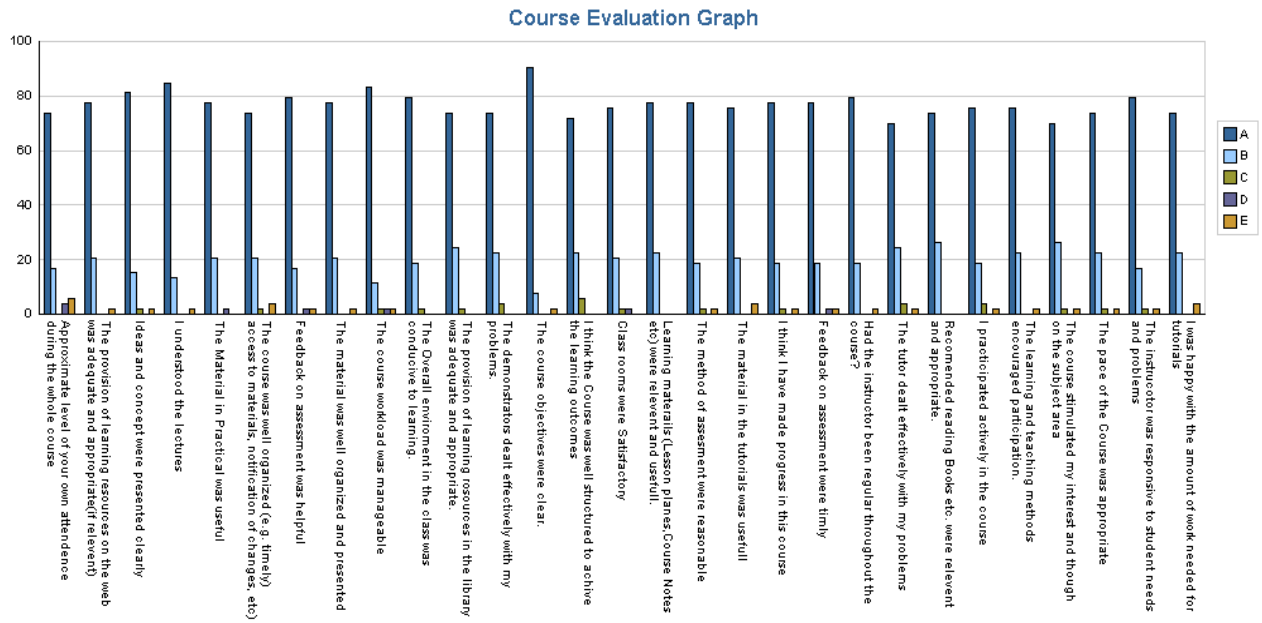
AGR-302	Summer Crops	3(2-2)	Dr. Allah Wasaya

Data were collected from 84 B.Sc. (Hons.) students. Comparative graph of course evaluation showed, that the course (AGR-302) taught by Dr. Allah Wasaya had an impact value of 96.34.

The individual parameter showed that 74% students strongly agreed, 21% agreed and 2% students uncertain 0 % disagree and 4% strongly disagree that the course objectives were clear.Data regarding other parameters showed that major proportion of the students agreed about the effectiveness and objectivity of the course, the course objectives were clear,the course workload was manageable, well organized, agreed that the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- There is need for the augmentation of practical work and field visits
- Lack of ideal environment of the class which is needed to be improved.
- Class environment was not conducive for high profliled learning.
- There was lack of a well designed course .



7. Dr. Muhammad Naveed Tahir

i. Teacher Evaluation

Data were collected from 93 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Muhammad Naveed Tahir was calculated 98.13.

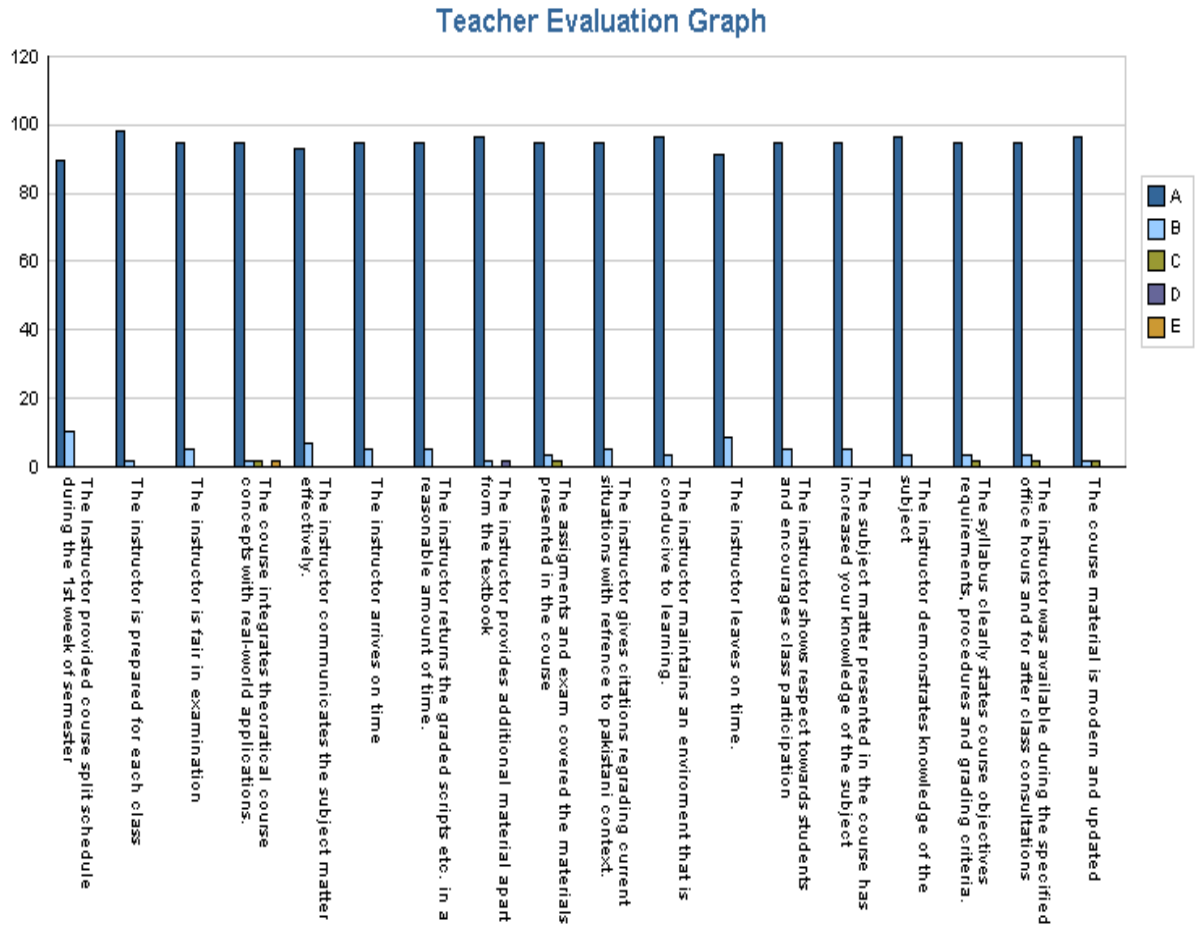
The teacher evaluation criteria showed that the 88% of the students strongly agreed and 12% agreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher was fair in examination , came with good preparation, the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations.

Comments/Suggestions

1. During lectures always cites from his practical experiences to make the understanding of the subject effective.

2. Course was very motivating and was completed well in time.

3. Competent, humane and good teacher with amiable and parental behavior.



ii. Course Evaluation

AGR-301	Basic Agriculture	3(2-2)	Dr. Muhammad Naveed Tahir

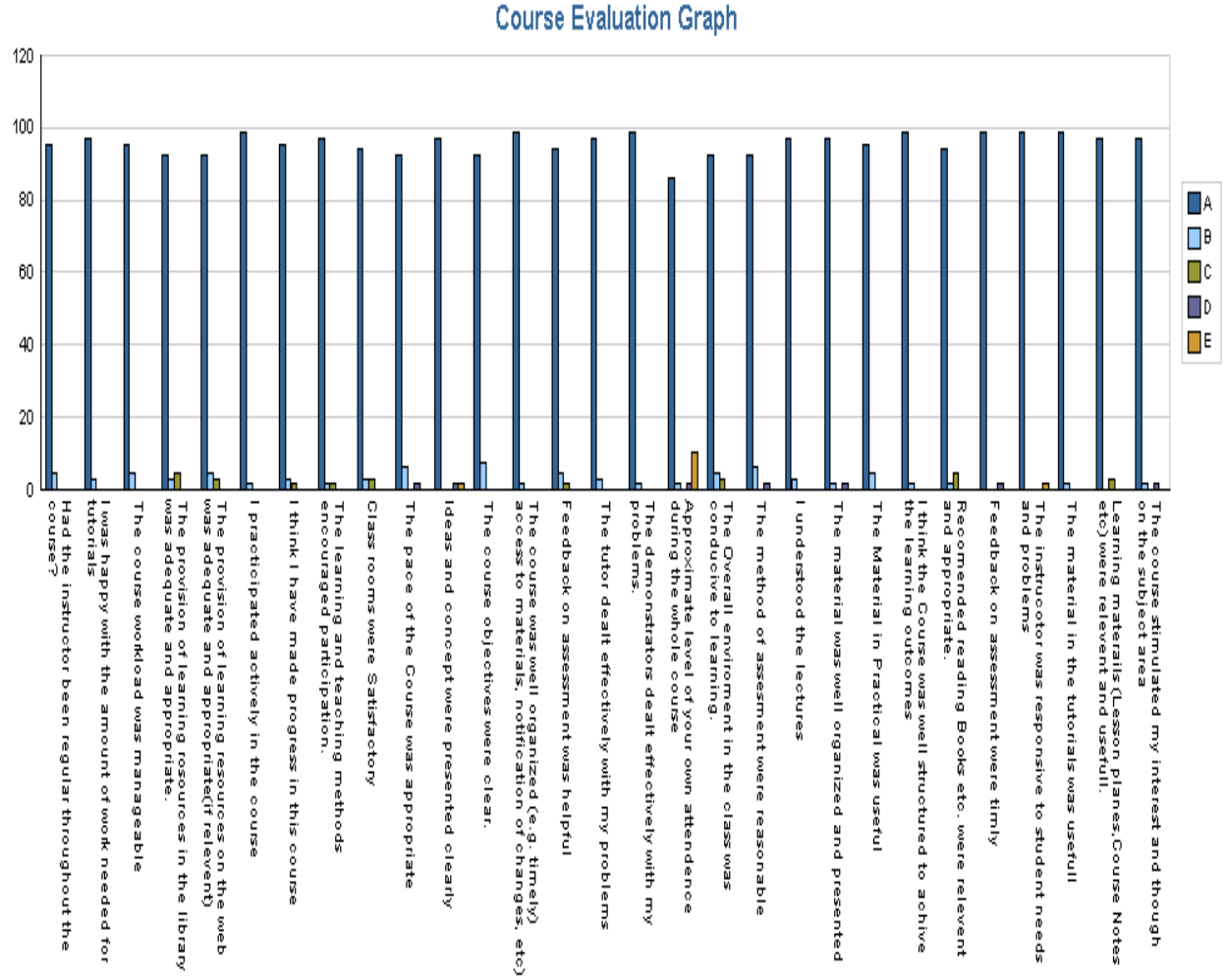
Data were collected from 93 B.Sc. (Hons.) students. Comparative graph of course evaluation showed, that the course (AGR-301) taught by Dr. Muhammad Naveed Tahir was an impact value of 98.53.

The individual parameter showed that 79% ofthe students strongly agreed and 21% agreed that the course objectives were clear. Data regarding other parameters showed that major

proportion of the students agreedabout the effectiveness and objectivity of the course, the course objectives were clear, the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course. Most of the students agreed that the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- Use of latest audio –visual learning resources needed to be provided in the classroom.
- University library needed to be updated for the availability of course
- Course was helpful for future.
- Course was quite related and provides abundant informations.



8. Dr Atique-ur-Rehman

i. Teacher Evaluation

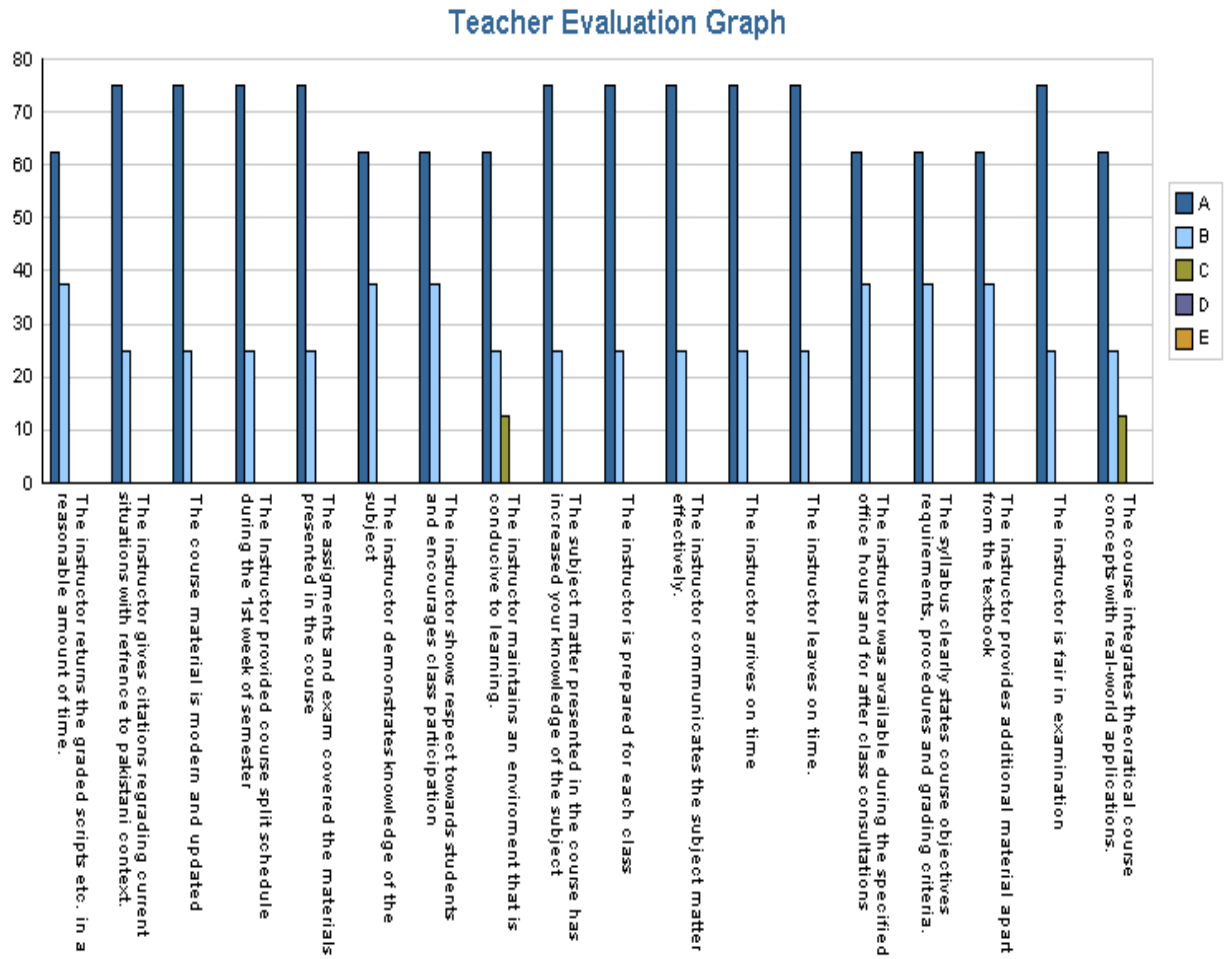
Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Attique-ur Rehman was calculated 93.51.

The evaluation criteria parameters showed that the 75% of the students strongly agreed and 25% agreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation, instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani

context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

1. The teacher always relates the course topics with his practical experiences under the local environmental conditions for proper understanding of the students.
2. The teacher's attitude was amiable during and after his lectures with the students.
3. The pace of course covering was commendable and understanding of the theme of the course was also appreciable.



ii. Course Evaluation

AGR-511	Environment and Crop Production	3(2-2)	Dr. Atique-ur-Rehman

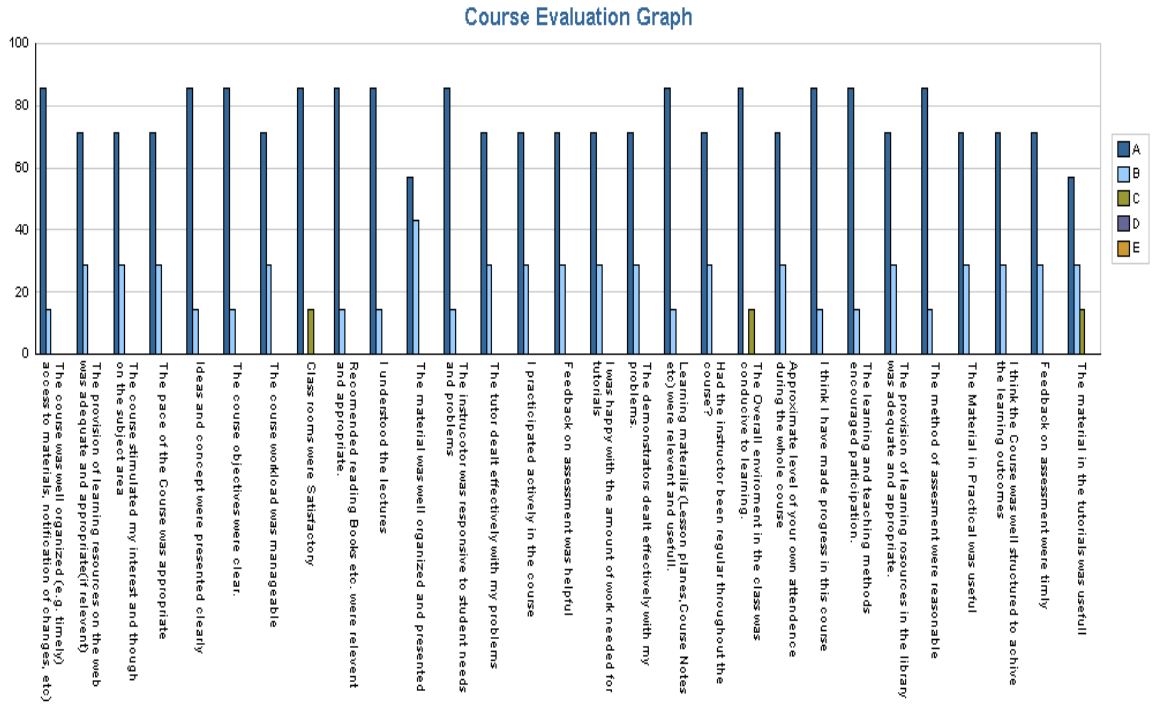
Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed that the course (AGR-511) taught by Dr. Attique-ur-Rehman was an impact value of 95.10.

