Pir Mehr Ali Shah

ARID AGRICULTURE UNIVERSITY RAWALPINDI

DEPARTMENT OF AGRONOMY

Self Assessment Report
B.Sc. (Hons.) Agriculture
2010-2012

Program Team

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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. The department is involved in production of food, fiber and fodder crops 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.

Department offers research oriented B.Sc.(Hons.) , M.Sc.(Hons.) and Ph.D. degrees in Agriculture 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 and variety of courses are offered by the department viz. Nutrient Management / Nutrient Use Efficiency, Field Crop Physiology, Stress Physiology, Farming Systems, 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 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 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: PROGRAM MISSION, OBJECTIVES AND OUTCOMES

Criterion-1: Program Mission, Objectives and Outcomes

Agriculture is a fascinating and complex industry with international extents. The Department of Agronomy presents students with the acquaintance and ability 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 Department is to increase yield production, quality and profit by utilizing crop possessions and crop physiology. Department 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 Department of Agronomy:

The Mission of Agronomy department is to educate and impart training to B. Sc. (Hons.) agri. students by increasing scientific knowledge and their skills to make them productive.

Standards:

Standards 1.1: Documented measurable objectives

Objectives:

The main objectives of the Agronomy department are as below:

- To build up the Department of Agronomy on modern lines for education and training at B. Sc. (Hons.) levels.
- To impart basic and practical knowledge and scientific skills in the concerned field.
- To train the students for Integration of multidimensional field.
- Anticipation of new teaching/researchable areas.

Outcomes:

- Strengthening of the Department was carried out on modern lines for basic education.
- The students were imparted basic theoretical and practical knowledge.
- Integration was achieved through internship program.
- Anticipation of new teaching areas was achieved through updation of the curricula.

Main elements of strategic plan to achieve mission and objectives

- Growth of sound training system based on occurrence and vision gathered by developing diversity in bachelor course contents.

- By frequently revising and updating the basic core and elective courses as well as study tours.
- By imparting the practical knowledge and laboratory skills to the undergraduate students.

Program objectives assessment

Table 1 : objective assessment

Sr. #	Objectives	How Measured	When Measured	Improvement Identified	Improvement Made
1	Development & Strengthening of Agronomy Department for imparting sound footing education to B.Sc. students	On the basis of SAR and conductance of examination	During the conductance of examination and SAR in each semester	Teaching methodology and course updation 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 students	knowledge of students was measured through conducting exams during the semester	after the conductance of exams	Some new courses need to be included in the curriculum	Curricula has been revised as per requirement of HEC
3	Integration of related field	by conducting comprehensive test	at the end of 8th semester	Related subject to be recommended or studied	Enhancement of knowledge and vision
4	Anticipation of new teaching areas	With the need of current advancement in the relevant areas	Continuous activity	New courses to be included in curriculum,	Approval of new curriculum

Table 2: Standard 1.2 :

Objectives vs outcomes

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

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

Proforma 1 & 10 Course and Teacher Evaluation

Course Evaluation (Fall 2010-11)

AGR-401	Winter Crops	3(2-2)	Dr. Allah Wasaya

Data was collected from 50 students. Overall 52% of the students strongly agreed and 42% were agreed that the course were clear. However the more than 80% of the students were strongly agreed and agreed that the course workload was manageable. More than 48% of the students are of the view that they made progress in the the course. Data regarding individual parameter is depicted in the pie chart graph. 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, the material was well organized and presented, the instructor was responsive to student needs and problems and the material in the tutorials was useful.

Comments/ Suggestions

1. The course presents the current and future of agriculture management.
2. Presentations are good part of this course.
3. Technical knowledge is good but internet facility is poor.
4. Course completed in due time and very interesting
5. Field visit and practical work improved our knowledge.
6. Class environment was friendly and conducive for learning.

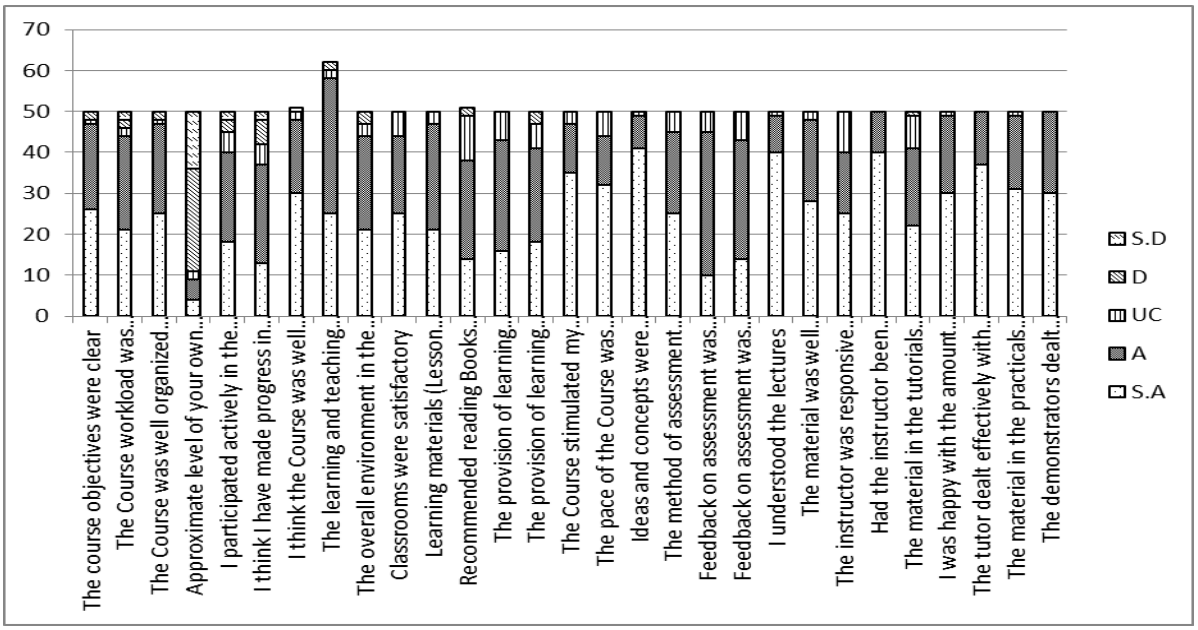

Figure-1: Course Evaluation AGR-401 Fall 2010

Dr. Allah Wasaya **Teacher Evaluation**

Data were collected from 50 students. The individual parameter showed that the students are strongly agreed (62% and 64 % respectively) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 90 % of the students were strongly agreed and and agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 90% students are of the view that the Instructor arrived and leave the class on timeand returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Environment was friendly and conducive for learning.
2. Good way of teaching.
3. Scientific approach with good communication skills.
4. Teacher was punctual reached and leave tha class in time.

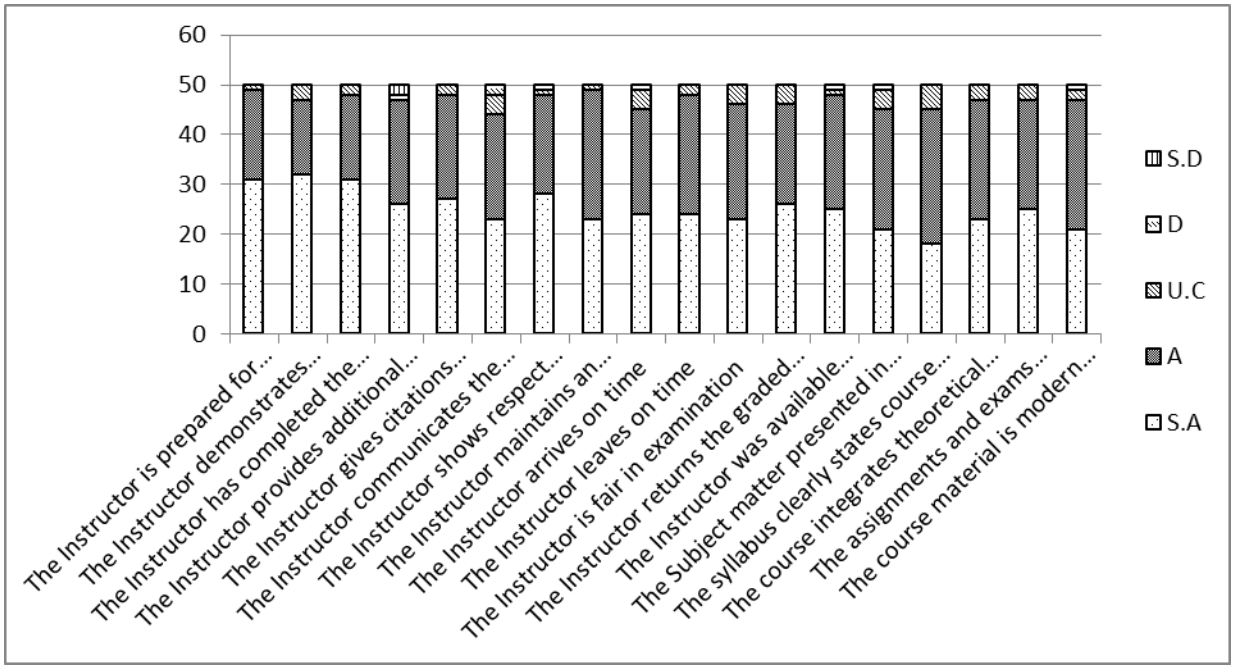

Figure-2: Teacher Evaluation AGR-401, Fall 2010

AGR-501 **Course evaluation**

Data was collected from 187 students. The individual parameter showed that 80% of the students agreed that the course objectives were clear. More than 70% of the students were strongly agreed and agreed that the course workload was manageable and well organized. The 62% of the students strongly agreed that they actively participated 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 (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. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the material was well organized and presented, the method of assessment were reasonable, 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

1. The course presents the current and future needs of agriculture management especially in rainfed areas.
2. Technical knowledge was good.
3. Course completed in due time and very interesting
4. This course should be made more practical by including practical part and farm visits.