The individual parameter showed that 86% of the students strongly agreed and 14% agreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students

participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- More practicals will make the course better.
- Lab equipments were not ample.
- Projector and multimedia should be used to deliver lectures.
- There was lack of practical demonstrations in the practical part of the course.
- No doubt the course was enlightening and interesting.



9. Dr. Abdul Razzaq

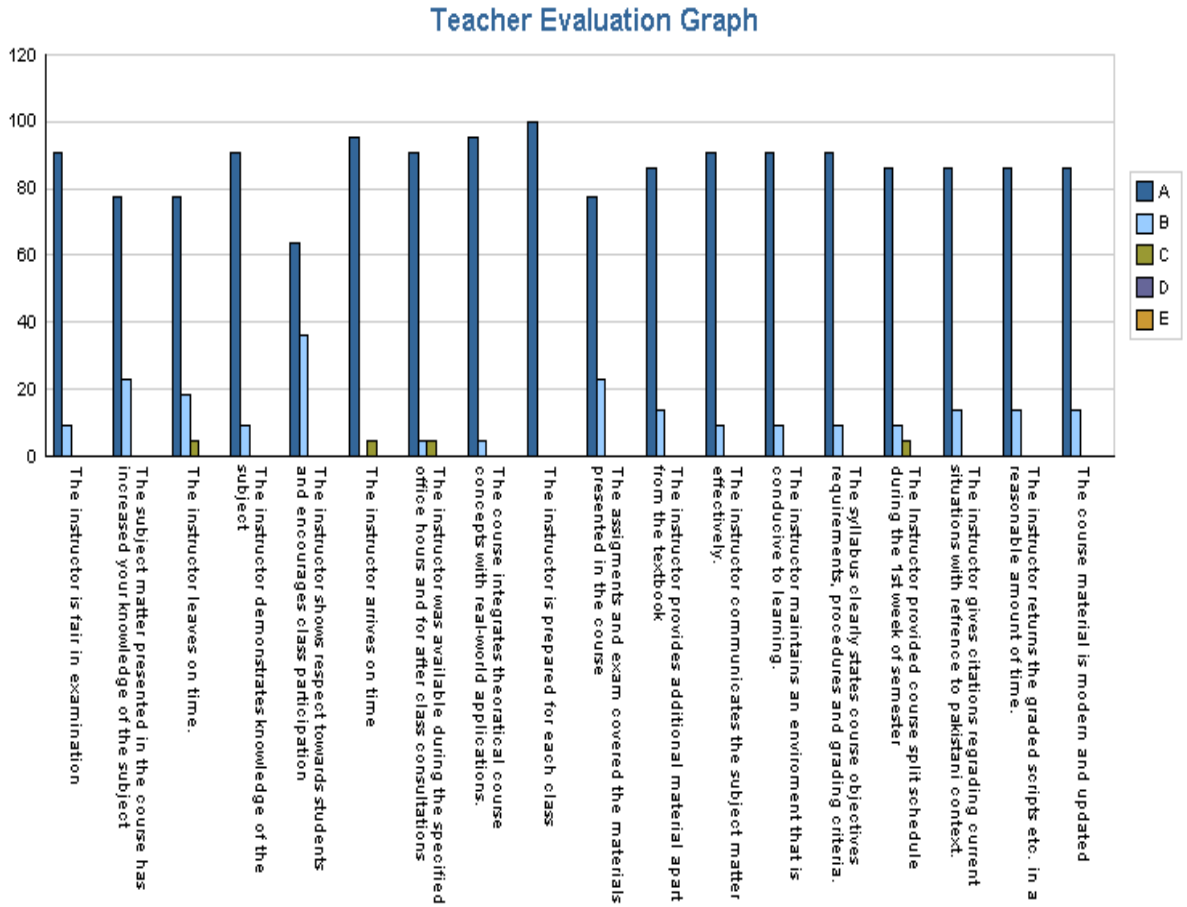
i. Teacher Evaluation

Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Abdul Razzaq was calculated 97.10.

The evaluation criteria parameters showed that the 100% students strongly agreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation,instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

- The teacher always relates the course topics with his practical experiences under the local environmental conditions for proper understanding of the students.
- The teacher's attitude was amiable during and after his lectures with the students.
- The pace of course covering was commendable and understanding of the theme of the course was also appreciable.



ii. Course Evaluation

AGR-609	Project Planning, Execution and Scientific Writing	4(0-4)	Dr. Abdul Razzaq

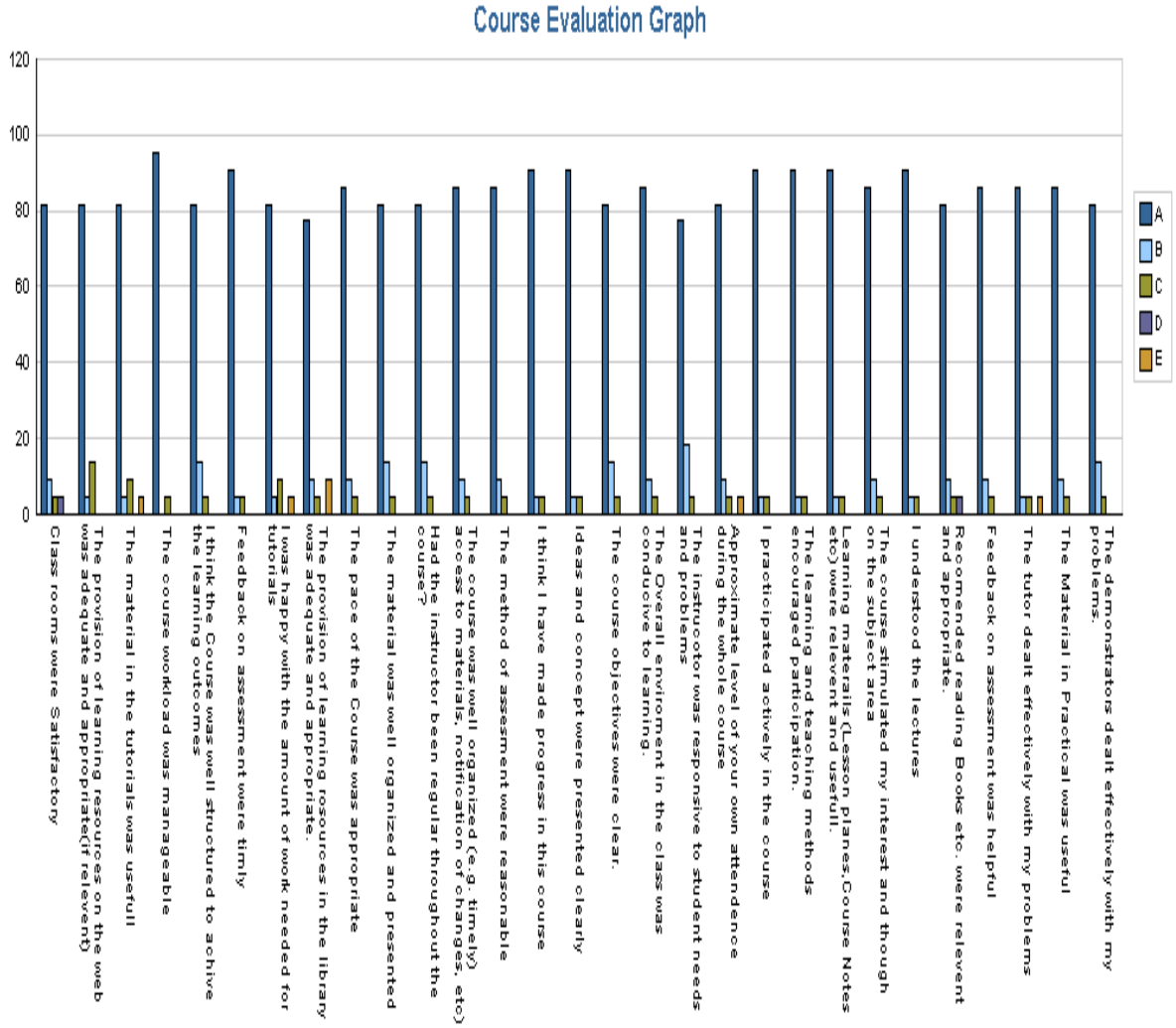
Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed that the course (AGR-609) taught by Dr. Abdul Razzaq had an impact value of 99.69.

The individual parameter showed that 100% of the students strongly agreed, 0% agreed and 0% uncertain that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course workload was manageable, well organized ,the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms

were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

- More practicals will make the course better.
- Lab equipments were not ample.
- Projector and multimedia should be used to deliver lectures.
- There was lack of practical demonstrations in the practical part of the course.
- No doubt the course was enlightening and interesting.



10. Dr. Muhammad Ansar

i. Teacher Evaluation

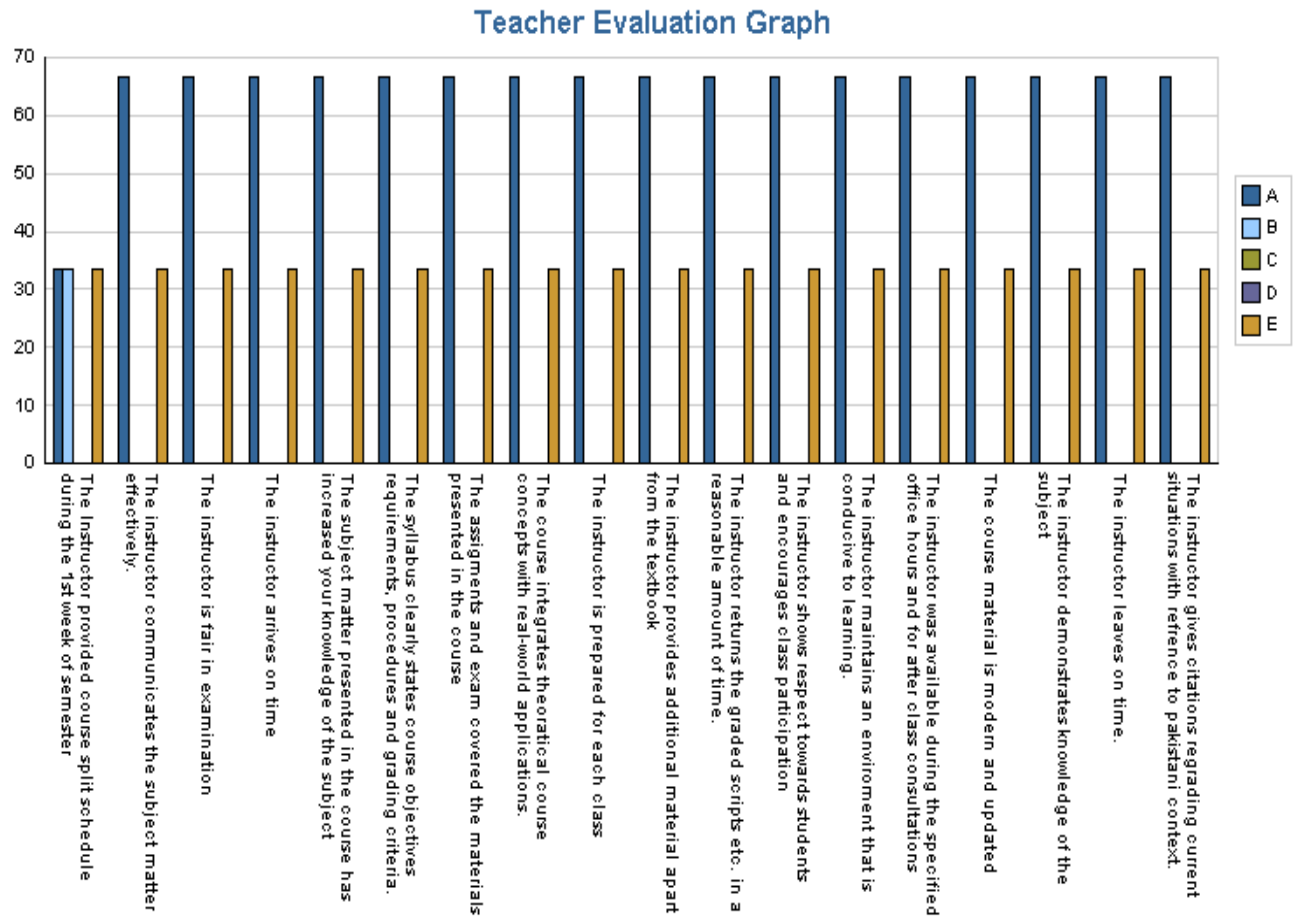
Data were collected from 23 B.Sc. (Hons.) students. Among the teachers, the performance level/impact value for Dr Muhammad Anser was calculated 93.64.

The evaluation criteria parameters showed that the 67% of the students strongly agreed, 0% agreed and 33% uncertain that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that theinstructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject

matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Moderate and jolly teacher.
2. Teacher taught the course with special association to the surrounding environment of the country.
3. Punctuality can improve the learning process.



ii. Course Evaluation

iii.

AGR-607	Forage and Fodder Production	3(2-2)	Dr. Muhammad Ansar

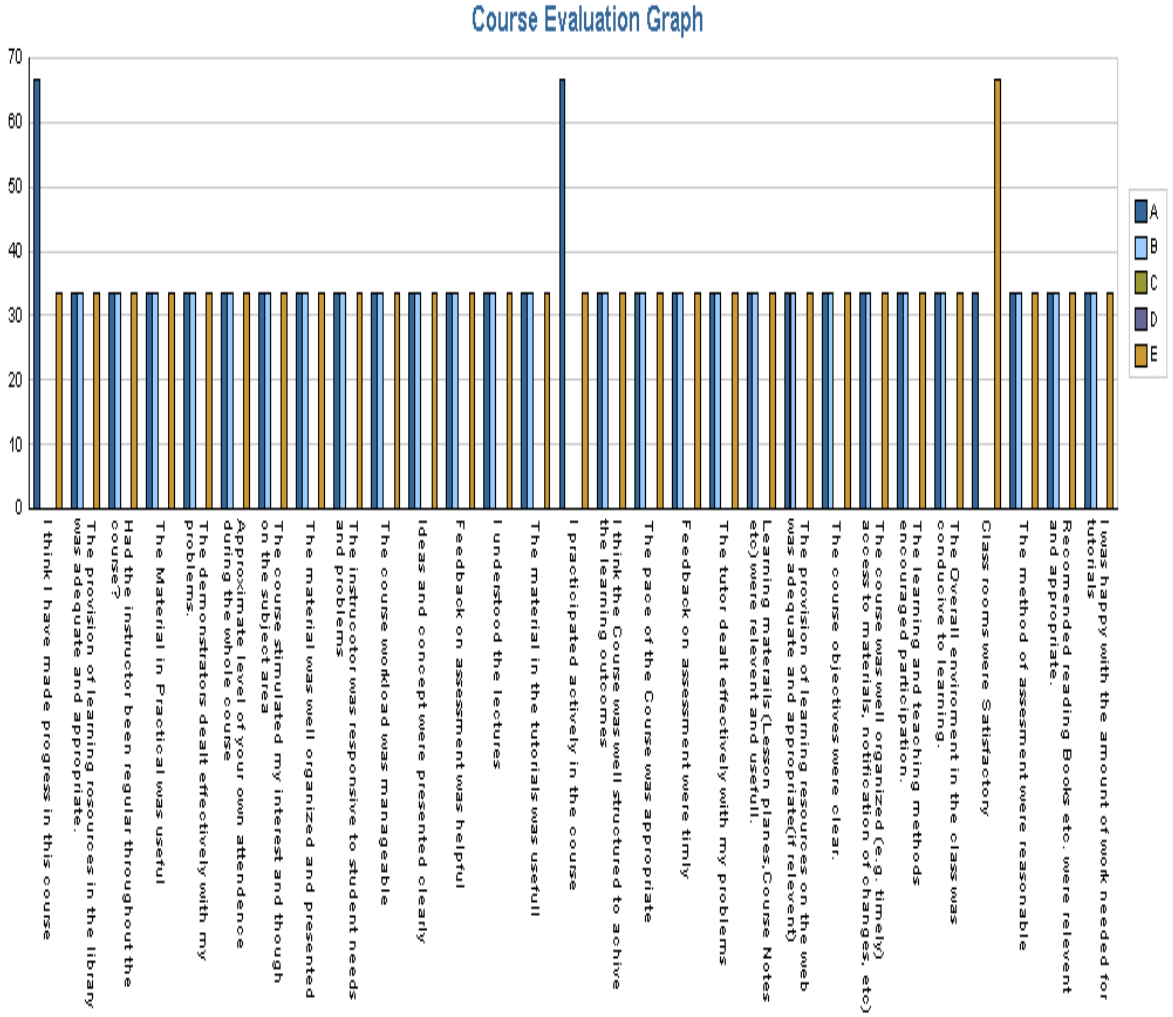
Data were collected from 23 B.Sc. (Hons.) students. Comparative graph of course evaluation showed that the course (AGR-607) taught by Dr. Muhammad Anser had an impact value of 95.84.

The individual parameter showed that 100% of the students strongly agreed, 0% agreed, 0% uncertain and 0% disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course objectives were clear, the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and

have made progress in this course, the learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area.

Comments / Suggestions

- Course could have been improved if the teacher were regular to his classes
- Learning environment was not good.
- Practicals and field visits can improve the course effectiveness.
- Proper class room should be provided for providing the calmful learning environment


Course Evaluation Graph
70
60
50
40
30
20
10
0
A
B
C
D
E
I was happy with the amount of work needed for tutorials
Recomended reading Books etc. were relevent and appropriate.
The method of assesment were reasonable
Class rooms were Satisfactory
The Overall enviroment in the class was conducive to learning.
The learning and teaching methods encouraged participation.
The course was well organized (e.g. timely) access to materials, notification of changes, etc)
The course objectives were clear.
The provision of learning resources on the web was adequate and appropriate(if relevent)
Learning materails (Lesson planes,Course Notes etc) were relevent and usefull.
The tutor dealt effectively with my problems
Feedback on assessment were timly
The pace of the Course was appropriate
I think the Course was well structured to achive the learning outcomes
I practicipated actively in the course
The material in the tutorials was usefull
I understood the lectures
Feedback on assessment was helpful
Ideas and concept were presented clearly
The course workload was manageable
The instructor was responsive to student needs and problems
The material was well organized and presented
The course stimulated my interest and though on the subject area
Approximate level of your own attendence during the whole course
The demonstrators dealt effectively with my problems.
The Material in Practical was useful
Had the instructor been regular throughout the course?
The provision of learning rosources in the library was adequate and appropriate.
I think I have made progress in this course

Proforma 2

Faculty course review report

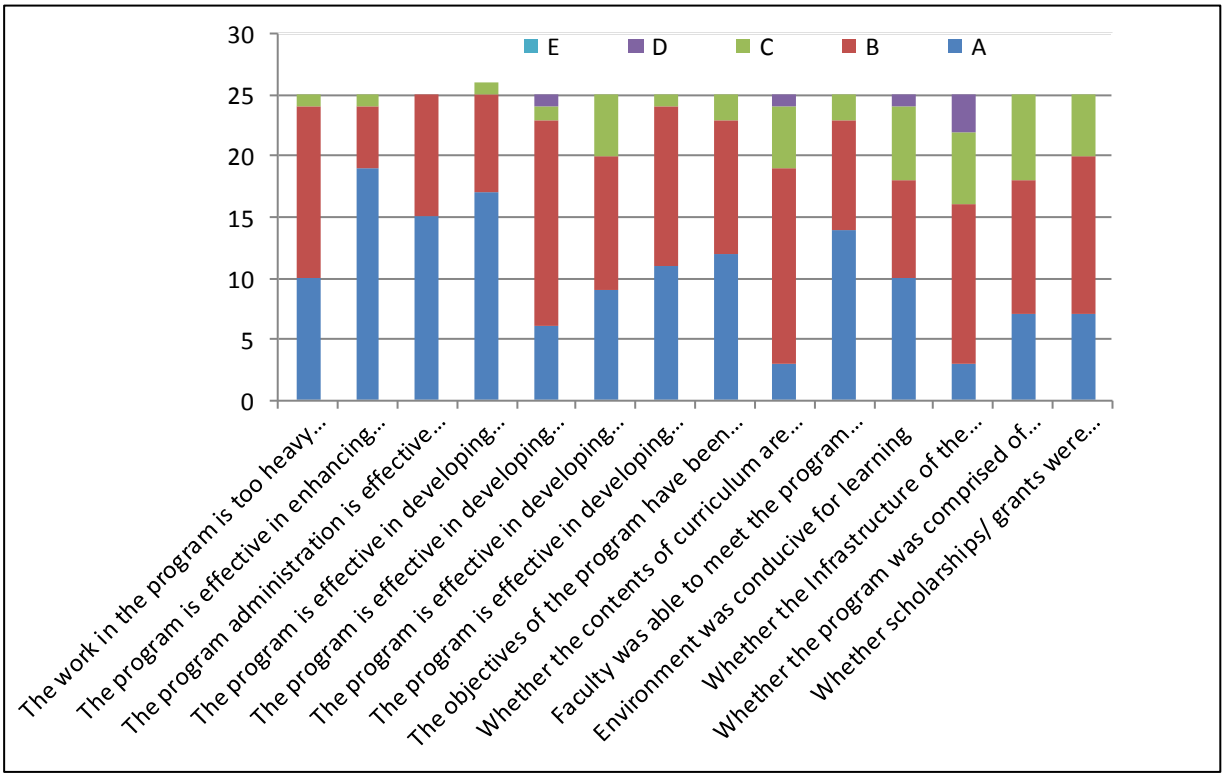
The evaluation revealed that the faculty is satisfied with curriculum. Questionnaire for the evaluation has been filled and analyzed. The internal evaluation was done through with mid and final term examinations for all courses offered by department. Some of the teachers suggested division of certain courses as they were lengthy.

Course code	**Title**	**Credit Value**	**Assessment Methods/ Exams**	**No. of Students**	**comments on curriculum**	**Any changes for future in course**	**Semester**	**%Grade**						**Course Instructor**
								A	**B**	**C**	**D**	**E**	**F**	
AGR-301	Basic Agriculture	3(2-2)	Mid term And Final	93	Good but lengthy	Should be divided	Fall	29	24	19	13		8	Dr Muhammad Naveed Tahir
AGR-302	Summer Crops	3(2-2)	Mid term And Final	84	Good but lengthy	Should be divided	Spring	31	21	21	8		3	Dr. Allah Wasaya
AGR-401	Winter Crops	3(2-2)	Mid term And Final	84	Good but lengthy	Should be divided	Fall	17	28	25	16	2	6	Dr. Abdul Munaf
AGR-402	Field crop physiology	3(2-2)	Mid term And Final	84	Excellent but lengthy	Should be divided	Spring	18	37	20	4	3	2	Miss Fozia Kanwal
AGR-502	Crop Growth & Development	3(2-2)	Mid term And Final	46	Good prepared	No	Fall	19	13	10	4	0	0	Mr Mukhtar Ahmad
AGR-504	Principles of plant Nutrition and Growth Regulators	3(2-2)	Mid term And Final	23	Well prepared	No	Spring	13	8	2	0	0	0	Dr. Zammurad Iqbal Ahmad
AGR-505	Crop Water Management	3(2-2)	Mid term And Final	23	Well prepared	No	Fall	15	6	1	1	0	0	Dr. Muhammad Rasheed

AGR-506	Stress Physiology	3(2-2)	Mid term And Final	23	Very good	No	Spring	12	8	1	2	0	0	Miss Fozia kanwal
AGR-507	Fundamentals of Seed Technology	3(2-2)	Mid term And Final	23	Better	No	Fall	14	6	3	0	0	0	Dr. Ghulam Qadir
AGR-508	Principles of Weed Management	3(2-2)	Mid term And Final	23	Good	No	Spring	9	8	4	2	0	0	Dr. Irfan Aziz
AGR-509	Conservation agronomy	4(3-2)	Mid term And Final	23	Good	No	Fall	11	5	5	2	0	0	Dr. Ghulam Qadir
AGR-511	Environment and crop production potential	3(2-2)	Mid term And Final	23	Excellent	No	Fall	13	5	5	0	0	0	Dr. Attiqur-ur-Rehman
AGR-607	Forage and Fodder Production	3(2-2)	Mid term And Final	23	Excellent	No	Fall	14	6	3	0	0	0	Dr Muhammad Anser

Proforma 3: Survey of Graduating Students

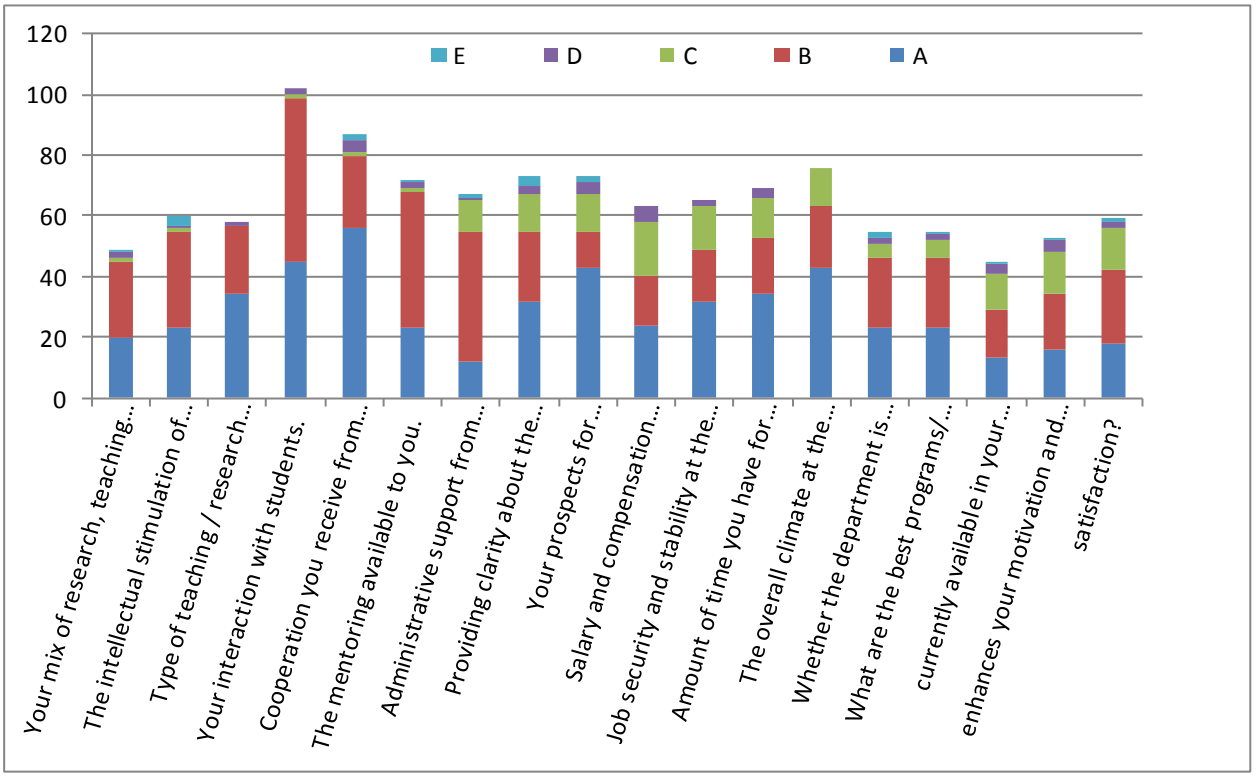
A total of 67 students were included in the survey. The data showed that 20% of the students were very satisfied (V.S), 47% satisfied, 18% uncertain, 13% dissatisfied and 2% very dissatisfied for the work in the program is too heavy and induces a lot of pressure. Moreover, most of the students were very satisfied with program administration, development of analytical and problem solving skills, the program is effective in developing independent thinking, written communication skills and planning abilities, the contents of curriculum are advanced and meet program objectives, faculty was able to meet the program objectives and the environment was conducive for learning.



Performa 5: Results of Faculty Survey

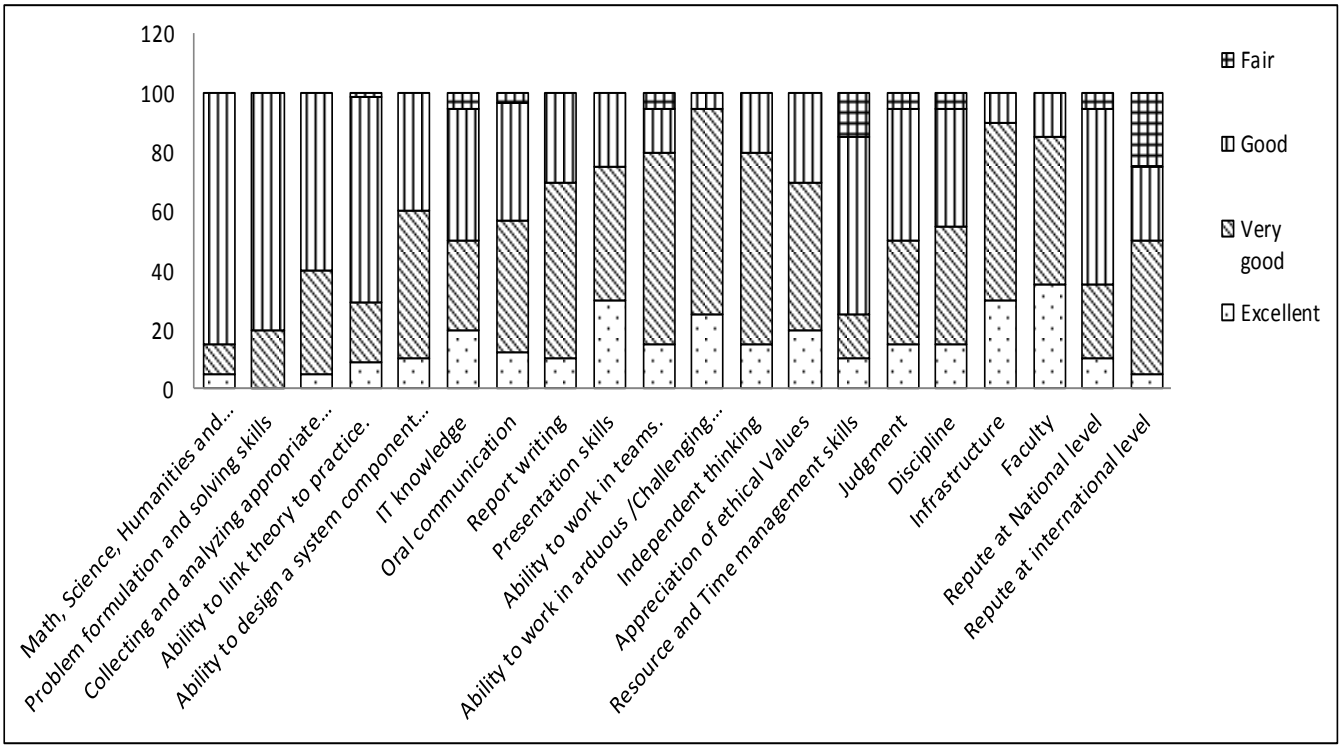
The data generated as a result of faculty survey, showed that 34% of faculty members were very satisfied , 21% satisfied, 18% uncertain, 19% dissatisfied and 8% very dissatisfied with their job clarity about promotion process. However, most of the faculty themselves reported as very satisfied mentoring and administrative support, job security, support from the

department, their progress through ranks. The least time availability to faculty to interact with their family is due to extra load on present teachers as some times of the faculty members proceed on training, workshops etc so the poor strength of remaining faculty in the campus has to bear out out the load of course work and other assignments.



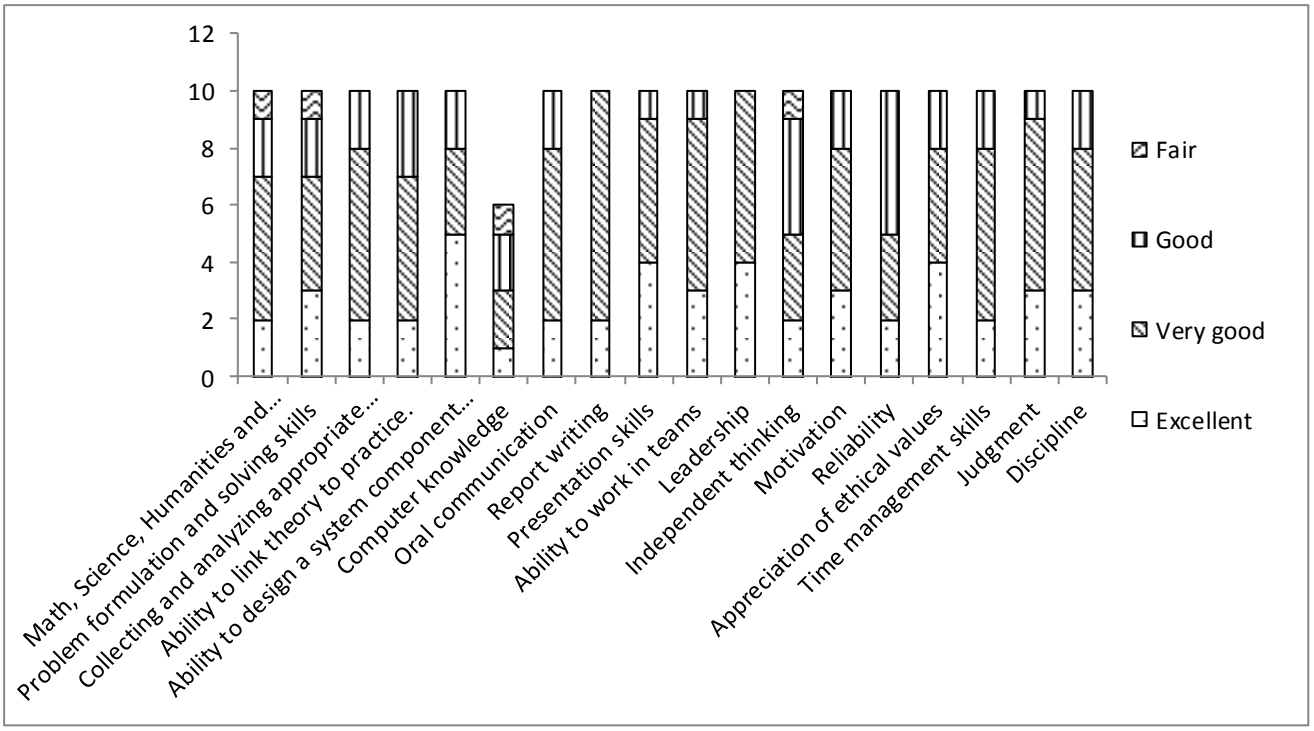
Proforma 7:Alumni Survey

The purpose of this survey was to obtain alumni input on the quality of education and research they received and the level of preparation they had at University. A total of 22 alumni were surveyed. The data showed that the alumni reported 39% excellent, 31% very good, 26% good, 3% fair and 1% poor knowledge of Math, Science, Humanities and professional discipline. Also most of the Alumni reported excellent concerning department trained them excellently about the interpersonal skills such as team work,, training of oral communication, IT knowledge, report writing and management skills, department hasexcellent infrastructure and repute, working in difficult conditions and independent philosophy, learnt excellent administration of resource and time, learnt excellent power of judgment.