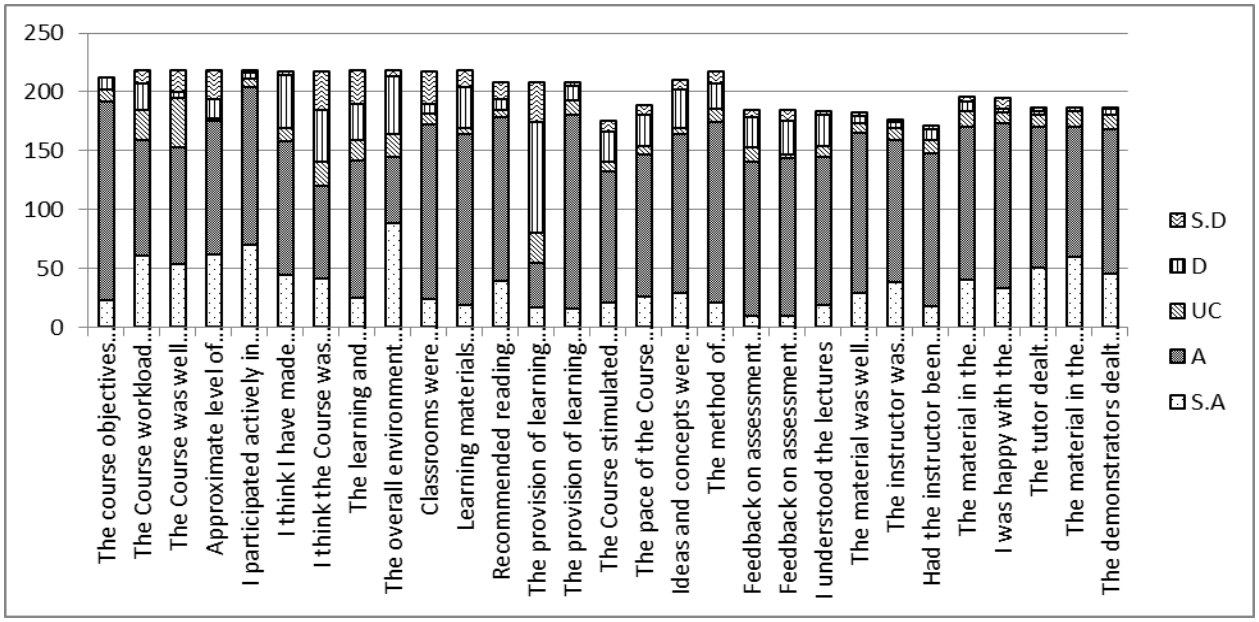

Figure-3: Course Evaluation AGR-501 Fall 2010

Data were collected from 187 students which showed that the students were strongly agreed (37% and 31 % respectively) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 70 % of the students were strongly agreed and agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 80% students are of the view that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Environment was friendly .
2. Teaching method was good.
3. Has scientific approach with good communication skills.
4. Teacher was punctual reached and leave tha class in time.

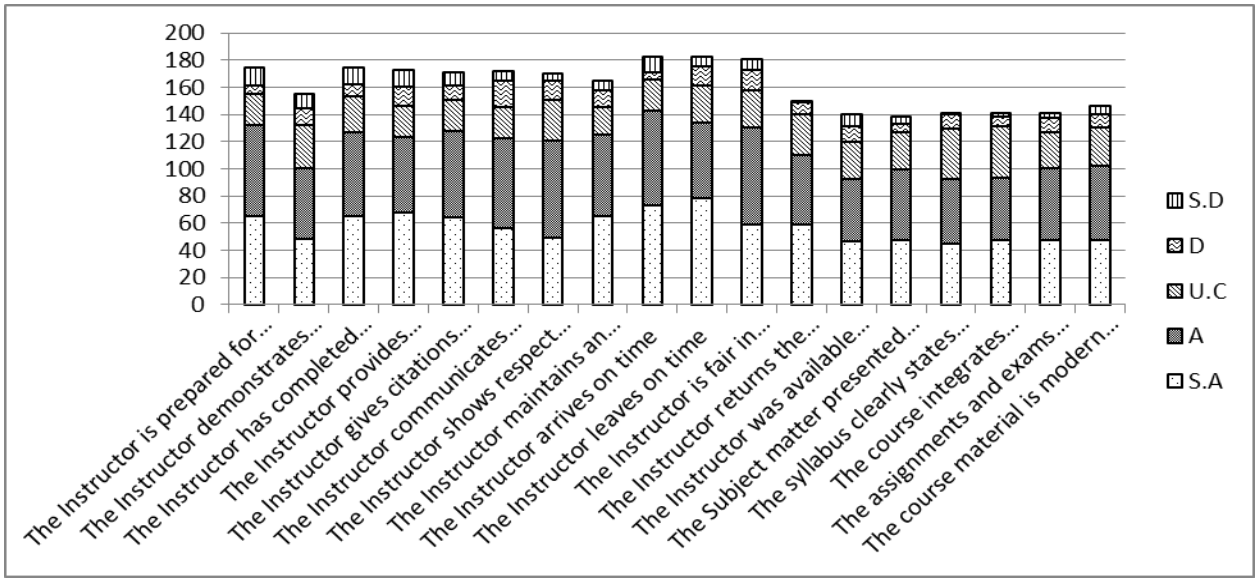

Figure-4: Teacher Evaluation AGR-501, Fall 2010

AGR-507 **Course Evaluation**

Data was collected from 11 students. The individual parameter data showed that 67% of the students strongly agreed that the course objectives were clear. More than 58% of the students strongly agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). The 75% of the students strongly 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. Most of the students agreed that 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. 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, instructor was regular throughout the course and the material in the tutorials was useful.

Comments/ Suggestions

1. The course presents the current and future needs of agriculture management.
2. Technical knowledge is good but internet facility is poor.
3. Course completed in due time and very interesting
4. Seed is an important component for getting good yield and we got lot of information from this course which should be made more practical and farm visits should be included.

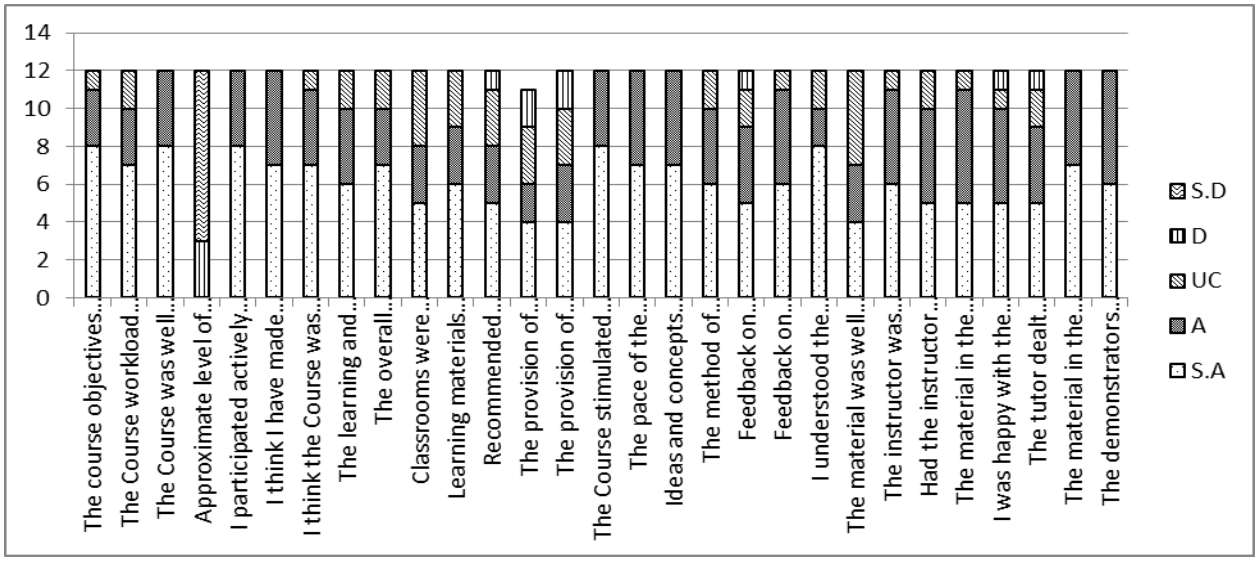

Figure-5: Course Evaluation AGR-507, Fall 2010

Data were collected from 11 students. The individual parameter showed that the students are strongly agreed (73%) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 60% of the students were strongly agreed and and 27% agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More 70% students are of the view that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Environment was friendly and conducive for learning.
2. Good communication skills.
3. Teacher was punctual
4. Delivered the subject matter in an effective way.