Proforma 8: Employer Survey

The rationale of this survey is to obtain employers input on the quality of education, the department is providing and to assess the quality of the academic program. The survey included University graduates employed in different organizations. A total of 14 employers provided the data. The generated data showed the report of the employers about the Math, Science, Humanities and professional discipline was as 37% excellent, 32% very good, 8% good, 3% fair and 3% poor. All the employers significantly favoured the excellent performance of the candidates as regards different aspects of the professional life like power of problem formulation and solving skills, and have great ability of oral communication and are reliable and morally sound. Employers showed a little apprehension about computer skills of the students.



Standard 1-3: Strength of the Department

The results are being communicated to the respective departmental head through the Dean for corrective measures where needed.

Strength of the department

The main strength of the department is the availability of highly qualified teachers and their full acquaintance with respective subjects. Majority of the faculty members are foreign qualified and are well versed in their area of interest.

Weakness Identified in the Program

Lack of infrastructure to transfer the recommended practices and technology to farmers. Access to latest literature and availability of updated review is not up to the mark. There is a need for short foreign trainings of young faculty members.

Major Feature of Improvement Plans

The improvement feature for quality education in Agronomy department through audio visual aids and use of modern equipments along with provision of latest literature, journals, books, reviews and access to internet.
Overall enhancement of knowledge and skills of faculty members in relation to the latest global advancements in the discipline through exchange programs, short training and collaborative research project within and outside Pakistan.

Program outcomes:

Table 3: Quantitative Assessment of the Department

Sr. #	Particular	No	Remarks
1.	B.Sc (Hons.) Degree awarded	301	Most of the students joined M.Sc (Hons.) Degree programme and rest of the students got jobs in public and private sector organizations.

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. Almost all the graduates students got jobs in various organizations viz provincial agricultural department, universities, research organizations, banks and private firms.

Skills and capabilities Reflected in performance as Agronomy:

Students develop ability to apply knowledge of Agronomy and to work as professionals to build confidence and communicate effectively in writing and oral skills. Students are able to demonstrate use modern research tools, techniques and skills for building their professional career. To make them understand how to formulate and design the experiments and to work effectively in a research group.

Table 4: Present Performance Measures for Research Activities

S. No.	Name of faculty member	Research Papers	Projects Completed
1.	Dr. Muhammad Azim Malik	6	2 (ALP)
2.	Dr. Muhammad Ashraf	5	-
3.	Dr. Fayyaz-ul-Hassan	21	2 (PSF, ALP,PMAS-AAUR)
4.	Dr. Zammurad Iqbal Ahmad	6	
5.	Dr.Abdul Razzaq	5	2 (HEC, PSF)
6.	Mr. Irfan Aziz	13	
7.	Dr. Muhammad Ansar	8	
8.	Dr. Muhammad Rasheed	8	
9.	Mr. Ghulam Qadir	4	
10.	Mr. Naveed Tahir	5	
11.	Mr. Mukhtar Ahmad	7	1 (PMAS-AAUR)
12.	Dr. Abdul Manuaf	3	
13.	Mr. Safdar Ali	2	
Total		**93**	**5**

Faculty Satisfaction Regarding the Administrative Services

- ❖ The department upholds a percentage 4:1 for the academic (technical) and administrative non-technical staff which fulfils the standard set by HEC.
- ❖ Administrative meeting (departmental, university, academic council and syndicates) are attended as and when required.
- ❖ Quick office disposal are never delayed, so for no complaint in this regard, received from authorities
- ❖ Proper records of the following is maintained:
  - (i) Research Reports
  - (ii) Entry test
  - (iii) Assignments
  - (iv) Tour reports
  - (v) Attendance report
  - (vi) Evaluation report
  - (vii) Enrolment

Table No: 5

Degree	Pre-requisites
B.Sc (Hons.)	Academic minimum score of 2.5 CGPA, 143 credits hours normally in eight semester or maximum 12 semesters, examination evaluation and internship.

Major Future Improvement Plans

- Establishment of Crop Seed Research, Production and Training Centre
- Execution of research projects funded by different donor agencies.
- Further Strengthening of Linkages with National/ International organizations.
- Development of courses on allelopathy and fodder production technology.
- Farmers field days, participatory research activities. Establishment of demonstration plots on farmers fields.
- Arranging faculty trainings in advanced countries to equip them with latest developments and research skills.

Criterion 2: Curriculum Design and organization:

Curriculum design and update is initiated by the faculty members of the Department after the approval of Board of Studies which comprises of senior faculty members and subject specialist who is taken from other faculties or from other Universities or research Institutions. It is headed by the Chairman of the Department. The approved curriculum is then sent to Board of Faculty, headed by the Dean Faculty of Crop and Food Sciences. This Board consists of senior faculty members from all the Departments of the faculty and subject specialists. Finally the curriculum is presented before the Academic Council which is comprised of the Professors, Associate Professors, Faculty Representatives and nominated experts.

Definition of Credit Hour

A student must complete a definite number of credit hours. One credit hour is one theory lecture or two hours practical work per week. One credit hour carries 20 marks. The semester is of 18 weeks.

Pre-requisites

Academic Requirements:

B.Sc. (Hons) Agri:

A person holding F.Sc. pre-medical/pre-engineering from any recognized institute with at least second division or overall 45 % marks is eligible for application submission. Merit is determined by entry test and post academic performance as per following formula:

- Matric 10%
- Intermediate 50%

Definition of credit hour:

A student must complete a definite number of credit hours. One credit hour is one theory lecture or two hours laboratory (practical/week). One credit hour carries 20 marks.

Degree Requirements:

Degrees are awarded after completing the required number of credit hours (courses). Minimum Grade Point Average for obtaining the degree is 2.50. To remain on the roll of the university, a student shall be required to maintain the following minimum GPA/CGPA in each semester

Semester	CGPA
First	0.75
Second	1.00
Third	1.25
Fourth	1.50
Fifth	1.75
Sixth	2.00
Seventh	2.25
Eighth	2.50

Examination Weightage

In course work, student's evaluation is done by mid-term examination, assignments/presentations/quizzes and final examination. A student, who misses the mid-term examination, is not allowed a make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he shall be deemed to have failed in that course. In theory, weightage to each component of examination is as prescribed here under:

Mid Examination	30%
Assignments	10%
Final Examination	60%

For practical examination (if applicable) 100% Weightage is given to practical as scored in the final examination. A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately. The minimum pass marks for each course are 40 % for B.Sc.

Degree Plan

The B.Sc (Hons.) Agri. Degree consists of minimum 8 semesters/ 4 years. As a whole a students has to study 160 credit hours. Every subject of 3 credit hours include two theory & one practical class per week and bears 60 marks (40 theory: mid term 12, assignment/ presentation/quiz test

04, final exam 24; and practical bears 20 marks). Degree is awarded after completing courses hours with at least CGPA 2.5.

List of Courses offered by the Department of Agronomy is given at Annexure-1

Standard 2.1: Assessment of the Curriculum of Agronomy Department

Courses	Program Objectives		
	1	2	3
AGRO-301, AGRO-302, AGRO-401	+++	+++	++
AGRO-501, AGRO-503, AGRO-505, AGR-502, AGR-504, AGR-506, AGR-508	++++	+++	+++
AGR-601, AGR-603, AGR-605, AGR-607	+++	++++	+++
AGR-602, AGR-604, AGR-606, AGR-608, AGR-610	+++	+++	++++

+ = Relevant, ++ = Relevant and satisfactory, +++ = Very relevant and very satisfactory, ++++ = Highly relevant and highly satisfactory, NA= Not applicable

Standard 2.2: Elements vs courses:

Elements	Agronomy Courses
Theoretical background	AGR-301, AGR-302, AGR-401, AGR-402, AGR-501, AGR-502, AGR-503, AGR-504, AGR-505, AGR-506, AGR-507, AGR-508, AGR-509, AGR-511, AGR-603, AGR-605, AGR-607
Problem analysis/ Solution Design	AGR-609, AGR-611, AGR-610

Standard 2.3: Credit hours distribution

Elements	Credit hours/ semester	Total credit hours	Theory	practical	Others
B. Sc. (Hons.) Agriculture	Mini 12 Max 32	160	~ 90	~ 50	

Standard 2.4: Credit hours and HEC requirement

The courses offered by the department meet the minimum criteria as laid down by Higher Education Commission.

Standard 2.5: Attendance requirement

Attendance required in each course is 75%, below which the student is not allowed to sit in the examination.

Standard 2.6:

There is deficiency of information technology related courses but some activities and courses in program are useful to give basic training of computer use.

Standard 2-7: Enhancing Oral and Written Communication Skills of the students

- A course of 3 credit hours project planning & scientific writing, and farming systems & farm records has been integrated in the curriculum of B.Sc. (Hons.) Agriculture.
- Assignments are given to students on specific titles (part of the course) which are presented by them orally and submitted as written report, which not only increase capacity but oral and written communication skills of the students.

Criterion 3: Laboratories and computer facilities

Laboratory title:

1. Allelopathic Research lab
2. General research lab
3. Stress physiology lab
4. Nutrient efficacy lab

Location and Area:

Faculty of crop and food sciences, Ground floor, Agronomy Department

Objectives

Laboratories are used for:

- Practical exercise and demonstrations to students in their introductory and major courses
- Research work for the Post-graduate students
- Used for implementing the funded projects by the University, HEC, PSF, PARC and other agencies.
- Laboratories are well spacious and adequate. In view of the equipment available research work being done and future expansion programs, laboratories do not meet our requirements.
- Major apparatus viz equipments: following major equipments are available but some are out dated and out of order

S/No.	Name of Equipment	Quantity/No.
1.	Heating Drying Cabinet	Three
2.	Water Distillery apparatus	One
3.	Over Head Projector	Two
4.	Computer with Laser Printer	Two
5.	Freezer	One
6.	pH Meter	Two
7.	EC Meter	One
8.	Centrifuge 14000 Rpm	One
9.	Top Loading Balance	Two
10.	Vacuum Pump	One
11.	Water Potential Appratus	One
12.	Water Bath	One
13.	Spectrophotometer	One
14.	Leaf Area Meter	Two
15.	Growth Chamber	Two

16.	Flame Photometer	One
17.	Analytical Balance	Two
18.	Osmometer	One
19.	Chiller	One
20.	Digestion Block	One
21.	Mechanical shaker	One
22.	Electric fan heater	One
23.	Gas heater	One
24.	Book Shelves	One
25.	Spring balance	Two
26.	Tripple beem balance	One
27.	Aquarium pump	Two
28.	Balance electronic	One
29.	Adjustable pippette	Four
30.	Vernier caliper	Six
31.	Seed counter	One
32.	Seed moisture tester	One
33.	Lux meter	One
34.	Balance open pan	One
35.	Drying oven	One
36.	Hot plate	One
37.	Micro kieldah distillation appratus	One
38.	Power sprayer	One
39.	Refrigerator	One
40.	Seed cleaner	One
41.	Seed dispensor machine	One
42.	Bio microscope	One
43.	Laminar flow	One
44.	Growth rack	Two
45.	Incubator	One
46.	Grinding machine	One
47.	Plant cutter	One

Shortcoming in Laboratory facilities:

- For faculty member and Master,s students equipments for growth analysis/physiological parameters are lacking viz. IRGA, chlorophyll meter, moisture monitoring, Neutron probe, tensiometers, water potential measurement devices. etc
- The department lacks lecture rooms so the research labs are being used for classes.
- A green/glass house is direly needed for controlled experiments.

Safety arrangements:

- There is no proper safety arrangement and no security plans are in the case of emergency.
- There is no emergency exit for the lab and classroom.
- No fire extinguishers have been installed in any laboratory.
- No first aid kits/ facilities provided in the laboratory/department.

Standard 3.1:

Laboratory Manuals

Laboratory manuals of each subject are not available. The department has no library at all. However, individual teachers have their books.

Standard 3.2:

Laboratory Personalsfor Maintenance of Laboratory

Laboratories are maintained by Lab Assistant (01), and Laboratory Attendants (02).

Standard 3.3: Computing Infrastructure and Facilities

Computer facilities are not available to all faculty members and the master students.

Standard 3.1: laboratory manuals:

Laboratory manuals of each subject are not available. The department has no library at all. However, individual teachers have their books.

Standard 3-2: Support/Laboratory Personal for Maintenance of Laboratory

Laboratories are maintained by Lab Assistant (One), and only two Laboratory Attendants.

Standard 3-3: Computing Infrastructure and Facilities

- **Computer facilities :** Not available to all faculty members and the post graduate students.

CRITERION 4: STUDENT SUPPORT AND ADVISING

Our university organizes support programs and provides information regarding admission, scholarship schemes, etc. Department in its own capacity arranges orientation and guides various cultural activities and solve the student's problems, however currently there is no parent teacher association.

Standard 4-1: Frequency of courses

- Courses are taught as per policy of HEC.
- At undergraduate and postgraduate level courses/subjects are offered as per scheme of study provided by HEC and approved.
- Elective courses are offered as per strategy of HEC and the university.
- For postgraduate Programmes, a variety of courses are offered according to demand of the profession.

Standard 4-2: Structure of the courses

- To ensure effective interaction between students, faculty and teaching assistants at the time of course formulation both theoretical and practical aspects are focused.
- Theoretical problems are explained and assignment is also given to the students whereas practical are carried out both in the laboratory and in the field
- Courses are structured and decided in the board of study meetings.
- Emphasis is always given for an effective interaction between each section.

Standard 4-3: Guidance to the Students

Several steps have been taken to provide guidance to the students such as:

- Students are informed about the program requirement through the office of the head of the department.
- Through the personal communication of the teachers with the students.
- Students can also consult their relevant teachers whenever they face any professional problems.
- In case of some problems, Director, Student Affairs is available who is ready to help the students. Senior tutor has been entrusted with tutorial, counseling and for extracurricular activities.

- Realizing the need for exploring job opportunities for the university graduates, Directorate of placement bureau has been established at PMAS-AAUR.

Criterion 5: process control

It includes student admission, registration, faculty recruitment activities which are dealt by various statutory bodies and the university administration.

Standard 5-1: Program admission criteria

- The process of admission well established and followed as per rules and criteria set by HEC. For this purpose an advertisement is given in the National Newspapers by the Registrar office.

Table No. 6. Admission requirements

Degree	Pre-requisites
B.Sc (Hons.)	A candidate holding F.Sc (Pre-medical) or equivalent certificate from any recognized institution with minimum 45% marks (Intermediate 45%) will be eligible to apply for admission to B.Sc (Hons.) Agriculture

- It is based on the recommendations of selection committee

Standard 5-2: Process of Registration

- The student name, after completion of the admission process, are forwarded to the registrar office for proper registration in the specific program and registration numbers are issued to the students
- Students are evaluated through Mid, Final and Practical exams and through assignments.
- Registration is done for one time for each degree but evaluation is done through the result of each semester, if the students fulfill criteria of the university, they are promoted to the next semester.
- In general, the students are registered on merit basis keeping in view the academic and research standards.

Standards 5-3: Recruiting Process for Faculty

- Recruitment policy followed in the university is recommended by HEC for induction of new faculty as per rules:
- Vacant and newly created positions are advertised in the National Newspapers, applications are received by the Registrar Office and call letters are issued to the short listed candidates on the basis of their experiences, qualifications, publications and other qualities / activities as fixed by the university.
- The candidates are interviewed by the university selection Board. Principal and alternate candidate are selected.
- Selection of candidates is approved by the syndicate for issuing orders to join within a specified period.
- Induction of new candidates depends upon the number of sanction posts.
- Standard set by HEC are followed.
- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales/structures is quite attractive.
- HEC also supports appointment of highly qualified members as foreign faculty professors, National Professors and place them in various departments of the university.

Standard 5-4: Teaching and Delivery of Course Material

- To help providing high quality teaching, Department periodically revises the curriculum depending upon requirements, innovations and new technology
- With the emergence of new fields, new courses are set and included in the curriculum
- Lecture notes are also prepared by the teachers and given the students.
- Most of the lectures are also supplemented by overheads, slides, pictures.
- All-out efforts are made that the courses and knowledge imparted should meet the objectives and outcomes. The progress is regularly reviewed in the staff meetings.

Standard 5-5: Completion of Program Requirements

The controller of examinations announces the date of commencement of examination. After ~20-30 days of the examinations, the controller office notifies the results of the students. The evaluation procedure consists of mid and final examinations, practical formulas, assignments and reports, oral and technical presentations. Candidates who secure 80% or more marks are awarded grade A. Gold medals are awarded to the students who secure highest marks. Degrees are awarded to the students on the annual convocation that is held every year.

Examination Weightage

Grading Policy

A grade = 80 % and above

B grade = 65-79 %

C grade = 50-64 %

D grade = 40-49 %

F grade = below 40 %

CRITERION 6: FACULTY

Standard 6-1: full time faculty

Table : 7

S. No.	Name of faculty member	Designation	Qualification	Name of Country Awarding Highest Degree	Date of Birth	Email address
1.	Dr. Muhammad Azim Malik	Professor	Ph.D.	USA	20-06-1955	drazim61@gmail.com

2.	Dr. Fayyaz-ul-Hassan Sahi	Professor	Ph.D.	UK	15-05-1963	fayyaz.sahi@uaar.edu.pk
3.	Dr. Zammurad Iqbal Ahmed	Associate Professor	Ph.D.	PK	01-05-1960	azammurad@htomail.com
4.	Dr. Abdul Razzaq	Associate Professor	Ph.D.	China	01-08-1957	abdul.razzaq@uaar.edu.pk
5.	Mr. Irfan Aziz	Assistant Professor	Ph.D.	PK		dIrfan.aziz@uaar.edu.pk
6.	Dr. Muhammad Ansar	Assistant Professor	Ph.D.	UK	14-10-1964	Muhammad.ansar@uaar.edu.pk drmatarar@gmail.com
7.	Dr. Muhammad Rasheed	Assistant Professor	Ph.D.	PK	09-10-1962	drrasheed786@gmail.com
8.	Dr. Ghulam Qadir	Assistant Professor	Ph.D.	PK	01-12-1968	Qadir@uaar.edu.pk
9.	Dr. Mukhtar Ahmed	Lecturer	Ph.D.	PK	01-10-1979	mukhtarahmad@uaar.edu.pk
10.	Dr. Abdul Manaf	Lecturer	Ph.D.	PK	20-02-1970	munafawan@yahoo.com
11.	Dr. M. Naveed tahir	Assistant Professor	PhD	China	09-09-1976	naveed@uaar.edu.pk
12.	Dr. Ghulam Abbas Shah	Assistant Professor	PhD	Netherland		shahga@uaar.edu.pk
13.	Dr. Safdar Ali	Lecturer	PhD	PK	01-10-1974	safdaraliarid@yahoo.com
14.	Fauzia Kanawal	Lecturer (On Contract)	M.Sc (Hons.)	PK	18-11-1986	fozia44100@yahoo.com

Table: 8 Faculty Distribution by Program Areas in Agronomy

S. No.	Area of Specialization	Faculty members
1.	Integrated Weed Management, Zero-tillage, Allelopathy	Prof.Dr. Muhammad Azim Malik, Mr. Safdar Ali
2.	Oilseed Crops, Crop Water Management	Prof.Dr. Fayyaz-ul-Hassan, Dr. Ghulam Qadir Dr. Abdul Manaf
3.	Integrated Plant Nutrient Management, Drought Stress physiology,	Prof.Dr. Zammurad Iqbal Ahmed, Dr. Muhammad Rasheed
4.	Stress Physiology, Genetic Transformation of Crops	Dr. Abdul Razzaq
5.	Fodder & Forage Production	Dr. Muhammad Ansar
6.	Plant Physiology, Crop Growth Modeling and Climate Change, NRM , Remote Sensing & GIS	Dr. Muhammad Naveed Tahir Dr. Mukhtar Ahmed Dr. Irfan Aziz

List of publications

1. Dr Zamurad Iqbal

1. Saleem, R., Z. I. Ahmed, M. Yousaf, H. I. Javed and H. Shah. 2012. Agro-Economic evaluation of fertility sources for higher maize productivity under rainfed conditions. J. Agri. Res. 50(3): 349-360.

2. Ahmed, M., A. Kamran, M. Asif, U. Qadeer, Z. I. Ahmed and A. Goyal. 2013. Silicon priming: a potential source to impart abiotic stress tolerance in wheat: a review. Australian J. Crop Sci. 7(4):484-491.

3. Baloach, N., M. Yousaf, W. P. Akhter, S. Fahad, B. Ullah, G. Qadir and Z. I. Ahmed. 2014. Integrated effect of phosphate solubilizing bacteria and humic acid on physiomorphic attributes of maize. Int. J. Curr. Microbiol. App. Sci. 3(6): 549-554.

4. Syed, S., Z. I. Ahmed, M. I. A. Haq, A. Muhammad and Y. Fujii. 2014. The possible role of organic acids as allelochemicals in *Tamarindus indica* L. leaves. Acta Agric. Scand. Sect. B – Soil & Plant Sci. 64(6):511-517.

5. Syed, S., M. I. A. Haq,, Z. I. Ahmed, A. Razzaq and M. Akaml. 2014. Root exudates and leaf leachates of 19 medicinal plants of Pakistan exhibit allelopathic potential. Pak. J. Bot. 46(5):1693-1701.

6. Ahmad, A., Z. I. Ahmed, I. Aziz and A. Ahmad. 2014. Optimiing organic and inorganic fertilizer recommendation in rainfed Pothowar region of Pakistan: a case study of barley sorghum and barley mungbean crop rotations.Int.J.Curr.Miicrobiol.App.Sci. 3(8):xx-xx

2. Dr. Abdul Razzaq

1. **Razzaq, A**., Q. Ali, A. Qayyum, I. Mahmood, M. Ahmad and M. Rasheed. 2013. Physiological responses and drought resistance index of nine wheat (Triticum aestivum L.) cultivars under different moisture conditions. Pak. J. Bot., 45(SI): 151-155 (IF .0.937).

2. Khalid M., M. Arshad, G. M. Ali and **A. Razzaq**. 2013. Tissue culture responses of some wheat (*Triticum aestivum* L.) cultivars grown in Pakistan. *Pak. J. Bot*., 45(SI): 545-549 (IF 0.937).

3. Chaudhry, A. N., M. A. Naeem, G. Jilani, **A. Razzaq,** D. Zhang. M. Azeem and M. Ahmad. 2013. Influence of composting and poultry litter storage methods on mineralization and nutrient dynamics. J. Ani.Plant Sci. 23(2): 500-506 (IF 0.250)
4. Rao, S.R., A. Qayyum, **A. Razzaq**, M. Ahmad, A. Sher. 2012. Role of foliar application of salicylic acid and L-trptophan in drought tolerance of maize. J. Ani.Plant Sci., 22 (3): 768-772 (IF 0.937).

5. Mahmood, I., A. Razzaq, Z. Khan, I.A. Hafiz, and S. Kaleem. 2012. Evaluation of tissue culture responses of promising wheat (Triticum aestivum L.) cultivars and development of efficient regeneration system. Pak. J. Bot. (Special Issue) 44: 277-284 (IF 0.937)

3. Dr. Ghulam Qadir

i. Riaz.A, jane Nicklin, Irfan-ul-Huq, Abdur Rauf, G.Qadir and F. Naz. 2013. Toxicity Induced by Solanapyronea in Chickpea shoots and its Metabolism through Glutathione/Glutathione-S-Transferase System.Pak. J. Botany. Vol.45 (1): 135-139.(Impact .Factor)

ii. Qadir.G., M.Ikram,F.Hassan and R. Hayat. 2014. Interactive effect of Humic Acid and plant growth promoting Rhizobacteria(PGPR)on growth and yield of maize under rainfed conditions. Ref. No Pass/UCA/305.(Accepted- Hec.Recognized).

iii. Ali.Amjid,Rabia Khalid,G.Qadir,S.Ali,Z.Akram and R.Hayat. 2014. Plant growth promoting characterization of Rhizosphere bacteria and re-inoculation response of Chickpea(Cicer arietinum L.) . Ref. No Pass/UCA/287.(Accepted-Hec.Recognized)

iv. Baloch.Nadir,M.Yousaf,W.P.Akhtar,Shah.F,B.Ullaha,G.Qadir and Z.IAhmad. 2014. Integrated Effect Of phosphate solubilizing bacteria and Humic acid on physiomorphic attributes of maize.Int J.of current microbiology and applied sciences, Internat.J. Agro Biol.) 3(6) (549-554) 2014.

4. Dr Muhammad Anser

1. Ansar, M.; M. A. Mukhtar; R. S. Sattar; M. A. Malik; G. Shabbir; A. Sher and M. Irfan. 2013. Forage yield as affected by common vetch in different seeding ratios with winter cereals in Pothowar region of Pakistan. Pak. J. Bot., 45(SI): 401-408.(Hec recognized)(1.207)

2. Wasaya, A., R. Ahmad, F. U. Hassan, **M. Ansar,** M. Munaf and A. Sher. 2013. Enhancing crop productivity through wheat (*Triticum aestivum* L.) fenugreek intercropping system. The J. Animal & Plant Sci., 23(1): 210-215.(Hec recognized)(0.638)
3. S. Ali, A. Hasan, S. S. Ijaz and **M. Ansar.** 2013**.** Mungbean (*vigna radiata*) yield and di-nitrogen fixation under minimum tillage at semi-arid Pothwar, Pakistan. The journal of Animal & Plant Sciences, 23(1):198-200. (Hec recognized)(0.638)
4. Sher, A; **M. Ansar**; FU. Hassan; G. Shabbir and M. A. Malik. 2012. Hydrocyanic acid contents variation amongst sorghum cultivars grown with varying seed rates and nitrogen levels. Int. Journal of Agri. and Biology. 14, 720-726.(Hec recognized)(0.902)
5. Anser, M. R. F. Zahoor, M. A. Malik, K. M., **M. Ansar**, M. Rasheed & S. H. Raza. 2012. Wheat response to various tillage-herbicide interactive systems under semi-arid climate. Paper accepted in conference organized by Botanical Society of Pakistan.(Hec recognized)
6. Zahid, A.; A. Khanum; **M. Ansar** and M.A. Malik. 2012. Effect of cutting and post-cutting intervals on hydrogen cyanide in sorghum forage grown under rainfed conditions. Pak. J. Bot. 44(3):955-960. (Hec recognized)(1.207)
7. Ahmed, Z. I.; A. Saleem, **M. Ansar**; H. I. Javed, R. Saleem. 2012. Improvement of mash been production under rainfed conditions by *Rhizobium* inoculation and low rates of starter nitrogen. Pakistan Journal of Agricultural Research 25(2) 154-160.(Hec recognized)(0.00)

8. Ali, S.; Sahiba; M. A. Malik; F.U. Hassan; and **M. Ansar.** 2012. Growth of rainfed fodder maize under different levels of nitrogen and phosphorus. Pakistan Journal of Agricultural Research 25(3) 196-205.(Hec recognized)(0.00)

5. Dr. Muhammad Naveed Tahir

1. **Muhammad Naveed Tahir**, Jun Li, Bingfeng Liu, Gangfeng Zhao, Fuqi Yao, Chengfeng Cui. **2013**. Hyperspectral estimation model for nitrogen contents of summer corn leaves under rainfed condition. Pakistan Journal of Botany, 45 (5): 1623-1630. (**Impact factor 1.21**).

2. Wang X, C., J. Li. **M. Naveed Tahir**, M. Hao. **2012**. Sustainable recovery of soil desiccation after alfalfa (*Medicago sativa L*.) by grain crop rotation system in the semi-humid region on the Loess Plateau. Agriculture, Ecosystem and Environment, 161: 152– 160 (**Impact factor 3.94**).

3. Liu Bingfeng, Li Jun, Zhao Gangfeng, **M. Naveed Tahir** and He Jia. **2012**. Total nitrogen contents estimation model of summer maize leaves using hyperspectral remote sensing. Plant Nutrition and Fertilizer Science, 18 (14), 813-824 (In Chinese with English abstract).

4. Zhao ganfeng, Li Jun, Liu Bingfeng, **M. Naveed Tahir**. **2012**. Monitoring model of leaf nitrogen contents of winter wheat in guanzhong district by hyperspectral remote sensing. Journal of triticeae crops, 32 (3): 530-536 (In Chinese with English Abstract).

5. **Muhammad Naveed Tahir**, Jun Li, Bingfeng Liu, Gangfeng Zhao, Fuqi Yao, Chengfeng Cui. Model for remote estimation of nitrogen contents of corn leaf using hyperspectral reflectance under semi- arid condition was presented on **July, 2011** at **11 ICPA Conference, Indiana polis, USA.**

6. Dr Abdul Manaf

1. Ahmad Sher, Muhammad Ansar, ***Abdul Manaf***, Abdul Qayyum, Muhammad Farhan Saeed and Muhammad Irfan. 2014. Hydrocyanic acid and Sugar Content Dynamics under

Nitrogen and Sulphur Application to Forage Sorghum Cultivars. Turkish Journal of Field Crops. 19(1): 46-52.

2. Muhammad Asghar Shah, ***Abdul Manaf***, Mubshar Hussain, Shahid Farooq and Muhammad Zafar –ul- Hye. 2013. Sulphur Fertilization Improves the Sesame Productivity and Economic Returns under Rainfed Conditions. International Journal of Agriculture and Biology. 15(6): 1301-1306.
3. Allah Wasaya, R. Ahmad, F.U. Hassan, M. Ansar, ***A. Manaf*** and A. Sher. 2013. Enhancing crop productivity through Wheat (*Triticum aestivum* L.) - Fenugreek intercropping system. J. Anim. Plant Sci. 23(1): 452-456.

7. Dr Safdar Ali

1. Ali. S., Sahiba, M. A. Malik, F. U. Hassan and M. Ansar. 2012. Growth of rainfed fodder maize under different levels of nitrogen and phosphorus. Pak. J. Agri. Res. 25 (3):196-205.

2. Ali. S., M. A. Malik, M. Ansar and R. Qureshi. 2014. Weed growth dynamics associated with rainfed wheat (*Triticum aestivum* L.) establishment under different tillage systems in pothwar. Int. J. Pl. Ani. & Env. Sci. Vol. 4(2): 146-154.

8. Dr Iran Aziz

1. **Irfan Aziz**., Tariq Mahmood, Khandakar Rafiq Islam. (2013). Effect of long term no-till and conventional tillage practices on soil quality. Soil & Tillage Research (131) 28–35.
2. Iram Shahzadi., Azeem Khalid, Shahid Mahmood, Muhammad Arshad,Tariq Mahmood and **Irfan Aziz** (2013). Effect of bacteria containing Acc deaminase on growth of wheat Seedlings grown with chromium contaminated water. Pak. J. Bot., 45(SI): 487-494. Shereen Khaliq.,

3. Azeem Khalid, Beenish Saba, Shahid Mahmood,Muhammad T. Siddique and **Irfan Aziz** (2013). Effect of Acc deaminase bacteria on tomato plants containing Azo dye wastewater. Pak. J. Bot., 45(S1): 529-534.
4. **Irfan Aziz**, Tariq Mahmood and Khandakar Rafiq Islam (2014).Impact of sole cropping and multiple cropping on soil humified carbon fractions Pak. J. Bot., 46(6): 2157-2162.
5. Jawaria Abid., Tariq Mahmood, Azeem Khalid, Tariq Siddique and **Irfan Aziz** (2014). Optimization of pyrolysis yields of paper mulberry (broussonetia papyrifera) and application of biochar product for the improvement of maize growth. International Journal of Agriculture & Biology ISSN Print: 1560–8530; ISSN Online: 1814–9596 13–1454//16–5–929–934
6. Azeem Khalid, Javaria Arshad, Shahid Mahmood, **Irfan Aziz** and Muhammad Arshad. (2014)Effect of Chromium Forms on the Biodegradation of Reactive Black-5 Azo Dye by Psychrobacter and Klebsiella species. International Journal of Agriculture & Biology ISSN Print: 1560–8530; ISSN Online: 1814–9596 13–1414/201x/00–0–000–000
7. **Irfan Aziz,**Tariq Mahmood and Khandakar Rafiq Islam.(2014) Impact of long-term tillage and crop rotation on concentration of soil particulate organic matter associated carbon and nitrogenPak. J. Agri. Sci., Vol. 51(4), 827-834. ISSN (Print) 0552-9034, ISSN (Online) 2076-0906 http://www.pakjas.com.pk
8. Abbas Safeer, **Irfan Aziz,** Tariq Mahmood and Muhammad Akmal. (2013). Influence of different tillage practices and earthworm on selected soil physio-chemical parameters and yield of maize. Soil Environ. 32(2): 114-120, Online ISSN: 2075-1141 Print ISSN: 2074-9546. Soil Science Society of Pakistan (http://www.sss-pakistan.org)
9. Usman Ali., Azeem Khalid, Tariq Mahmood and **Irfan Aziz** (2013) Accelerated Biodegradation of Solid Organic Waste through Biostimulation. Proceedings of the Pakistan Academy of Sciences 50 (1): 37–46.ISSN: 0377 - 2969 (print), 2306 - 1448 (online)
10. Beenish Saba., Madeeha Jabeen , Tariq Mahmood and **Irfan Aziz**. (2014) Treatment comparison efficiency of microbial amended agro-waste biochar constructed wetlands for reactive black textile dye.IPCBEE vol.65 :13-16 DOI: 10.7763/IPCBEE. 2014. V65. 3 © IACSIT Press, Singapore
11. **Irfan Aziz.,** Tariq Mahmood, Rafiq Islam Khandakar and Ejaz Ashraf. (2013) Estimation of cropping system impacts on carbon and nitrogen status of soil.Int. J. Agric. Appl. Sci. Vol. 5 :1-7
12. Ejaz Ashraf, Fawad Shah, Muhammad Luqman, Samiullah, Muhammad Younis**, Irfan Aziz** and Umar Farooq. (2013). Use of untreated waste water for vegetable farming: a threat to food safety. Int. J. Agric. Appl. Sci. Vol. 5: 27 -38.
13. Syed Haider Abbas, Muhammad Sohail, Muhammad Saleem, Tariq Mahmood, **Irfan Aziz,** Maqsood Qamar, Abid Majeed And Muhammad Arif. (2013). Effect of l-tryptophan on plant weight and pod weight in chickpea under rainfed conditions. Sci., Tech. and Dev., 32 (4): 277-280.

Standard 6.2: Effective Programs for Faculty Development.