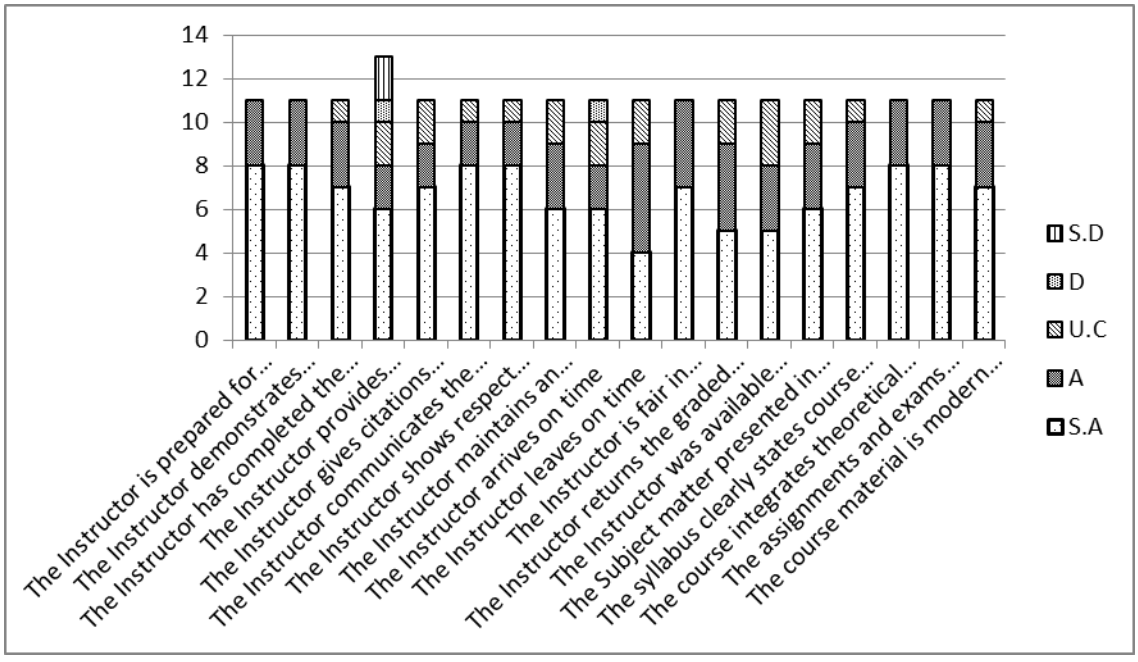

Figure-6: Teacher Evaluation AGR-507, Fall 2010

AGR-605 **Course Evaluation**

Data were collected from 19 students. The individual parameter showed that 55% of the students strongly agreed that the course objectives were clear. About 25% of the students strongly agreed and 50% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that 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 conducive 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. 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, 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

1. Basic knowledge was very good.
2. Course related to recent issues and achievement in biological nitrogen fixation.
3. Instructor comes with full preparation and way of delivery was very good.
4. We made progress during the course.

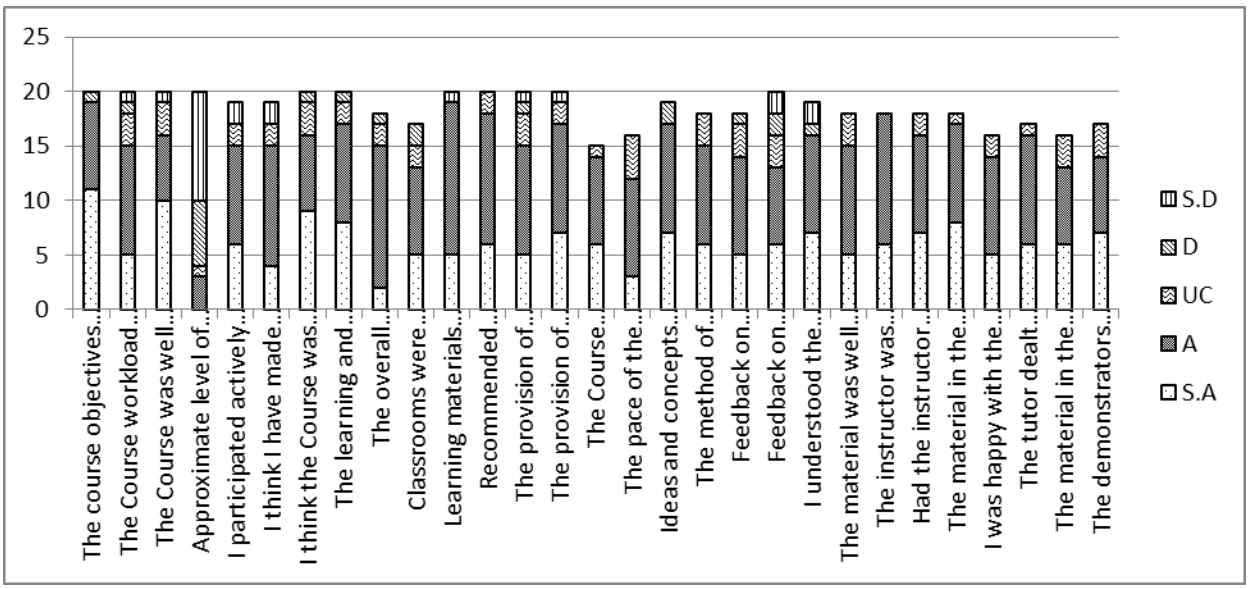

Figure-7: Course Evaluation AGR-605, Fall 2010

Dr. M. Rasheed **Teacher Evaluation**

Data were collected from 19 students. The individual parameter showed that the students are strongly agreed (41%) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. About 50% of the students were strongly agreed and and 43% agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. 77% students are of the view that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Insructor is very cooperative.
2. Insructor was very friendly to the students
3. Hard working and positive attitude.
4. Method of teaching is very effective.

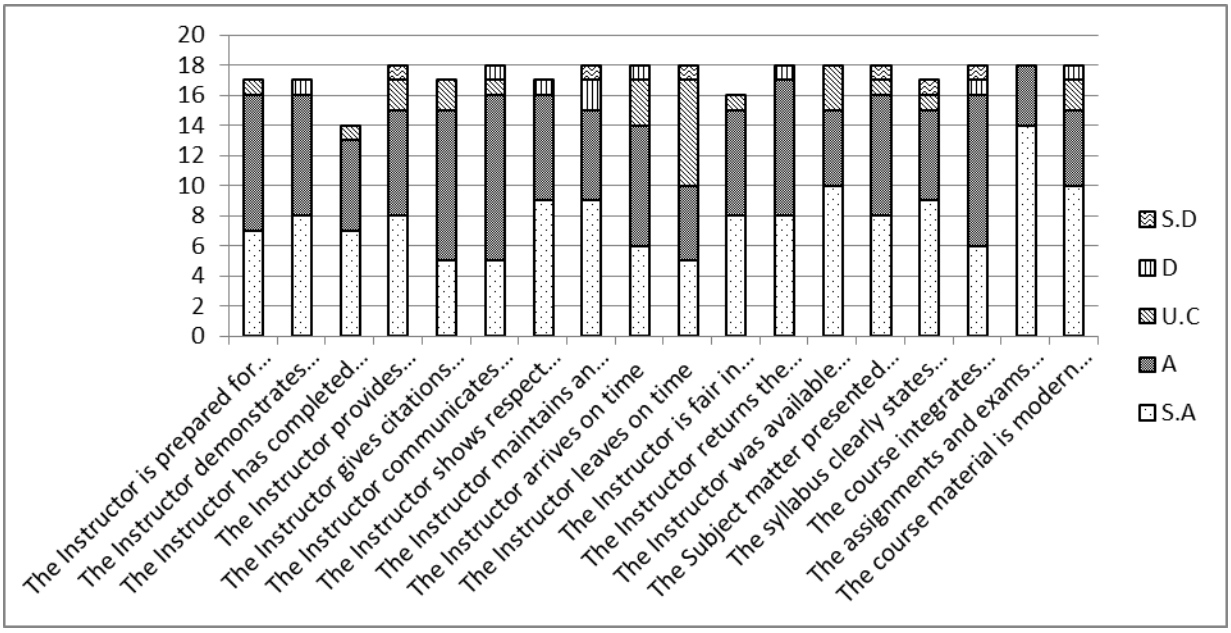

Figure-8: Teacher Evaluation AGR-605, Fall 2010

Data were collected from 22 students. The individual parameter showed that 64% of the students strongly agreed that the course objectives were clear. More than 90% of the students strongly agreed and agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that 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 conducive 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. 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, 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

1. The course was made informative by field visits.
2. Topics related to extinct Species were interesting.
3. Basic knowledge was very good.
4. Course related to recent issues and achievement in filed crop ecology.
5. We made progress during the course.

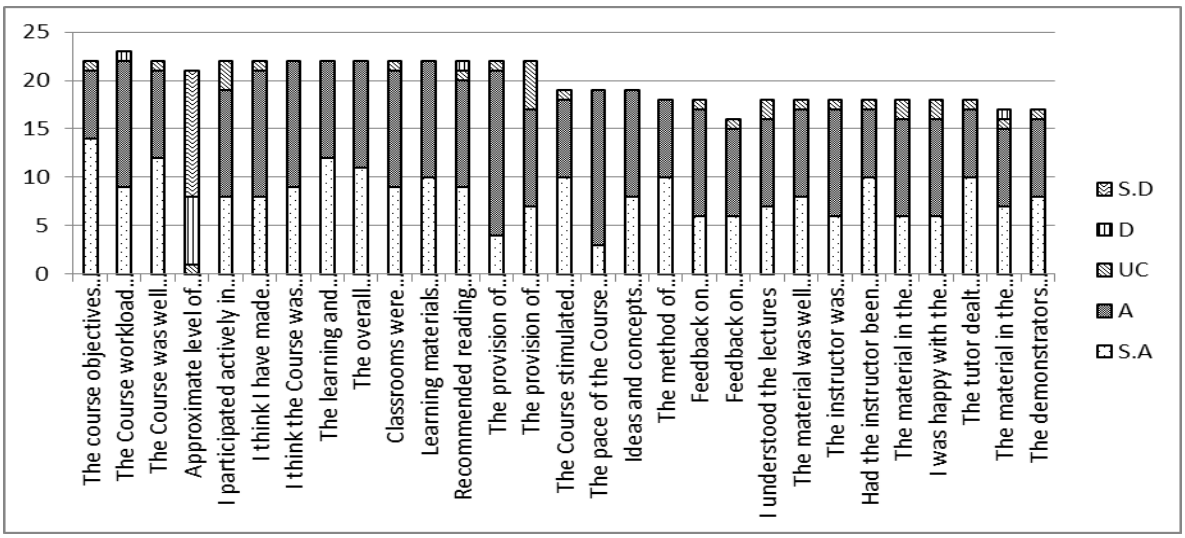

Figure-9: Course Evaluation AGR-607, Fall 2010

Data were collected from 11 students. The individual parameter showed that the students are strongly agreed (73%) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 60% of the students were strongly agreed and and 27% agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More 70% students are of the view that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Insructor is very cooperative.
2. He has good personality and his method of teaching is very effective.
3. Course was very informative.
4. Insructor very friendly to the students and facilitate the learning mind
5. Hard working and positive attitude.
6. We made progress during the course.

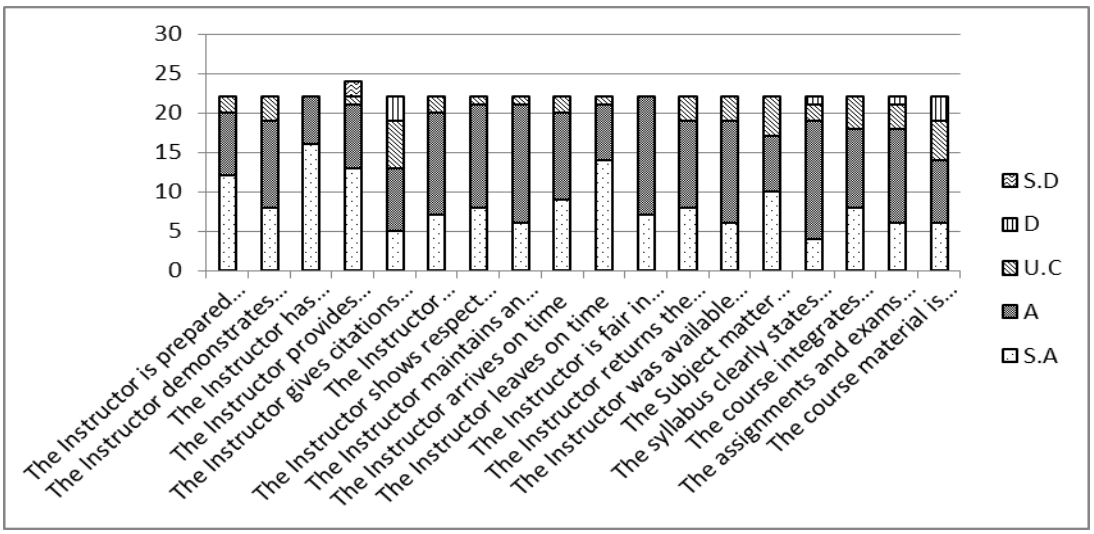

Figure-10: Teacher Evaluation AGR-607, Fall 2010

Data were collected from 16 students. The individual parameter showed that 50% of the students strongly agreed and 50% agreed that the course objectives were clear. More than 40% of the students agreed and 50% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). About 57% of the students were strongly agreed and 36% agreed that 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 conducive 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 method of assessment were reasonable, the material was well organized and presented, instructor was regular throughout the course and the material in the tutorials was useful.

Comments/ Suggestions

1. Understandable and conceptual.
2. New ideas related to the course .
3. Sufficient knowledge.
4. Recent advance knowledge was presented in the class.
5. Course was interesting, informative and completed in due time

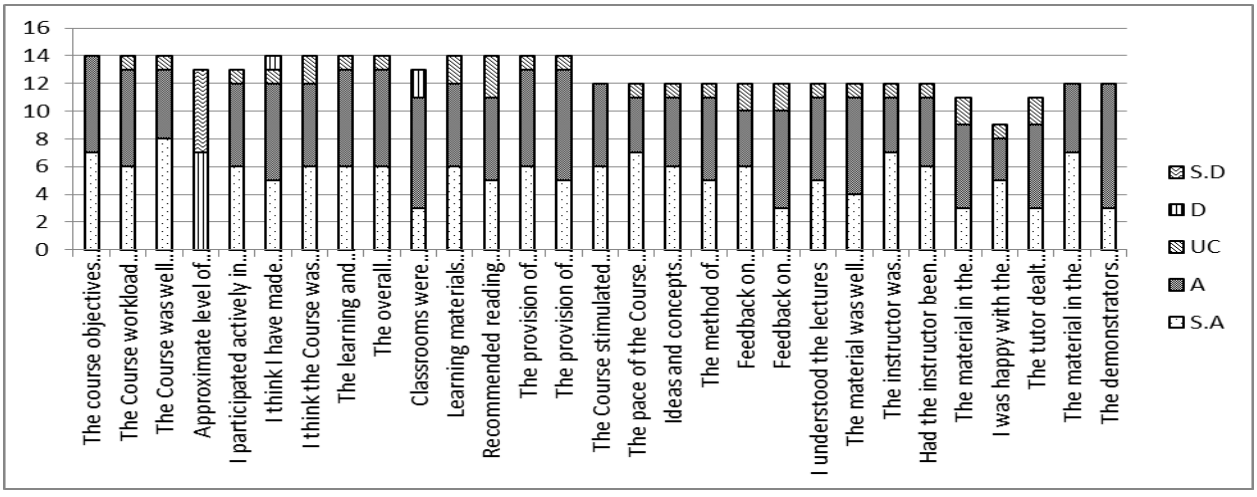

Figure-11: Course Evaluation AGR-609, Fall 2010

Data were collected from 16 students presented in the form of graphs. It is depicted from the graphs that 76% students were strongly agreed that the teacher is prepared for each class and demonstrate very effectively the subject knowledge. About 53% of the students were strongly agreed and 41% agreed that the instructor has completed whole the course and provide additional information and also fair in examination. Similarly, 65% students agreed and 35% agreed that instructor communicates the subject knowledge effectively. All of the students were stronglyt agreed that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Good teaching method.
2. Hard working and prepared for each class.
3. His lectures were informative.
4. He has good command on his subject.

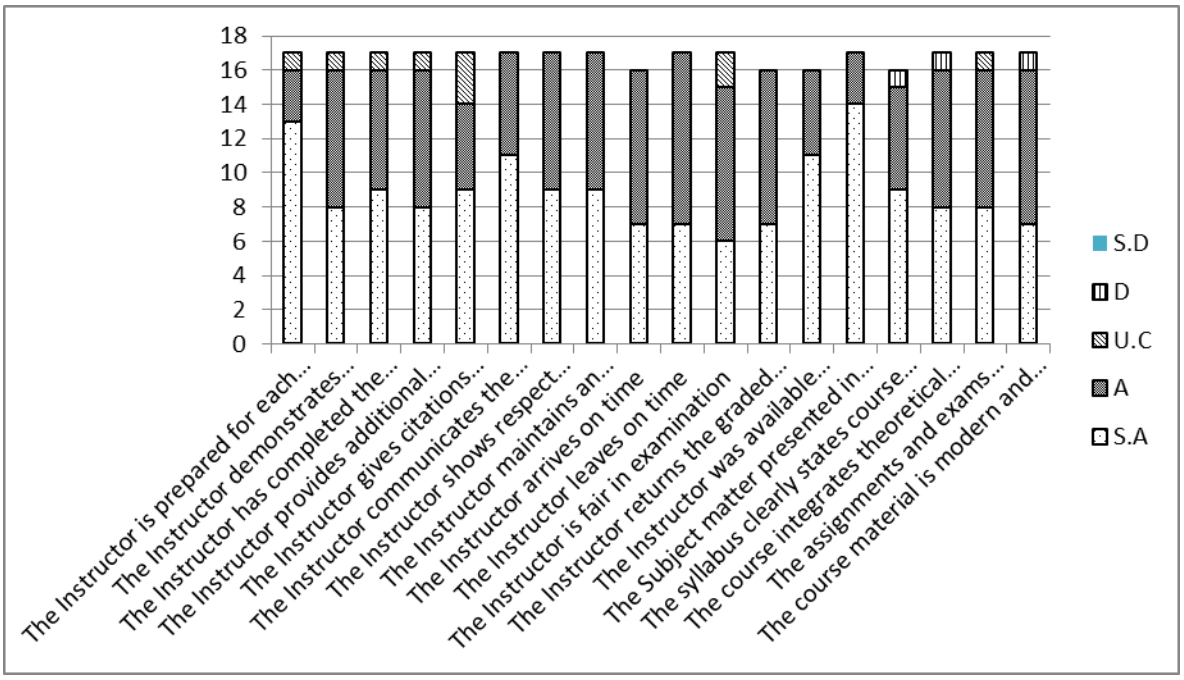

Figure-12: Teacher Evaluation AGR-609, Fall 2010

AGR-611 **Course Evaluation**

Data were collected from 17 students. The individual parameter showed that 47% of the students strongly agreed that the course objectives were clear. More than 59% of the students agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). 53% of the students were strongly agreed and 41% agreed that 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 conducive to learning, and classrooms were satisfactory. 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, 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

1. Understandable and conceptual.
2. New ideas related to the course.
3. Satisfactory.
4. Sufficient knowledge.
5. Recent advance knowledge was presented in the class.