- Professional training and availability of adequate research and academic facilities are provided to the faculty members according to the available resources.
- Currently one faculty member is abroad for post-Doctorate scholar.
- Incentives in the form of allowances to theses supervisors have been implemented lately to promote high standard research.
- Existing facilities include mainly internet access, which is available through networking system in addition to library facility with latest books also available.
- Effective programs for faculty development have been introduced.

Standard 6.3: Faculty member motivation

- Time to time provision of enthusiasm to the young faculty by the senior faculty members.

CRITERION – 7: INSTITUTIONAL FACILITIES

CRITERION 7

INSTITUTIONAL FACILITIES

Standard 7.1:

Infrastructure

- The department must have the infrastructure to support new trends in learning and research.
- Department has established new laboratory for research related to crop physiology and working on developing new more laboratories.
- Equipments are not suffiecient to meet the current requirement of research.

Lack of Institutional Facilities

- Insufficient facilities regarding the infrastructure to support new trends in learning or prevalent.
- Department library must be developed to provide support to graduate and post graduate students.
- Computer facilities should be provided to the staff and postgraduate students.
- Offices must be adequate to enable faculty to carry out their responsibility.

Standard 7.2:

Library Facilities

The university Central Library has very limited number of books, journals and periodicals. It's a small library in term of space and facilities with no catalogue systems. It does not meet the standards of a university library. Department itself does not have a library.

Standard 7.3:

Class Room and Faculty Offices

No class room available. Research laboratories are being used for teaching purpose also,which affect the working of research students. Two to three teachers are sharing rooms. Unavailability of most modern and related books and internet affects the quality of teaching. Common room for students is also missing.

CRITERION 8

INSTITUTIONAL SUPPORT

- Institutional support is highly appreciated.
- The upgradation of existing teaching cadre also provided and added advantage in detaining the present faculty.
- Sufficient secretarial support, technical staff and office equipment.

Lack of Institutional support

- Due to unavailability of class rooms, classes are taken in the laboratories.
- Financial support should be raised and allocate funds for postgraduate research students.

Standard 8.1:

Support and financial resources

The department has limited funds and Individual research grants for students and faculty are mainly supporting the departmental research activities. There is a dire need for increasing the financial resources allocated to the department to establish a library, laboratories and computer facilities.

Standard 8.2:

High quality Research scholars

The intake is once in a year. A strict merit policy applies and University test/GAT is preferred.

Standard 8.3:

Financial resources

Total budget of the department of agronomy for the financialyears 2012-13 and 2013-14 was Rs. 00000 and 50,000 respectively which does not fulfill the departmental needs particularly for the purchase of equipment, chemicals etc.

List of Enrolment for last few years

Around 20-25 students get admission in B.Sc. (Hons.) Agriculture in Agronomy every year.

SUMMARY

Agronomy is a varied profession that facilitate all the aspects of producing crops and management of soil. The task of Agronomy department is to produce undergraduate students which are practically skillful and have high-quality education which should results in mounting scientific knowledge and skills for employment, creative citizenship, and life-long learning. The department have primary importance in the areas of food, agriculture and natural resources. The department started its B.Sc. (Hons.) degree program in 1986. The department has well planned academic programme of B.Sc. (Hons) Agriculture. After learning basic courses of all subjects, majority of the students admitted by the Faculty of Crop and Food Sciences select Agronomy as major subject. The courses aim to build up and strengthen students capacity to grip principles and practices of Agronomy based on scientific principles. The strong academics and practical work enables them to specialize in any area of particular interest. Graduates in Agronomy have key understanding of the up to date concepts of crop production and soil management. More over, they have enough professional knowledge in selected areas to allow them to pursue a research degree in crop science. Graduates attain scientific background as well as having gained experience in solving problem and have developed the communication, numerical and computer skills which are required for a broad range of careers.

To evaluate whether department is satisfying its objectives or not, surveys on various aspects like course evaluation, teacher evaluation, alumni survey, research/graduating students surveys and faculty survey etc. have been conducted by the departmental members of the program team. The data were collected on approved proformas and later on examined and presented in the form of graphs and tables. The data showed that students are satisfied with the teaching approach of faculty members, their justice in examination, and their level of knowledge. However, the inadequate availability of lecture rooms and poor laboratories infrastructure were accounted as major obstacles. Course evaluation survey revealed that students are satisfied with workload and rate of knowledge gave to them. According to research student survey, availability of internet and access to various scientific journals is inadequate. Likewise, the department has limited budget for research purposes which is not enough to support laboratories and research activities. According to employer survey, students are good at job but they have less basic knowledge of information technology and computer skills. Faculty members are satisfied with

their salaries but they have severe concerns about the workload as most of them are agreed that they have very less time for themselves.

The report regarding faculty course review highlighted the need to divide the B.Sc. (Hons.) Agriculture class into several subdivision so that the teachers and students have favorable environment for teaching and learning. Some courses were rated as outstanding but lengthy. Overall, the syllabus was rated very good. The internship programme was accounted as highly efficient as majority of the internees were satisfied from the programme. However, the difficulty related to accommodation, research facilities and poor stipend were reported.

The Department has well qualified and experienced faculty mostly having post doctorate research experience from good reputed International universities. The faculty has generated 134 publications during the last half decade in journals of national and international repute. Moreover, five research projects were completed during the reported period; lack of infrastructure to transfer the recommended practices and technology to farmers. Access to latest literature and accessibility of updated reviews is not up to the mark. There is a need for foreign trainings of young faculty members.

The performance of the department may be improved more considering;

- ✓ More class rooms are required to enable the graduate students to continue laboratory works without breaks.
- ✓ Departmental Laboratories need to strength by adding new equipments.
- ✓ There is requirement to improve teaching proportion to produce professionally sound graduates.
- ✓ Professional training for the staff is required and through such trainings will faculty staff will improve their abilities for enhancing the quality of research and teaching. It would be precious to mention here that proper man at proper place is not being practiced.
- ✓ There is a shortage of personal computers and un-availability of Internet which creates many obstacles. Improvement in this area will also benefit the level of research and teaching,

- ✓ The budget allocated to the department is not enough it hardly meets the necessities of the research,
- ✓ At present there is no departmental library. Allotment of sufficient funds for this purpose will be helpful in subscribing reputed journals and purchase of books that will ultimately boost quality of learning, teaching.

Annexure-1

List of Courses offered by the Department of Agronomy

Course code	Title	Credit Value
AGR-301	Basic Agriculture	3(2-2)
AGR-302	Summer Crops	3(2-2)
AGR-401	Winter Crops	3(2-2)
AGR-402	Field crop physiology	3(2-2)
AGR-501	Arid Zone Agriculture	2(2-0)
AGR-503	Crop Growth & Development	3(2-2)
AGR-504	Principles of plant nutrition and Growth Regulators	3(2-2)
AGR-505	Crop water management	3(2-2)
AGR-506	Stress Physiology	3(2-2)
AGR-507	Fundamentals of seed technology	3(2-2)
AGR-508	Principles of Weed Management	3(2-2)
AGR-509	Conservation agronomy	4(3-2)
AGR-511	Environment and crop production potential	3(2-2)
AGR-602	Internship	15(0-30)
AGR-603	Agro-technology of Non-traditional crops	3(2-2)
AGR-605	Biological Nitrogen Fixation	3(2-2)
AGR-607	Field crop ecology	3(2-2)
AGR-609	Project planning and scientific writing	2(1-2)
AGR-611	Farming systems and farm records	3(2-2)

Proforma 9

Name	**Dr. Zammurad Iqbal Ahmed**
Personal	Father's Name: Ghulam Ahmed Date of Birth 1st May 1960 Phone : 051-9062256, Cell 0333-5101247 E-mail : azammurad@hotmail.com Address House # 11, University Colony # 2, Opposite Divisional Public School, Shamsabad,Rawalpindi, Pakistan Academic Qualification: I did my B.Sc. (Hons) and M.Sc. (Hons) degrees in Agronomy from University of Agriculture , Faisalabad in 1984 and 1984 respectively.Whereas,Ph.D in Agronomy with dissertation title as" Morpho. Genetic expression of sunflower under varied Temperature and Moisture regimes"in 1996 from Unversity of agriculture, Faisalabad.and MBA- Human Resource Management in 2004 from PMAS-AAUR.I did my Post doctorate from Zhejiang University ,China in 2008.
EXPERIENCE	I served as Lecturer in Agronomy (BPS 17) at NARC, Islamabad w.e.f. 28.4.1998 to 14-10-2006 and Assistant professor (BPS 18) from 14-10-2006 to May, 2010 and as Associate professor w.e.f. 19-05 2010 to Aug,2014 and promoted Professor Agronomy in Aug, 2014. at PMAS -AAUR . I am member of Academic Council and Faculty Board of Studies. I have also the charge of Head of the Department of Library for ten years. I had been Hall Warden for about two years and member of Central Purchase Committee of the University. Member of National Curriculum Revision Committee of Higher Education Commission. .
Publications	Impact factor- 25 HEC recognized-06 7. Saleem, R., Z. I. Ahmed, M. Yousaf, H. I. Javed and H. Shah. 2012. Agro-Economic evaluation of fertility sources for higher maize productivity under rainfed conditions. J. Agri. Res. 50(3): 349-360. 8. Ahmed, M., A. Kamran, M. Asif, U. Qadeer, Z. I. Ahmed and A. Goyal. 2013. Silicon priming: a potential source to impart abiotic stress tolerance in wheat: a review. Australian J. Crop Sci. 7(4):484-491. 9. Baloach, N., M. Yousaf, W. P. Akhter, S. Fahad, B. Ullah, G. Qadir and Z. I. Ahmed. 2014. Integrated effect of phosphate solubilizing bacteria and humic acid on physiomorphic attributes of maize. Int. J. Curr. Microbiol. App. Sci. 3(6): 549-554. 10. Syed, S., Z. I. Ahmed, M. I. A. Haq, A. Muhammad and Y. Fujii. 2014. The possible role of organic acids as allelochemicals in *Tamarindus indica* L. leaves. Acta Agric. Scand. Sect. B – Soil & Plant Sci. 64(6):511-517.

	11. Syed, S., M. I. A. Haq,, Z. I. Ahmed, A. Razzaq and M. Akaml. 2014. Root exudates and leaf leachates of 19 medicinal plants of Pakistan exhibit allelopathic potential. Pak. J. Bot. 46(5):1693-1701. 12. Ahmad, A., Z. I. Ahmed, I. Aziz and A. Ahmad. 2014. Optimiing organic and inorganic fertilizer recommendation in rainfed Pothowar region of Pakistan: a case study of barley sorghum and barley mungbean crop rotations.Int.J.Curr.Miicrobiol.App.Sci. 3(8):xx-xx
Honor and Awards	Won the HEC Post Doctorate fellowship for one year during 2007-8
Supervised Students	Number of students who were supervised and completed their M.Sc (Hons) degree-06 Ph.D -05
Service Activity	Teaching and Research.
Research Grants and Contracts	Nil

Proforma 9

<table>
<tr><td>Name</td><td colspan="5">Abdul Razzaq</td></tr>
<tr><td>Person</td><td colspan="5">Date & Place of Birth: August 1, 1957
Present Position: Associate Professor of Agronomy
Quaifications</td></tr>
<tr><td></td><td>S/No.</td><td>Name of Institution</td><td>Degree/Diploma</td><td>Year</td><td>Division</td></tr>
<tr><td></td><td>1</td><td>Agricultural University of Hebei Baoding PR China</td><td>Ph. D</td><td>2005</td><td>A (94%)</td></tr>
<tr><td></td><td>2</td><td>University of Agriculture, Faisalabad</td><td>B.Sc.(Hons)Agri.</td><td>1988</td><td>B (3.77 CGPA)</td></tr>
<tr><td></td><td>3</td><td>Barani Agri. College, University of Agri. Faisalabad</td><td>M.Sc.(Hons)Agri.</td><td>1986</td><td>B (3.96 CGPA)</td></tr>
<tr><td></td><td>4</td><td>Sir Syed Degree College Gujrat</td><td>F. Sc.</td><td>1976</td><td>First (Gold Medal)</td></tr>
<tr><td></td><td>5</td><td>Pak Islamia High School Shadiwal (Gujrat)</td><td>Matric</td><td>1973</td><td>First</td></tr>
<tr><td>Experience</td><td colspan="5">I served as Lecturer from July-1988 to March-2005 at Arid Agriculture University Rawalpindi (Former Barani Agricultural College Rwp),from Mar-2005 to Sep-2007 as Assistant Professor and from Sept-2007 to date as Associate Professor of Agronomy at PMAS-AAUR.
More than 25 years experience of teaching introductory courses on Crop Production and Management, Stress Physiology, Supervision of Master & Ph. D students.</td></tr>
<tr><td>Honor and Awards</td><td colspan="5">• Academic Gold Medal for standing first in B.Sc. (Hons.) Agri. (1982-86)
• Certificate of Appreciation from Hebei Academy of Agriculture and Forestry Sciences, Shijiazhuang, PR China
• Honor Certificate from Hebei Education Department, Shijiazhuang PR China
• Member Syndicate, PMAS-Arid Agriculture University Rawalpindi for three years w.e.f. 2008 to 2011
• Member Planning and Finance Committee, PMAS-Arid Agriculture University Rawalpindi for three years w.e.f. 2008 to 2011
• Innovated a comprehensive method/protocol for in planta genetic transformation of wheat through apical meristem of imbibed seed</td></tr>
</table>

	• Founded "Kisan Seed Bank" first time in Pothwar (one at Gujar Khan and one at Nara Mughlan Chakwal) in 2013 • Used chemically synthesized nano-particles to determine their crop growth first time in Pakistan • Worked on earth's planetary system and proved that it is not the earth that revolves around the sun it is otherwise as mentioned in Quran. Submitted first paper of this series to Monthly Notices of Royal Astronomical Society under the caption "Mathematical appraisal of earth's axial precession and its implications
Publications	Impact factor-07 1- M. A. Khan, I. A. Hafiz, K. Farooq, N. A. Abbasi, and A. Razzaq. 2014. Evaluation of potato hybrids for yield components in humid subtropical climate during autumn season. JAPS 24 (5):1511-1517 (IF – 0.638) 2- Sairah Syed, M. Imran Alhaq, Zamurrad Iqbal Ahmadm A. Razzaq and M. Akaml. 2013. Root exudates and leaf leachates of 19 plants medicinal plants of Pakistan exhibit allelopathic potential. Pak. J. Bot., 46(5): 1693-1701 (IF 0.937) 3- Razzaq, A., Q. Ali, A. Qayyum, I. Mahmood, M. Ahmad and M. Rasheed. 2013. Physiological responses and drought resistance index of nine wheat (Triticum aestivum L.) cultivars under different moisture conditions. Pak. J. Bot., 45(SI): 151-155 (IF - 0.937) 4- Khalid M., M. Arshad, G. M. Ali and A. Razzaq. 2013. Tissue culture responses of some wheat (*TRITICUM AESTIVUM* L.) cultivars grown in Pakistan. *Pak. J. Bot*., 45(SI): 545-549 (IF 0.937) 5- Chaudhry, A. N., M. A. Naeem, G. Jilani, A. Razzaq, D. Zhang. M. Azeem and M. Ahmad. 2013. Influence of composting and poultry litter storage methods on mineralization and nutrient dynamics. JAPS 23(2): 500-506 (IF 0.250) 6- Rao, S.R., A. Qayyum, A. Razzaq, M. Ahmad, A. Sher. 2012. Role of foliar application of salicylic acid and L-trptophan in drought tolerance of maize. JAPS, 22 (3): 768-772 (IF 0.937) 7- Mahmood, I., A. Razzaq, Z. Khan, I.A. Hafiz, and S. Kaleem. 2012. Evaluation of tissue culture responses of promising wheat (Triticum aestivum L.) cultivars and development of efficient regeneration system. Pak. J. Bot. (Special Issue) 44: 277-284 (IF 0.937) 8- Ahmad, M., Fayyaz-ul-Hassan, A. Razzaq, M.N. Akram, M. Aslam, S. Ahmad and Zia-ul-Haq. 2011. Is photothermal quotient determinant factor for spring wheat yield? Pak. J. Bot., 43(3): 1621-1627. (IF 0.937) 9- Mahmood, I., A. Razzaq, M. Rasheed, A. Qayyum and M. Ahmad. 2014. Employment of Immature Embryo Culture for *in vitro* Selection of Drought Tolerant Somaclones of Wheat. *Bulg. J. Agric. Sci.,* 20: 155-161 (IF 0.136) 10- Mehmood-ul-Hassan, A. Qayyum, A. Razzaq, M. Ahmad, I. Mahmood, S. U. Khan and M. A. Jenks. 2013. Evaluation of Maize Cultivars for Drought

	Tolerance Based on Physiological Traits Associated with Cell Wall Plasticity. Jokull J. 63 (7): 466-478 (IF 1.0) 11- Razzaq, A. M. Arshad, Sana Ashraf, Abida Akram, A. Qayyum and I. Mahmood. 2013. Evaluation of Psyllium Husk (*Plantago ovata*) as a low cost gelling agent for callus formation and regeneration in wheat (*Triticum aestivum* L.) cultivar GA-2002. Wulfenia J. 20 (7): 153-161(IF 0.467) 12- Razzaq, A., Imran Mahmood, Javed Iqbal, Abdul Qayyum, Muhammad Rasheed, Muhammad Ahmad. 2013. Enhancing drought tolerance of wheat (triticum aestivum L.) through chemical priming. Wulfenia J. 20 (7): 44 – 58 (IF 0.467) 13- Mahmood, I., A. Razzaq, I.A. Hafiz, S. Kaleem, A. A. Khan, A. Qayyum and M. Ahmad. 2012. Interaction of callus selection media and stress duration for in vitro selection of drought tolerant callus of wheat. African J. Biotechnol. 11(17), pp. 4000-4006. (IF 0.573) up to June 2012
Supervised Students	Number of students who were supervised and completed their M.Sc (Hons) degree-16 Ph.D -03 HEC recognized-02 Non HEC recognized- 01
Service Activity	Teaching and research
Research Grants and Contracts	Ressearch Projects One project entitled"Potential Applicationof Nanotechnology in Crop/Vegetable Growth, Nutrient Use Efficiency, Crop Tissue Culture and Tolerance to Osmotic Stress"Funds: Rs.4.785 million ,Funding Agency: HEC Islamabad with Duration: 3 years (January 2012 to December 2014)