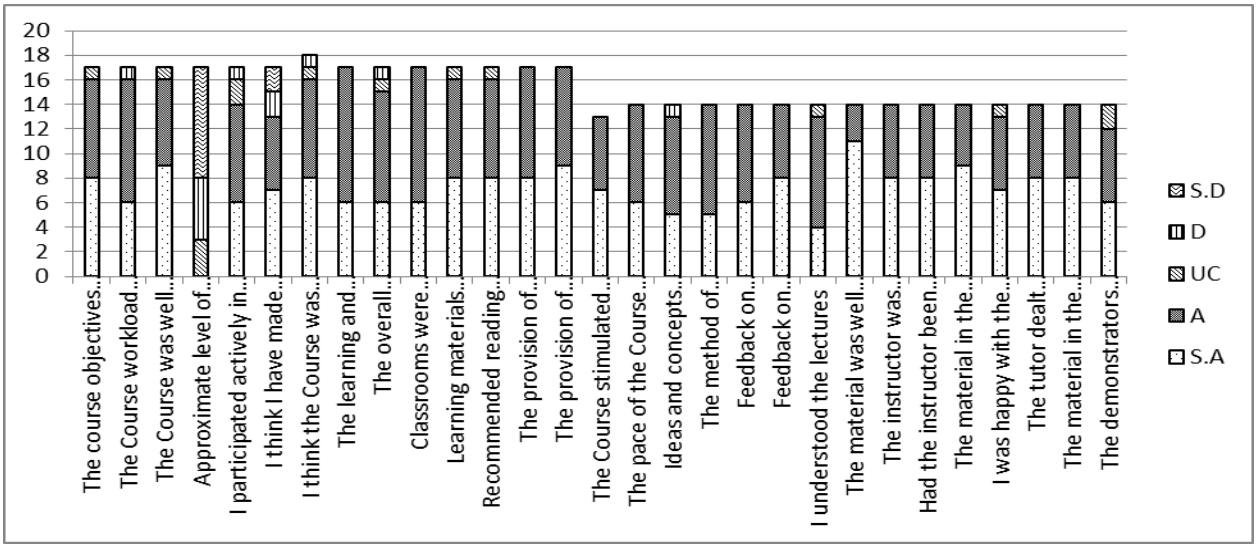

Figure-13: Course Evaluation AGR-611, Fall 2010

Data were collected from 17 students. The individual parameter showed that the students are strongly agreed (65%) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 50% of the students were strongly agreed and and 47% agreed that the instructor has completed whole the course in time, provide additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 90% students are of the view that the instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that the instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Insructor is very cooperative.
2. He has good personality and his method of teaching is very effective.
3. He has good communication skill.
4. Insructor taught us in a friendly environment.
5. Hard working and positive attitude.

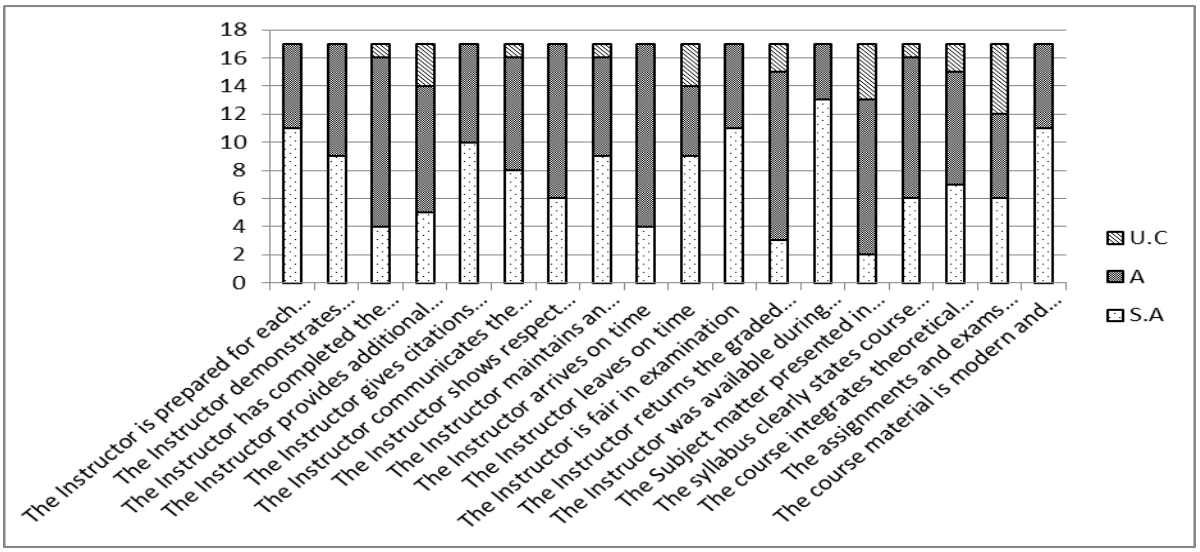

Figure-14: Teacher Evaluation AGR-611, Fall 2010

Spring 2011

AGR-302 **Course Evaluation**

Data was collected from 50 students. Overall 67% of the students strongly agreed and 30% were agreed that the course objective were clear. However the more than 90% of the students were strongly agreed and agreed that the course workload was manageable. All the students are of the view that they have made progress in the the course. Data regarding individual parameter is depicted in the pie chart graph. 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, the material was well organized and presented, the instructor was responsive to student needs and problems and the material in the tutorials was useful.

Comments/ Suggestions

1. Class rooms should be made feasible by installing AC because due to fans noise occur which create a problem in listening the lectures.
2. The course presents the current and future of agriculture management.
3. Technical knowledge is good but internet facility is poor.
4. Course completed in due time and very interesting
5. Field visit and practical work improved our knowledge.
6. Class environment was friendly and conducive for learning.

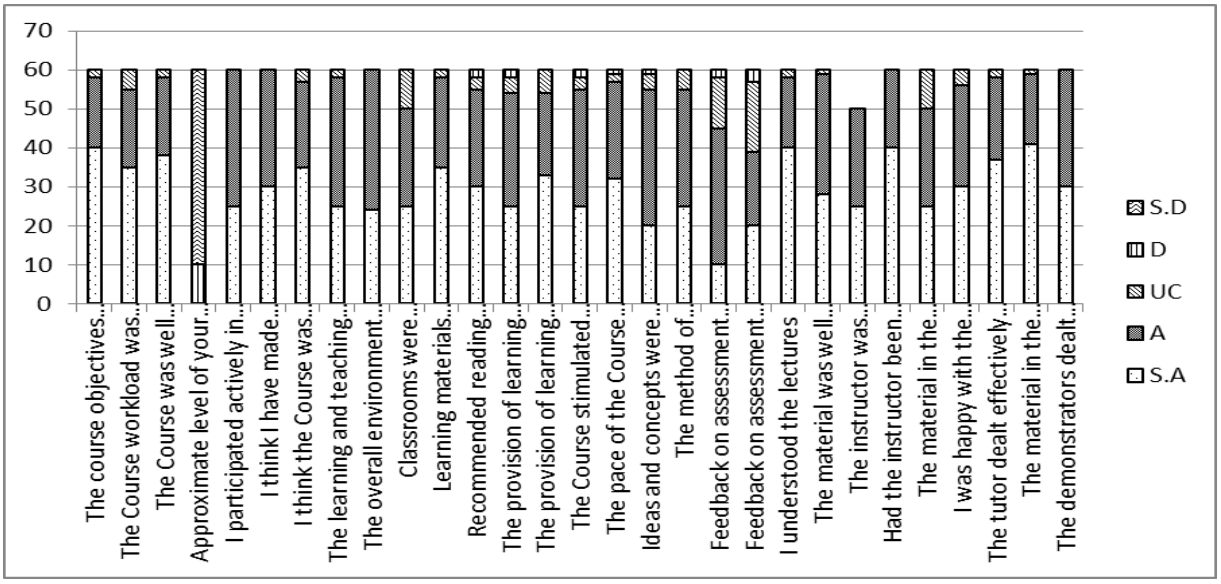

Figure-15: Course Evaluation AGR-302, Spring 2011

Data were collected from 50 students. The individual parameter showed that the students are strongly agreed (75% and 63 % respectively) that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 95 % of the students were strongly agreed and and agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 98% students are of the view that the Instructor arrived and leave the class on timeand returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Environment was friendly and conducive for learning.
2. Good way of teaching.
3. Scientific approach with good communication skills.
4. Teacher was punctual reached and leave tha class in time

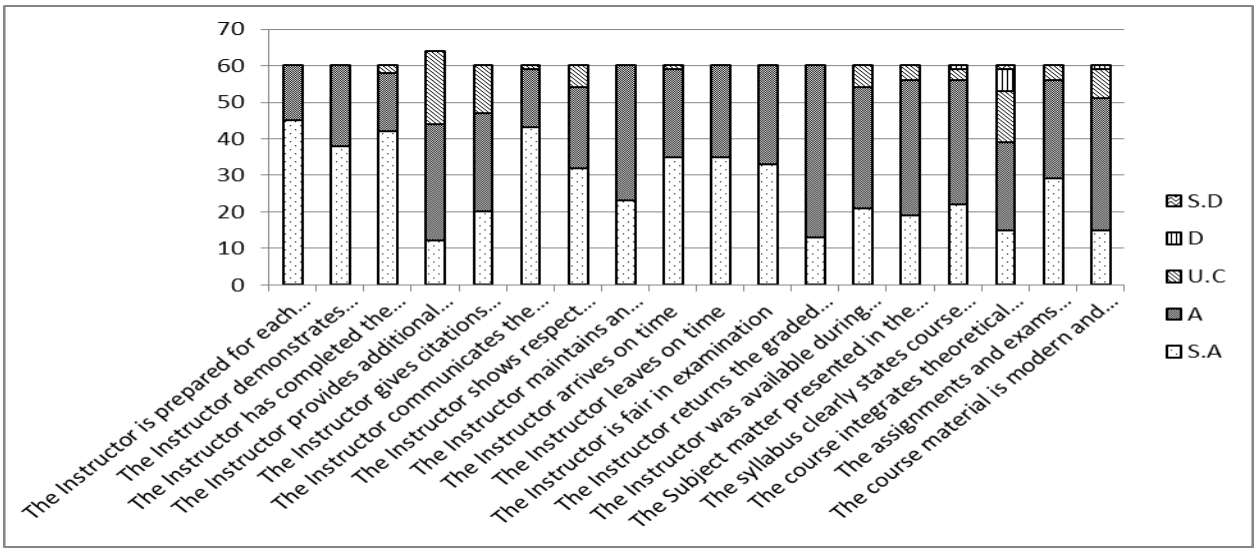

Figure-16: Teacher Evaluation AGR-302, Spring 2011

AGR-302 **Course Evaluation**

Data were collected from 150 students out of which more than 90% students agreed that the course objectives were clear and 87% students were agreed and strongly agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 27% students were strongly agreed and 60% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also agreed that the pace of the Course was appropriate, concepts were presented clearly and the assessment method was reasonable. They were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed in due time

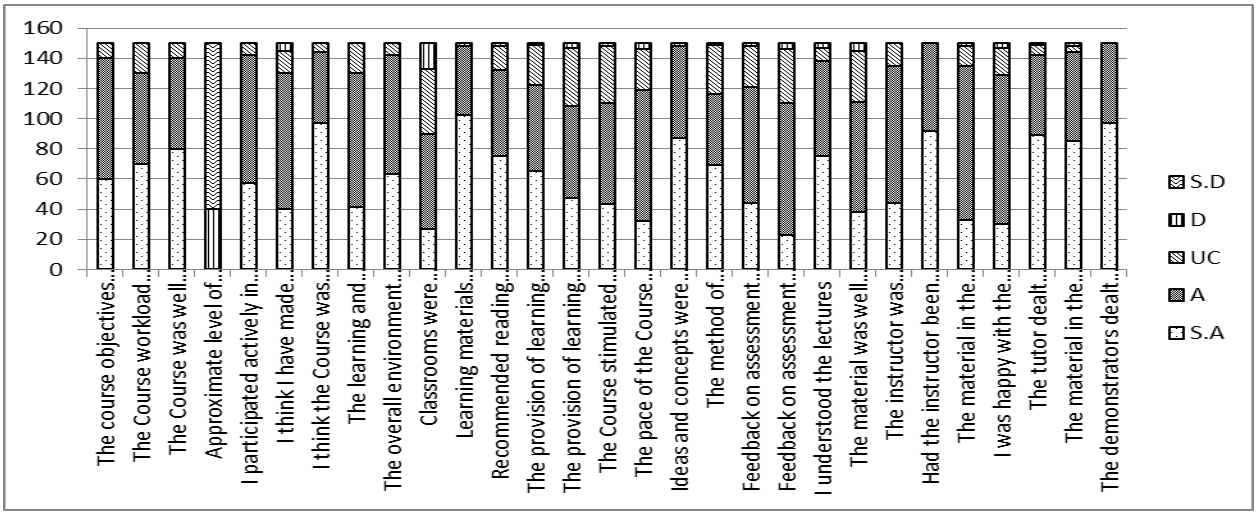

Figure-17: Course Evaluation AGR-302, Spring 2011

Dr. Fayyaz-ul- Hassan **Teacher Evaluation**

Data were collected from 150 students. It is depicted from the graph that 80% students were strongly agreed and 20% agreed that the teacher is prepared for each class and demonstrate very effectively the subject knowledge. More than 70% of the students were strongly agreed and and 25% agreed that the instructor has completed whole the course and provide additional information and also fair in examination. Similarly, most of the students agreed that instructor communicates the subject knowledge effectively and showed respect towards students and encourages class participation effectively and maintained an environment that was conducive to learning. 65% students stronglyt agreed and 35% agreed that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Insructor is very cooperative.
2. His method of teaching is very effective.
3. Insructor was very friendly to the students and facilitate the learning mind
4. Hard working and prepared for each class.
5. Instructore was well disciplined, nice and humble.
6. His lectures were informative and full of knowledge.
7. He has good command on his subject.

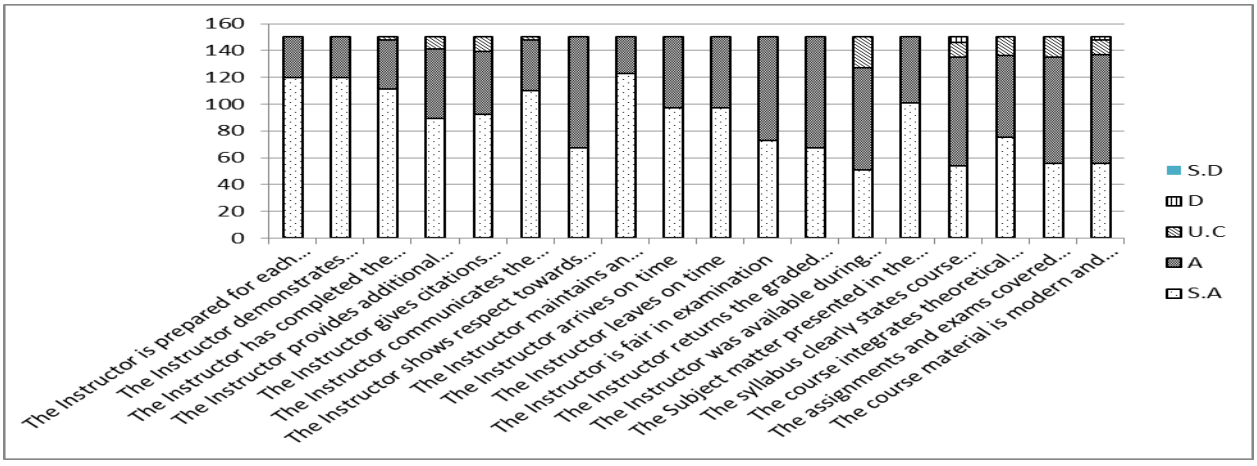

Figure-18: Teacher Evaluation AGR-302, Spring 2011

AGR-402 **Course Evaluation**

Data was collected from 53 students and 28% of the students strongly agreed that the course objectives were clear. However the more than 36% of the students were strongly agreed and agreed that the course workload was manageable. Most of the students are of the view that they made progress in the the course. Data regarding individual parameter is depicted in the pie chart graph. 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, the material was well organized and presented.

Comments/ Suggestions

1. Technical knowledge is good.
2. Course completed in due time and very interesting
3. Class environment was friendly and conducive for learning
4. Understandable and conceptual.
5. Ideas presented clearly and precisely.