Proforma 9

Name: Dr. Muhammad Rasheed

Personal	Full Name	Muhammad Rasheed			
	Sur Name	Rasheed			
	Date of Birth	09-10-1962			
	Religion	Islam			
	Nationally	Pakistani			
	Marital Status	Married			
	Address	Department of Agronomy, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi, Pakistan.			
	Contact No.	0334-5204364,0321-076033, 051-4310618,			
	E-mail	rasheed7864@hotmail.com.,rasheed786@uaar.edu.pk			
Experience	Name of Organization	Designation	BS	Duration	Major duty / functions performed
	Agriculture Extension Department , Govt.of Punjab, Lahore.	Agriculture Officer (Extension)	17	16.3.88 to 18.12.91	Agriculture Technology Transfer to the farming community under Training & Visit Programme in the Agriculture Extension Department, Govt. of Punjab, Lahore.
	Agri. Research Information Institute, Faisal abad.	Assistant Agri. Information Officer	17	19.12.91 to 01.9.92	Research and editing of research papers for Journal of Agriculture Research (JAR), Govt. of Punjab, Lahore.
	Vegetable Research Institute(VRI) , Faisalabad	Research Officer	17	02.9.92 to 23.8.93	Research on Vegetable Crops

	Agri. Extension Department	Agri. Officer (Extension)	17	24-08-93 to 16-12-1996	Crop Production Technology transfer to the farming community in various districts in the Punjab province and to develop demonstration plots of kharif and rabi crops for verification of results
	Agri. Extension department	Agri. Officer (Training)	17	15-04-1999 to 29-03-2oo5	To train and teach the field staff(Officers and field assistants) of the department about the latest crop and vegetable production technology
	Department of Agronomy,UAAR	Lecturer	17	30-03-2005 to 22-09-2006	Teaching and Research
	Department of Agronomy, UAAR	Assistant Professor	18	23-09-2006 to date	Teaching and Research
Honor and Awards	Post Doctorate fellowship from HEC during 2007-08				
Memberships	*List memberships in professional and learned Societies, indicating offices held, committees, or other specific assignments.* *Pakistan Society of Agronomy, as life member*				
Graduate Students *Postdocs* *Undergraduate Students* *Honour Students*	*List supervision of graduate students, postdocs and undergraduate honors theses showing:* <u>Students Supervised Postgraduate M.Sc(Hons) Agriculture</u>: 7 <u>Committee Member of Ph. D Agriculture students :</u> Post Doctorate Students: N.A. Students Supervised (B.Sc (Hons) Agriculture 7th & 8th Semester) regarding Internship and research: 6				
Service Activity	*Teaching and research*				
Publications					

Proforma 9

Name	Dr. Muhammad Ansar

Personal

1.	Name	Dr. Muhammad Ansar
2.	Father's name	Ghulam Rasool
3.	Date of birth	14.10.1964
4.	Domicile	Mandi Bha-ud-din, Punjab, Pakistan
5.	Religion	Islam
6.	Sex:	Male
7.	Marital status	Married
8.	N.I.C #	34403-1914662-1
9.	Date of entry into Govt. service.	1st September 1991.
10.	Tele: Department Office: Mobile:	051-9290757, 0321-5563037
11.	Email:	<drmansar@yahoo.com>

12. Academic Qualification:

S. No.	Name of examination	Board / University	Division	Subject studied
1.	PhD	University of Wales, Aberystwyth, U.K.	-	Agronomy
2.	M.Sc (Hons) Agri.	University of Agriculture, Faisalabad, Pakistan	1st	Agronomy
3.	B.Sc (Hons) Agri.	University of Arid Agri. Rawalpindi, Pakistan	1st	Agronomy
4.	F. Sc	Gujranwala Board	1st	Pre-medical
5.	Matriculation	Rawalpindi Board	1st	Science

Experience

1. Assistant Professor (Agronomy) March, 2005 to Todate
   PMAS-Arid Agriculture University, Rawalpindi.
2. Assistant Research Officer. (Agronomy) October, 2003 to March, 2005
   Fodder Research Institute, Sargodha.
3. Assistant Research Officer (Agronomy) 26.04.1997 to 23.10.2003
   Soil & Water Conservation Research Institute, Chakwal
4. Assistant Research Officer (Agronomy) 01.9.1991to 25.04.1997
   Barani Agricultural Research Institute, Chakwal

Memberships

1-Life membership of Soil Science Society of Pakistan
2- Life membership of Weed Science society of Pakistan
3-Subject Matter Specialist of Sarhad Journal of Agriculture
4- Member of Journal of Arid Agriculture, UAAR
5- Member of Journal of Agronomy Society
6-Member of Journal of Phytopathology Society of Pakistan

Supervised Students	S.No	Name of the student	Topic	Year
	1.	Altaf Hussain 99-arid-238	Genotypic Differences in Nitrogen Use Efficiency in Wheat Under Rainfed Conditions	2008
	2.	Ramzan Anser 05-arid-1176	Comparative Study of Deep and Shallow Tillage Practices for Moisture Conservation and Subsequent Wheat Yield	2007
	3.	Muhammad Nadeem 03-arid-64	Evaluation of Winter Cereal-Legume Mixtures as Livestock Feed	2009
	4.	Yasir Mahmood 03-arid-187	Evaluation of Kharif Cereal-Legume Mixtures as Livestock Feed	2009
	5.	Rao Sabir Sattar 04-arid-130	Evaluation of Oat Vetch Mixture for Forage Yield and Quality Under Rainfed Conditions	2010
	6.	Fahid Sheraz 08-arid-736	Comparison of Winter Fodder Crops For Yield and Quality Under Rainfed Condition of Pothowar	2010
Service Activity	*Teaching and Research.*			

Publications	A-INTERNATIONAL PAPERS

Proforma 9

Name	Irfan Aziz
Personal	Residence: House No.SA870/D Street No 2 Sadiqabad, Rawalpindi, Pakistan. Phone: +92-51-4845917 Mobil 03005336016 *ACADEMIC QUALIFICATIONS.* DEGREE — INSTITUTE — YEAR *Professional Master — ITC, The Netherlands — 2000* *M.SC.(Hons.)Agri. — University of Agri.Faisalabad — 1991* *B.SC.(Hons.)Agri. — University of Agri.Faisalabad — 1988* *MASTER DEGREE IN GEO-INFORMATIOM SCIENCES AND EARTH OBSERVATION, THE NETHERLANDS.* I did my Professional Master (Specialization Sustainable Agriculture) in Geo-Information Sciences and Earth Observations from International Institute for Aerospace Survey And earth Sciences, Enschede, The Netherlands, during 1999-2000. *Professional Courses:* My Master degree courses included the following courses. • Natural Resources Management. • Remote sensing. • Maps and Geographic Databases. • Data Acquisition. • Data Analysis and Modelling. • Land use survey techniques, Land use impact analysis. • Surveying and mapping land use, prepar land use data sets. • Agro-Ecological Zoning (AEZ) land Evaluation and modeling. • Land use planning (LUP). • Land cover/use map of Twente district (field work). *COMPUTER APPLICATION/SOFTWARE USED:* I have good knowledge and experience of following computer packages. • ILIWIS 2.2 (GIS Database, Analysis,Visualization/Presentation). • Windisp (Handling of NOAA Data/NDVI). • Eeccrop. (Crops Ecological Requirements).

	• Cropwat. (Crop water Requirement). • PS123. (Simulation Crop growth Modelling). • Manitab. (Data Analysis). • SPSS (Data Analysis). • Arc view (GIS operations). • Windows NT (Report writing, presentations). • MS.Excel (Data entering /Database/Analysis). • Internet surfing (Extracting Informations).
Experience	Lecturer of Agronomy 15-8-1997 to 06-01-2005 University of Arid Agriculture Rawalpindi Pakistan. Assistant professor Agronomy, 07-01-2005 todate. University of Arid Agriculture Rawalpindi Pakistan *EXPERIENCE* RESEARCH • Land cover and land use mapping. • Change detection in land use/cover. • Accuracy assessment of the map. • Advanced Remote Sensing and GIS techniques for monitoring and early warning in agriculture. • Estimation of biomass production in relation to food demand of Caprivi Region. (Individual Final Assignment of Professional Master programme). • Effect of irrigation frequencies and fertilizer application on yield and quality of Maize. (M.Sc.Hons.Agri Thesis). • Quality Analysis of Cotton crop seeds. *Research publication:* • Comperative study of different weed management techniques in wheat (Triticum aestivum) under rainfed conditions. Pak.j .arid, 4(1-2): 19-23, 2001. • Feasibility of Intercropping Lentil and lathyrus in wheat under rainfed condition. Pak. j. arid, 5(1) 13-16, 2002. *FIELD WORK:* • Collection of land cover/used Data of Twente District, The Netherlands. • Collection of field Data for accuracy assessment. Sweden. • Use of Global Position system.
Honor and Awards	• National convention of Scientists and Engineers 27 may 1999, at Islamabad. • Media war and Role of PTV on 14 June 2001 at UAAR. • Atomic Energy for Economic Development on14 Nov 2001 at UAAR. • Corporate Agriculture: Issues and Option on 27 July 2001 at UAAR.

<table>
<tr><td></td><td>

All Pakistan Food Science conference on 12 Jan 2001 at UAAR.
Tenth Meeting of OIC Ministerial standing Committee on Scientific and Technological Cooperation (COMSTECH) 18 Feb. 2002 at Islamabad.
3rd International Science Conference on 26 Sep 2002 at UAAR.

IN-SERVICE TRAININGS:

In-service Training workshop in Weed Science for Teachers of Agricultural Universities/colleges of the country on 1 June 2001 at NWFP Agricultural University, Peshawar.
In –service Training course in Designing Crop Experiment of Agricultural universities/colleges of the country on 6-11 Jan 2003 at NWFP Agricultural University, Peshawar.
In-service Training course in Conducting Crop Experiments and Experimental Techniques universities/colleges of the country on 13- 18 Jan 2003 at NWFP Agricultural University, Peshawar.

Application of Satellite Remote Sensing/GIS Techniques for land Resources Mapping 5-9 Jan 2004 at SUPARCO Islamabad.
</td></tr>
<tr><td>Supervised Students</td><td>
<table>
<tr><td>S.No</td><td>Name of the student</td><td>Topic</td></tr>
<tr><td>1.</td><td>Muhammad Naeem
07-arid-283</td><td>Influence of Planting Pattern and Weed Control Methods on the Growth and Yield of Maize</td></tr>
<tr><td>2.</td><td>Adeel Mustafa
03-arid-171</td><td>Effect of Tillage Frequencies and Earthworm on Selected Physiochemical Soil Parameters and Yield of Mungbean</td></tr>
<tr><td>3.</td><td>Ayesha Javed
04-arid-189</td><td>Impact of No. Tillage and Conventional Tillage on Selected Soil Physiochemical Parameters and Yield of Sunflower</td></tr>
</table>
</td></tr>
<tr><td>Service Activity</td><td>Teaching and Research.</td></tr>
<tr><td>Publications</td><td>
<ol start="14">
Irfan Aziz., Tariq Mahmood, Khandakar Rafiq Islam. (2013). Effect of long term no-till and conventional tillage practices on soil quality. Soil & Tillage Research (131) 28–35.
Iram Shahzadi., Azeem Khalid, Shahid Mahmood, Muhammad Arshad,Tariq Mahmood and Irfan Aziz (2013). Effect of bacteria containing Acc deaminase on growth of wheat Seedlings grown with chromium contaminated water. Pak. J. Bot., 45(SI): 487-494. Shereen Khaliq.,
Azeem Khalid, Beenish Saba, Shahid Mahmood,Muhammad T. Siddique and Irfan Aziz (2013). Effect of Acc deaminase bacteria on tomato plants containing Azo dye wastewater. Pak. J. Bot., 45(S1): 529-534.

</td></tr>
</table>

17. **Irfan Aziz**, Tariq Mahmood and Khandakar Rafiq Islam (2014).Impact of sole cropping and multiple cropping on soil humified carbon fractions Pak. J. Bot., 46(6): 2157-2162.

18. Jawaria Abid., Tariq Mahmood, Azeem Khalid, Tariq Siddique and **Irfan Aziz** (2014). Optimization of pyrolysis yields of paper mulberry (broussonetia papyrifera) and application of biochar product for the improvement of maize growth. International Journal of Agriculture & Biology ISSN Print: 1560–8530; ISSN Online: 1814–9596 13–1454//16–5–929–934

19. Azeem Khalid, Javaria Arshad, Shahid Mahmood, **Irfan Aziz** and Muhammad Arshad. (2014)Effect of Chromium Forms on the Biodegradation of Reactive Black-5 Azo Dye by Psychrobacter and Klebsiella species. International Journal of Agriculture & Biology ISSN Print: 1560–8530; ISSN Online: 1814–9596 13–1414/201x/00–0–000–000

20. **Irfan Aziz,**Tariq Mahmood and Khandakar Rafiq Islam.(2014) Impact of long-term tillage and crop rotation on concentration of soil particulate organic matter associated carbon and nitrogenPak. J. Agri. Sci., Vol. 51(4), 827-834. ISSN (Print) 0552-9034, ISSN (Online) 2076-0906 http://www.pakjas.com.pk

21. Abbas Safeer, **Irfan Aziz,** Tariq Mahmood and Muhammad Akmal. (2013). Influence of different tillage practices and earthworm on selected soil physio-chemical parameters and yield of maize. Soil Environ. 32(2): 114-120, Online ISSN: 2075-1141 Print ISSN: 2074-9546. Soil Science Society of Pakistan (http://www.sss-pakistan.org)

22. Usman Ali., Azeem Khalid, Tariq Mahmood and **Irfan Aziz** (2013) Accelerated Biodegradation of Solid Organic Waste through Biostimulation. Proceedings of the Pakistan Academy of Sciences 50 (1): 37–46.ISSN: 0377 - 2969 (print), 2306 - 1448 (online)

23. Beenish Saba., Madeeha Jabeen , Tariq Mahmood and **Irfan Aziz**. (2014) Treatment comparison efficiency of microbial amended agro-waste biochar constructed wetlands for reactive black textile dye.IPCBEE vol.65 :13-16 DOI: 10.7763/IPCBEE. 2014. V65. 3 © IACSIT Press, Singapore

24. **Irfan Aziz.,** Tariq Mahmood, Rafiq Islam Khandakar and Ejaz Ashraf. (2013) Estimation of cropping system impacts on carbon and nitrogen status of soil.Int. J. Agric. Appl. Sci. Vol. 5 :1-7

	25. Ejaz Ashraf, Fawad Shah, Muhammad Luqman, Samiullah, Muhammad Younis**, Irfan Aziz** and Umar Farooq. (2013). Use of untreated waste water for vegetable farming: a threat to food safety. Int. J. Agric. Appl. Sci. Vol. 5: 27 -38. *26.* Syed Haider Abbas, Muhammad Sohail, Muhammad Saleem, Tariq Mahmood, **Irfan Aziz,** Maqsood Qamar, Abid Majeed And Muhammad Arif. (2013). Effect of l-tryptophan on plant weight and pod weight in chickpea under rainfed conditions. Sci., Tech. and Dev., 32 (4): 277-280.

Proforma 9

Name	**Dr. Ghulam Qadir**
Personal	Father name: Malik Umar Hayat Date of birth: December 1, 1968 Ph: 92-51-4426318,0333 5101301 Email: qadirakaira@hotmail.com Place of birth: Jhang (Pakistan) Nationality: Pakistani Mailing address: H#.20 colony #1, PMAS, Arid Agriculture, University, Murree Road Rawalpindi. Contact: 03335101301, 0514426318 Academic Qualification: I did my B.Sc. (Hons) and M.Sc. (Hons) degrees in Agronomy from University of Agriculture , Faisalabad in 1990 and 1993 respectively.Whereas, Ph.D in Agronomy with dissertation title as" Morpho. Genetic expression of sunflower under varied Temperature and Moisture regimes" in 2006 from PMAS – AAUR and Post doctorate from UK.
Experience	I served as Science Officer (BPS 17) at NARC, Islamabad w.e.f. 07.9.1993 to 28.4.1998. 2. Served as Lecturer in Agronomy (BPS 17) w.e.f. 28.4.1998 to 14-10-2006 and Assistant professor (BPS 18) from 14-10-2006 to May, 2010 and as Associate professor w.e.f. 19-05 2010 to onward at PMAS -AAUR
Honor and Awards	Won the indigenous PhD Scholarship sponsored by Ministry of Science & Technology under the supervision of HEC in the first batch in open competition in 2001.
Memberships	Pakistan Botanical Society Pakistan Agricultural Scientist Forum Pakistan Agronomy Society Pakistan Weed Science Society
Graduate Students **Undergraduate Students** **Honour Students**	Number of students who were supervised and completed their M.Sc (Hons) degree-03 Ph.D - Nil
Service Activity	Teaching and Research.
Publications	Riaz.A, jane Nicklin, Irfan-ul-Huq, Abdur Rauf, G.Qadir and F. Naz. 2013. To Induced by Solanapyronea in Chickpea shoots and its Metabolism th Glutathione/Glutathione-S-Transferase System.Pak. J. Botany. Vol.45 (1): 139.(Impact .Factor) Qadir.G., M.Ikram,F.Hassan and R. Hayat. 2014. Interactive effect of Humic Ac plant growth promoting Rhizobacteria(PGPR)on growth and yield of maize under r conditions. Ref. No Pass/UCA/305.(Accepted- Hec.Recognized).