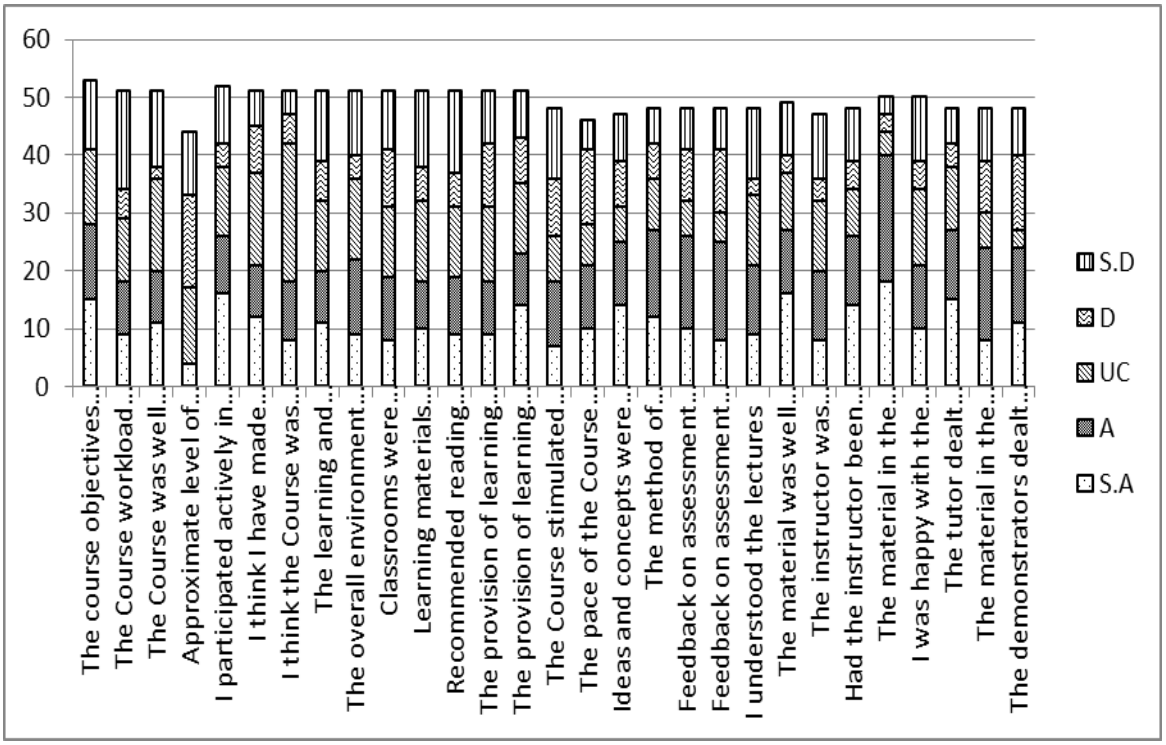

Figure-19: Course Evaluation AGR-402, Spring 2011

Data were collected from 53 students which is presented in the form of pie chart graphs. It is depicted from the graphs that 48% students were strongly agreed and 30% agreed that the teacher is prepared for each class and demonstrate very effectively the subject knowledge. More than 32% of the students were strongly agreed and and 26% agreed that the instructor has completed whole the course and provide additional information and also fair in examination. Similarly, most of the students agreed that instructor communicates the subject knowledge effectively. About 42% students stronglyt agreed and 22% agreed that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Instructor's method of teaching was very effective.
2. Insructor was very friendly to the students and facilitate the learning mind
3. Hard working and prepared for each class.
4. His lectures were informative and full of knowledge.
5. He has good command on his subject.

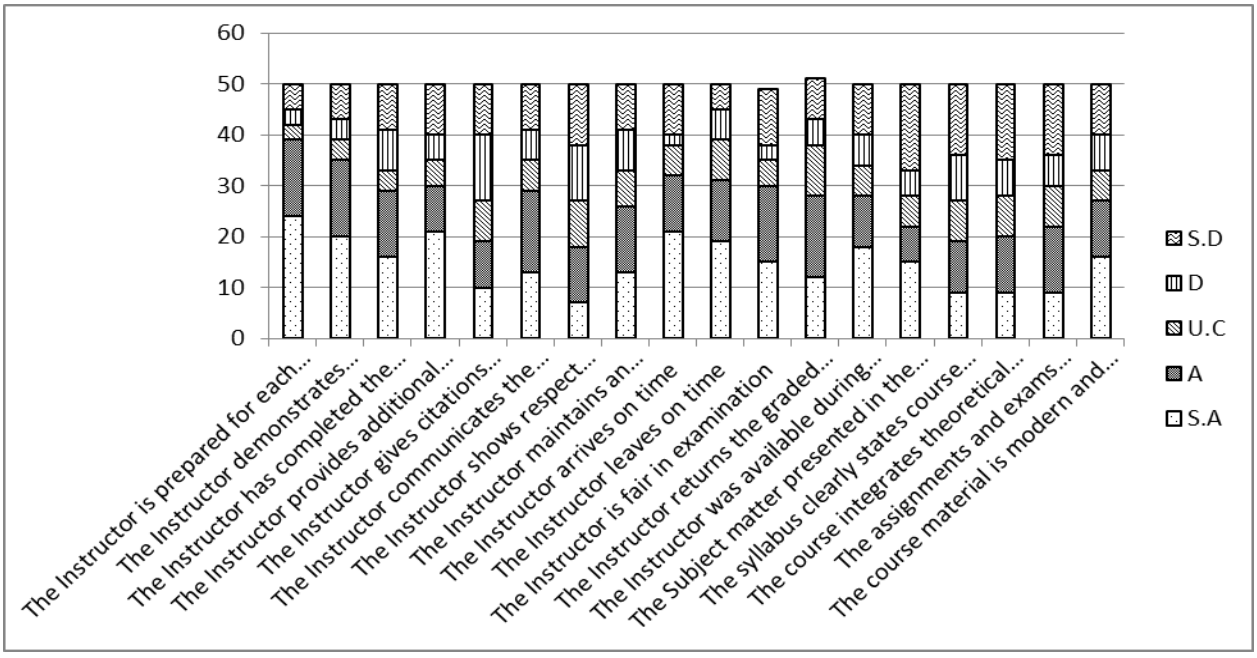

Figure-20: Teacher Evaluation AGR-402, Spring 2011

Fall 2011-12

AGR-301 **Course Evaluation**

Data was collected from 195 students and 97% of the students strongly agreed that the course were clear. However the more than 95% of the students were strongly agreed that the course workload was manageable. Most of the students are of the view that they made progress in the the course. Data regarding individual parameter is depicted in the pie chart graph. 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, the material was well organized and presented, the instructor was responsive to student needs and problems and the material in the tutorials was useful.

Comments/ Suggestions

1. Technical knowledge is good but internet facility is poor.
2. Course completed in due time and very interesting
3. Class environment was friendly and conducive for learning
4. Understandable and conceptual.
5. Ideas presented clearly and precisely.

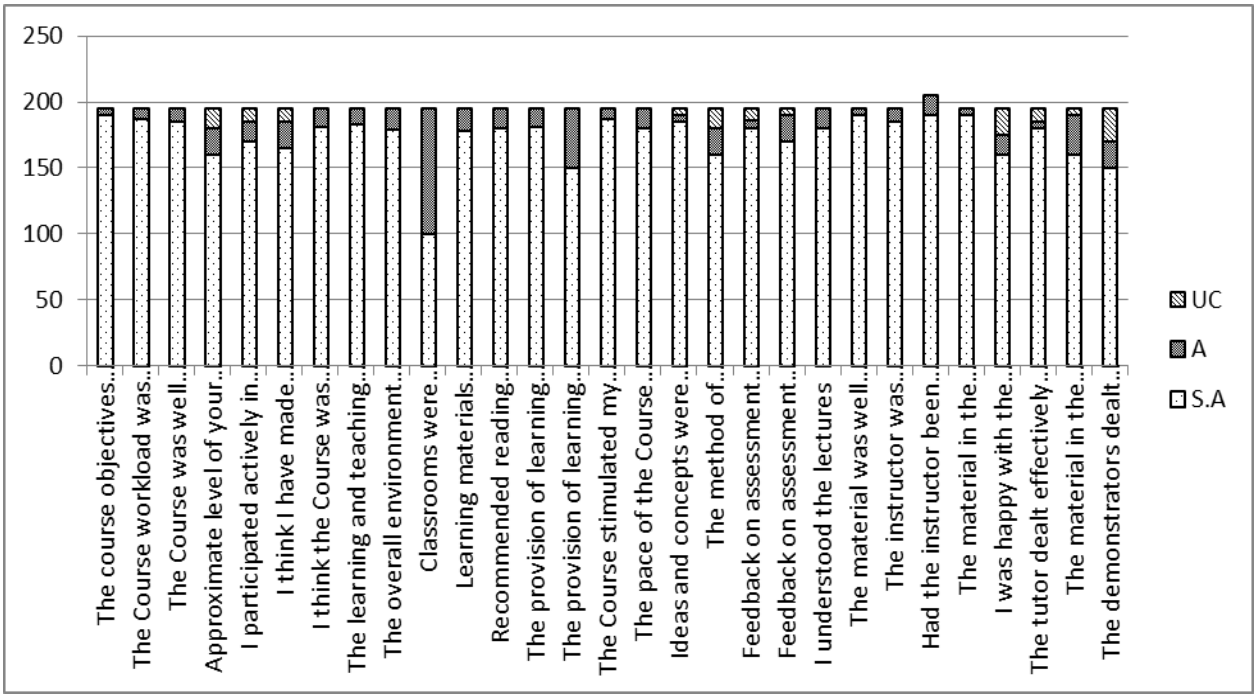

Figure-21: Course Evaluation AGR-301, Fall 2011

Data were collected from 195 students presented in the form of graphs. It is depicted from the graphs that 96% students were strongly agreed that the teacher is prepared for each class and demonstrate very effectively the subject knowledge. 97% of the students were strongly agreed and that the instructor has completed whole the course and provide additional information and also fair in examination. Similarly, 94% students agreed that instructor communicates the subject knowledge effectively. All of the students were stronglyt agreed that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Good teaching method.
2. Insructor facilitate the learning mind
3. Hard working and prepared for each class.
4. His lectures were informative.
5. He has good command on his subject.