	Ali.Amjid,Rabia Khalid,G.Qadir,S.Ali,Z.Akram and R.Hayat. 2014. Plant g promoting characterization of Rhizosphere bacteria and re-inoculation respor Chickpea(Cicer arietinum L.) . Ref. No Pass/UCA/287.(Accepted-Hec.Recognized) Baloch.Nadir,M.Yousaf,W.P.Akhtar,Shah.F,B.Ullaha,G.Qadir and Z.IAhmad. Integrated Effect Of phosphate solubilizing bacteria and Humic acid on physiom attributes of maize.Int J.of current microbiology and applied sciences, Internat.J. Biol.) 3(6) (549-554) 2014.
Research Grants and Contracts.	Nil

Proforma 9

<table>
<tr><td>Name</td><td>Dr. Abdul Manaf</td></tr>
<tr><td>Personal</td><td>Name DR. ABDUL MANAF

Date of Birth 20-02-1970

Father’s Name Ghulam Muhammad

Permanent Address House # B2-17-S-11, Gondal Street, Machine Mohallah # 3 Jhelum, Punjab, Pakistan

Postal Address Department of Agronomy,
PMAS- Arid Agriculture University
Shamsabad, Murree Road, Rawalpindi,
PAKISTAN
E-mail: munafawan@yahoo.com drmunaf@uaar.edu.pk.</td></tr>
<tr><td>Experience</td><td>1.As Assistant Professor Agronomy(PMAS-Arid Arid Agriculture University, Rawalpindi)
(Present Position) 01-04-2010 to date
(BPS-19)

2.As Lecturer Agronomy (PMAS-Arid Agriculture University, Rawalpindi)
(19-02-2007 to 31-03-2010) (BPS-18)

As Assistant Director (Punjab Seed Corporation Lahore)
10-11-1996 to 14-09-2003</td></tr>
<tr><td>Honor and Awards</td><td>Got HEC Post Doctorate Fellowship in 2010</td></tr>
<tr><td>Memberships</td><td>Member Pakistan Society of Agronomy.</td></tr>
<tr><td>Graduate Students

Postdocs

Undergraduate

Students

Honour Students</td><td>
<table>
<tr><th>S.No</th><th>Name of the student</th><th>Topic</th><th>Year</th></tr>
<tr><td>1.</td><td>Tanveer Fatima
02-arid-57</td><td>Effect of Phizobium Stains on Agro-Physiological Traits of Mungbean Cultivars</td><td>2009</td></tr>
<tr><td>2.</td><td>Muhammad Asghar
07-arid-284</td><td>Response of Sesame to Agro Management Practices</td><td>2009</td></tr>
<tr><td>3.</td><td>Nasir Mahmood
04-arid-211</td><td>Effect of Sulphur Application on Yield and Quality and Quality of Oil of Linseed Cultivars under Rainfed Conditions</td><td>2010</td></tr>
<tr><td>4.</td><td>Tahira Batool
04-arid-225</td><td>Effect of Sulphur Gypsum Application on Yield and Quality and Quality of Oil of</td><td>2010</td></tr>
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			Groundnut Cultivars under Rainfed Conditions	
	5.	Mudassar Iqbal 03-arid-142	Comparative Study of Turkish and Iranian Safflower Cultivars under Rainfed Conditions	2010
Service Activity	*Teaching and Research.*			
Publications	1. Ahmad Sher, Muhammad Ansar, ***Abdul Manaf***, Abdul Qayyum, Muhammad Farhan Saeed and Muhammad Irfan. 2014. Hydrocyanic acid and Sugar Content Dynamics under Nitrogen and Sulphur Application to Forage Sorghum Cultivars. Turkish Journal of Field Crops. 19(1): 46-52. 2. Muhammad Asghar Shah, ***Abdul Manaf***, Mubshar Hussain, Shahid Farooq and Muhammad Zafar –ul- Hye. 2013. Sulphur Fertilization Improves the Sesame Productivity and Economic Returns under Rainfed Conditions. International Journal of Agriculture and Biology. 15(6): 1301-1306. *3.* Allah Wasaya, R. Ahmad, F.U. Hassan, M. Ansar, ***A. Manaf*** and A. Sher 2013. Enhancing crop productivity through Wheat (*Triticum aestivum* L.) Fenugreek intercropping system. J. Anim. Plant Sci. 23(1): 452-456.			

Proforma 9

<table>
<tr><td>Name</td><td colspan="7">Mukhtar Ahmed</td></tr>
<tr><td>Personal</td><td colspan="7">New Abadi Near Health Center Derbar Mushadi Village Hayal Shareef
P.O.Sadder G.P.O Tehsil & District Rawalpindi, Pakistan
Cell # Tel # (051) 5576675
E-mai- mukhtarahmedmalik@yahoo.com, ahmadmukhtar@uaar.edu.pk
Qualifications
<table>
<tr><th rowspan="2">Name of Institution</th><th rowspan="2">Place</th><th colspan="2">Period</th><th rowspan="2">Examination Passed</th><th rowspan="2">Division</th><th rowspan="2"></th></tr>
<tr><th>From</th><th>To</th></tr>
<tr><td>502 Model High School Lalazar Rawalpindi</td><td>Rawalpindi .</td><td>1984</td><td>1994</td><td>Matric</td><td>First</td><td></td></tr>
<tr><td>F.G Sir Syed College,the Mall Rawalpindi</td><td>Rawalpindi</td><td>1994</td><td>1996</td><td>F.Sc</td><td>First</td><td></td></tr>
<tr><td>PMAS-AAUR</td><td>Rawalpindi</td><td>1996</td><td>2000</td><td>B.Sc (Honours) Four Years (AGRICULTURE)</td><td>First</td><td></td></tr>
<tr><td>PMAS-AAUR</td><td>Rawalpindi</td><td>2000</td><td>2002</td><td>M.Sc (Honours)</td><td>First</td><td></td></tr>
</table></td></tr>
<tr><td>Experience</td><td colspan="7">Two-year experiences in conservation planning during study at NARC.I have conducted specialization studies on fatty acid composition in maize cultivars under drought conditions upto graduation level.Work experience with NGO (Human resource development).One year experience in agriculture extension and research as “Agricultural Officer”Worked as “Research Associate” in Agri link project (ALP)Working as “Lecturer” of Agronomy in PMAS-AAUR.</td></tr>
<tr><td>Memberships</td><td colspan="7">Nil</td></tr>
<tr><td>Graduate Students
Postdocs
Undergraduate Students
Honour Students</td><td colspan="7">Number of students who completed during the reporting period their
M.Sc (Hons) degree-. 3
Ph.D degree-</td></tr>
<tr><td>Service Activity</td><td colspan="7">Teaching and Research.</td></tr>
<tr><td>Publications</td><td colspan="7">• Impact factor-
• HEC recognized
• Non HEC recognized</td></tr>
<tr><td>Research Grants and Contracts.</td><td colspan="7">Nil</td></tr>
</table>

<table>
<tr><td>Name</td><td>Muhammad Naveed Tahir</td></tr>
<tr><td>Personal</td><td>House # 10, Lala Zar Colony, Sahiwal, Punjab, Pakistan
Cell # 03006917208
E-mai- naveed@uaar.edu.pk, naveednwsuaf@gmail.com

<table>
<tr><th rowspan="2">Name of Institution</th><th rowspan="2">Place</th><th colspan="2">Period</th><th rowspan="2">Examination Passed</th><th rowspan="2">Division</th></tr>
<tr><th>From</th><th>To</th></tr>
<tr><td>Government High School Sahiwal</td><td>Sahiwal</td><td>1993</td><td>1995</td><td>Matric</td><td>1st</td></tr>
<tr><td>Government College Sahiwal</td><td>Sahiwal</td><td>1995</td><td>1997</td><td>F.Sc (Pre-Medical)</td><td>1st</td></tr>
<tr><td>University of Agriculture Faisalabad</td><td>Faisalabad</td><td>1997</td><td>2001</td><td>B.Sc (Hons.) Agriculture</td><td>1st</td></tr>
<tr><td>University of Agriculture Faisalabad</td><td>Faisalabad</td><td>2001</td><td>2003</td><td>M.Sc (Hons.) Agronomy</td><td>1st</td></tr>
<tr><td>Northwest A&F University</td><td>China</td><td>2008</td><td>2012</td><td>Ph.D</td><td>1st</td></tr>
</table></td></tr>
<tr><td>Experience</td><td>Assistant Professor (June 2014 to date) PMAS-University of Arid Agriculture Rawalpindi, Pakistan
Lecturer (December 2004 to May 2014) PMAS-University of Arid Agriculture Rawalpindi, Pakistan</td></tr>
<tr><td>Memberships</td><td>International Society of Precision Agriculture (ISPA)
International Society of Optics and Photonics (SPIE)
Pakistan Society of Agronomy
Pakistan Botanical Society</td></tr>
<tr><td>Graduate Students

Undergraduate Students
Honour Students</td><td>Number of students who completed during the reporting period their
M.Sc (Hons) degree - Nill
Ph.D degree – Nill
6 Students</td></tr>
<tr><td>Service Activity</td><td>Teaching and Research.</td></tr>
<tr><td>Publications</td><td>Impact factor – 11.43
Muhammad Naveed Tahir, Jun Li, Bingfeng Liu, Gangfeng Zhao, Fuqi Yao, Chengfeng Cui. 2013. Hyperspectral estimation model for nitrogen contents of summer corn leaves under rainfed condition. Pakistan Journal of Botany, 45 (5): 1623-1630. (Impact factor 1.21).</td></tr>
</table>

	Wang X, C., J. Li. **M. Naveed Tahir**, M. Hao. **2012**. Sustainable recovery of soil desiccation after alfalfa (*Medicago sativa L*.) by grain crop rotation system in the semi-humid region on the Loess Plateau. Agriculture, Ecosystem and Environment, 161: 152– 160 (**Impact factor 3.94**). Liu Bingfeng, Li Jun, Zhao Gangfeng, **M. Naveed Tahir** and He Jia. **2012**. Total nitrogen contents estimation model of summer maize leaves using hyperspectral remote sensing. Plant nutrition and fertilizer science, 18 (14), 813-824 (In Chinese with English abstract). Zhao ganfeng, Li Jun, Liu Bingfeng, **M. Naveed Tahir**. **2012**. Monitoring model of leaf nitrogen contents of winter wheat in guanzhong district by hyperspectral remote sensing. Journal of triticeae crops, 32 (3): 530-536 (In Chinese with English Abstract). **Conference Paper** **Muhammad Naveed Tahir**, Jun Li, Bingfeng Liu, Gangfeng Zhao, Fuqi Yao, Chengfeng Cui. Model for remote estimation of nitrogen contents of corn leaf using hyperspectral reflectance under semi- arid condition was presented on **July, 2011** at **11 ICPA Conference, Indiana polis, USA.**
Research Grants and Contracts.	Nil

Proforma 9

Name	Safdar Ali
Personal	Lecturer Department of Agronomy Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi

NAME: SAFDAR ALI
FATHER'S NAME: Muhammad Akram Khan
PROFESSION: Teaching (Education)
ADDRESSES: Chak No. 36 J.B. (West), Tehsil and District, Faisalabad.
NATIONALITY: Pakistani
NIC NO 33100-0766952-7
DATE OF BIRTH: 01-10-1974
DOMICILE: Punjab (Faisalabad)
MARITAL STATUS: Married
PHONE: Res. 092 418796110, Mobile. 0 92 308-5261880
E-mail: safdarkhan36@yahoo.com/safdaraliarid@yahoo.com

II. ACADEMIC QUALIFICATION

Degree	Name of Board/University	Year	Division	Marks				
				Total	Secured	%		A
M.Sc. (Hons.) Agri. (Major Agronomy)	University of Agriculture, Faisalabad	2000	First	900	637	71		/4.0
B.Sc. (Hons.) Agri (Major Agronomy)		1998	First	4000	2709	68		3.16/
F.Sc. (Pre-Medical	Board of Intermediate and Secondary Education, Faisalabad	1992	First	1100	704	64		-
Matric		1990	First	850	696	82		-

Experience

JOB EXPERIENCE

Technical Sales Officer, Syngenta Pakistan Ltd — Dec. 23, 2000 to Feb.17, 2004

Working areas,

Sargodha, Khushab, Qaidabad, Soon Valley, Shahpur, Nawan Lok Sahiwal , Farooqa, Sillanwali, Bhagtanwala, Moazamabad, Jhang,

	Shorkot, Shorkot cantt, Waryamwala, Mandi Shah Jewna, Mallumore. Duties • Conduct research trials on different crops for their adoptability and response to different agricultural inputs and preventive measures. • Conduct seminars of large and small farmer to transfer latest production technology to improve the yield and profitability of different crops. • Provide technical field advisory services to progressive growers and farm managers. • Teaching and technical training of field staff. • Management and supervision of technical staff to transfer latest agriculture inputs to different farmers. Territory Manager Feb. 17, 2004 to 20.12.2005 (Sales and Marketing), Ali Akbar Enterprises Pakistan Ltd. Working areas, Faisalabad, Jaranwala, Samundri, Tandlianwala, Satiana, Dijkot, Pansara, Bhowana, Aminpur Banglow, Khurrianwala, Shahkot, Sangla Hill, Jhumra, PindiBhattian, Chiniot, Lalian, Sial More. Duties • Conduct research trials on different crops for their adoptability and response to different agricultural inputs and preventive measures. • Conduct seminars of large and small farmer to transfer latest production technology to improve the yield and profitability of different crops. • Provide technical field advisory services to progressive growers and farm managers. • Teaching and technical training of field staff. • Management and supervision of technical staff to transfer latest agriculture inputs to different farmers. • Monitoring and coaching of different publication and brochure of different agricultural inputs. • Manage advertisements of different agricultural inputs through field works and media. Area Manager 20.12.2005 to 27.10.2006 (Sales and Marketing), Ali Akbar Enterprises Pakistan Ltd. Working areas,

	Jhang, Shorkot, Pirmahal, Sandhilianwali, Rajhana, Toba Tek Singh, Gojra, Ahmad pur Sial , Garh Maharaja, Kot Bahadar, 18 Hazari, Mallumore, Muridwala, Khidarwala, Nia Lahore, Mandi Shah Jewana, Akrianwala. Duties • Conduct research trials on different crops for their adoptability and response to different agricultural inputs and preventive measures. • Conduct seminars of large and small farmer to transfer latest production technology to improve the yield and profitability of different crops. • Provide technical field advisory services to progressive growers and farm managers. • Teaching and technical training of field staff. • Management and supervision of technical staff to transfer latest agriculture inputs to different farmers. • Monitoring and coaching of different publication and brochure of different agricultural inputs. • Manage advertisements of different agricultural inputs through field works and media. • Management of cash collection and transactions. • Management of the supply of the products. • Collation with Franchise for business improvement. Zonal Manager, (Sales and Marketing) 06.01.2007 to 15-09-2007 Sayban International, Pakistan. Working areas, Faisalabad, Chiniot, Sargodha, Khushab, Mianwali, Piplan, Jhang, Toba Tek Singh, Samundri, Tandlianwala, Jaranwala, Gojra, Pansara, Dijkot, Shahkot, Sangla Hill, Jhumra, Ahmad Pur Sial, 18 Hazari, Shorkot, Pirmahal, Sandhilianwali. Duties • Conduct research trials on different crops for their adoptability and response to different agricultural inputs and preventive measures. • Conduct seminars of large and small farmer to transfer latest production technology to improve the yield and profitability of different crops. • Provide technical field advisory services to progressive growers and farm managers. • Teaching and technical training of field staff. • Management and supervision of technical staff to transfer latest

	agriculture inputs to different farmers. • Monitoring and coaching of different publication and brochure of different agricultural inputs. • Manage advertisements of different agricultural inputs through field works and media. • Management of cash collection and transactions. • Management of the supply of the products. • Collation with Franchise for business improvement.
Honor and Awards	ACADEMIC ACHIEVEMENTS • Merit scholarship in middle • Merit scholarship in Matric.
Memberships	
Graduate Students Undergraduate Students *Honour Students*	2 Students
Service Activity	*Teaching and Research.*
Publications	Ali. S., Sahiba, M. A. Malik, F. U. Hassan and M. Ansar. 2012. Growth of rainfed fodder maize under different levels of nitrogen and phosphorus. Pak. J. Agri. Res. 25 (3):196-205. Ali. S., M. A. Malik, M. Ansar and R. Qureshi. 2014. Weed growth dynamics associated with rainfed wheat (*Triticum aestivum* L.) establishment under different tillage systems in pothwar. Int. J. Pl. Ani. & Env. Sci. Vol. 4(2): 146-154.

Name	**Fozia Kanwal**
Personal	Department of Agronomy PMAS-Arid Agriculture University Rawalpindi Cell #: +92-332-7530891 E-mail: fozia44100@yahoo.com

Name of Institution	**Place**	**Period**		**Examination Passed**	**Division**	
		From	To			
502 Model High School Lalazar Rawalpindi	Rawalpindi .	1984	1994	Matric	First	
F.G Sir Syed College,the Mall Rawalpindi	Rawalpindi	1994	1996	F.Sc	First	
PMAS-AAUR	Rawalpindi	2005	2009	B.Sc (Honours) Four Years (AGRICULTURE)	First	
PMAS-AAUR	Rawalpindi	2009	2011	M.Sc (Honours)	First	

Experience	**Lecturer at Department of Agronomy, PMAS-Arid Agriculture University Rawalpindi** July 13, 2012 – March 12,2015 **Researcher &Script Writer at Sohni Dharti TV** March, 2010 – August, 2010
Memberships	Nill
Graduate Students Undergraduate Students Honour Students	Number of students who completed during the reporting period their M.Sc (Hons) degree - Nill Ph.D degree – Nill Nill
Service Activity	Teaching and Research.
Publications	Nill
Research Grants and Contracts.	Nil