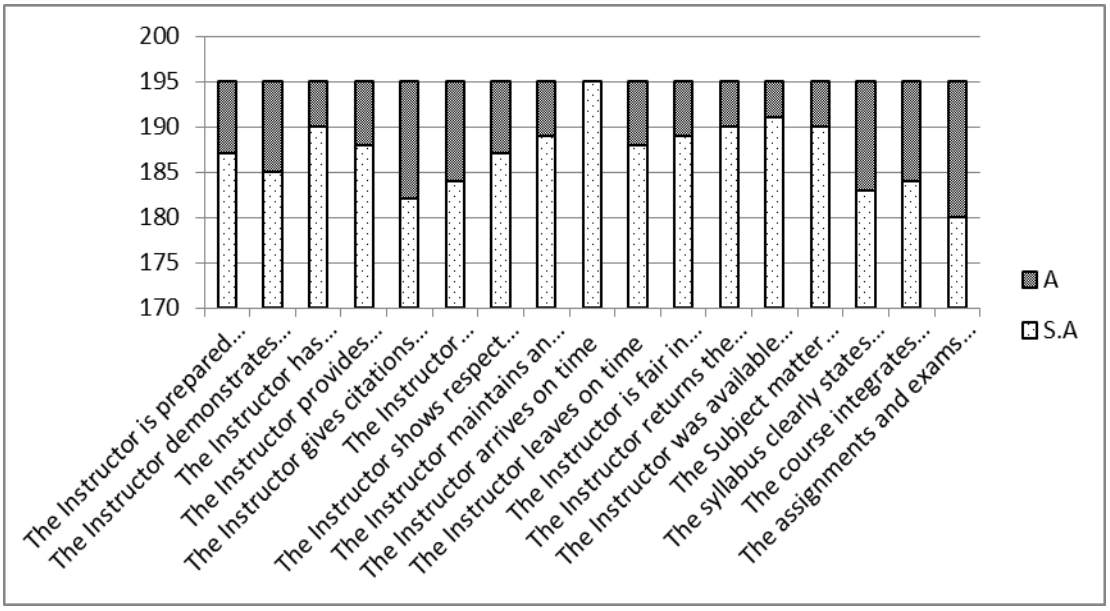

Figure-22: Teacher Evaluation AGR-301, Fall 2011

AGR-401 **Course Evaluation**

Data was collected from 69 students. More than 85% of the students were strongly agreed as well as agreed that the course obtectives were clear. However 35% of the students were strongly agreed and 52% agreed that the course workload was manageable. More than 85% of the students are of the view that they made progress in the the course. 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, the material was well organized and presented, the instructor was responsive to student needs and problems and the material in the tutorials was useful.

Comments/ Suggestions

1. The course was very informative regarding field crops.
2. Presentations are good part of this course.
3. Technical knowledge was good but classroom were not feasible for learning.
4. Course completed in due time and very interesting
5. Field visit and practical work improved our knowledge.
6. Class environment was friendly and conducive for learning.

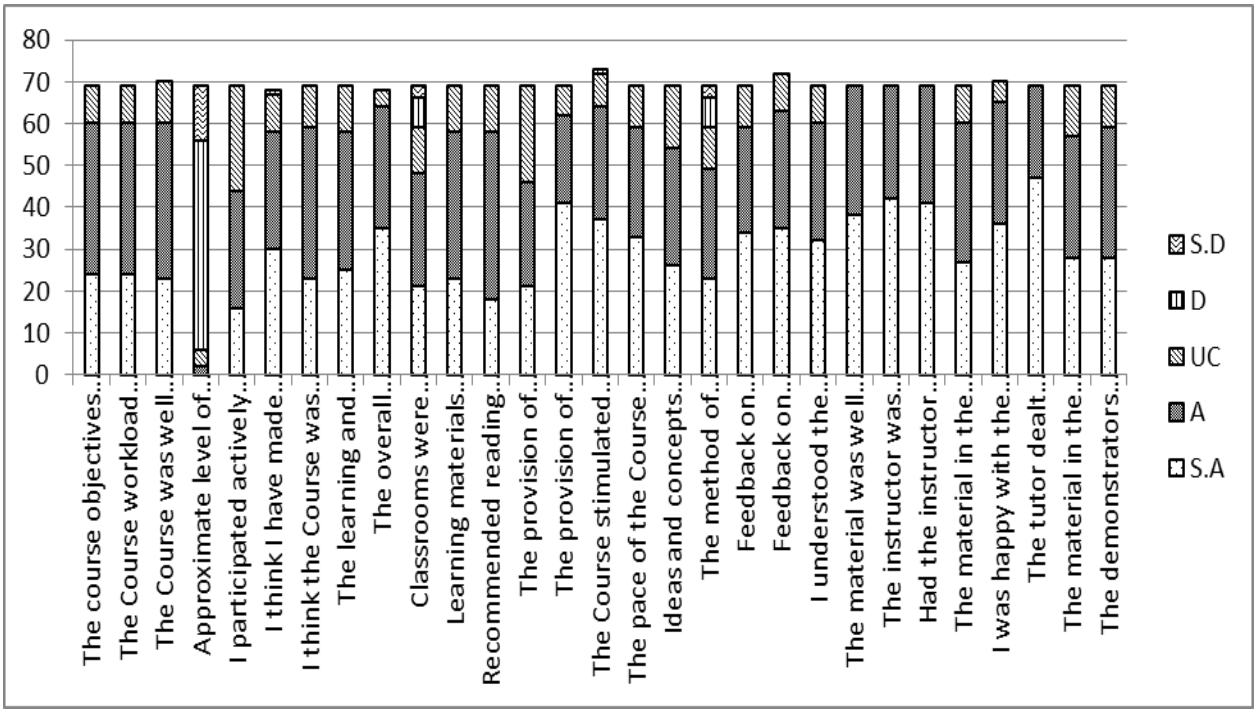

Figure-23: Course Evaluation AGR-401, Fall 2011

Allah Wasaya **Teacher Evaluation**

Data were collected from 69 students which is presented in the form of pie chart graphs. It is depicted from the graphs that 64% students were strongly agreed and 36% agreed that the teacher prepared for each class and demonstrate the subject knowledge in a very effective way. About 57% of the students were strongly agreed and and 43% agreed that the instructor has completed whole the course and provide additional information and also fair in examination. Similarly, most of the students agreed that instructor communicates the subject knowledge effectively. All the students were agreed that the instructor showed respect towards students and encouraged class participation. All the students were agreed that the Instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable time. Most of the students agreed that the Instructor was available during the specified office hours after class for consultations, the syllabus clearly states course objectives requirements and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Instructor's method of teaching was very effective and informative.
2. Insructor was very friendly to the students and facilitate the learning mind
3. Hard working and prepared for each class.
4. His lectures were informative and full of knowledge.
5. He has good command on his subject.
6. He taught us about advanced agriculture technologies.

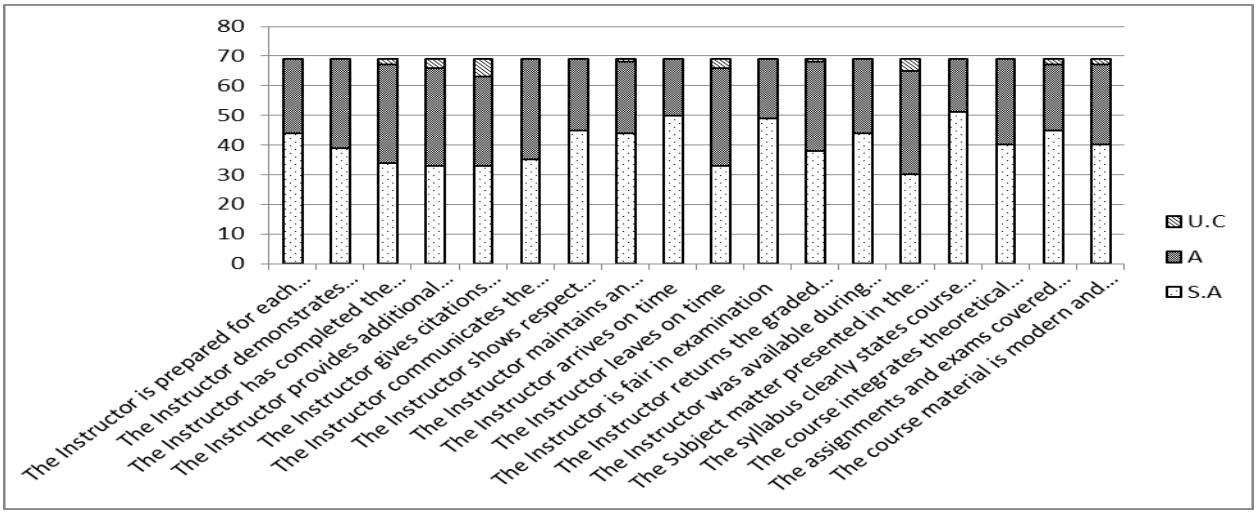

Figure-24: Teacher Evaluation AGR-401, Fall 2011

AGR-505 **Course Evaluation**

Data was collected from 15 students. 46% of the students were strongly agreed and 47% were agreed that the course obtectives were clear. However 33% of the students were strongly agreed and 60% agreed that the course workload was manageable. More than 90% of the students were of the view that the course was well organized and more than 90% of the students are of the view that they made progress in the the course. 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, the material was well organized and presented, the instructor was responsive to student needs and problems and the material in the tutorials was useful and the course stimulated the student interest in the field of crop management.

Comments/ Suggestions

1. The course was very informative regarding crop and water management.
2. Technical knowledge was good.
3. Course completed in due time and very interesting
4. Class environment was friendly and conducive for learning

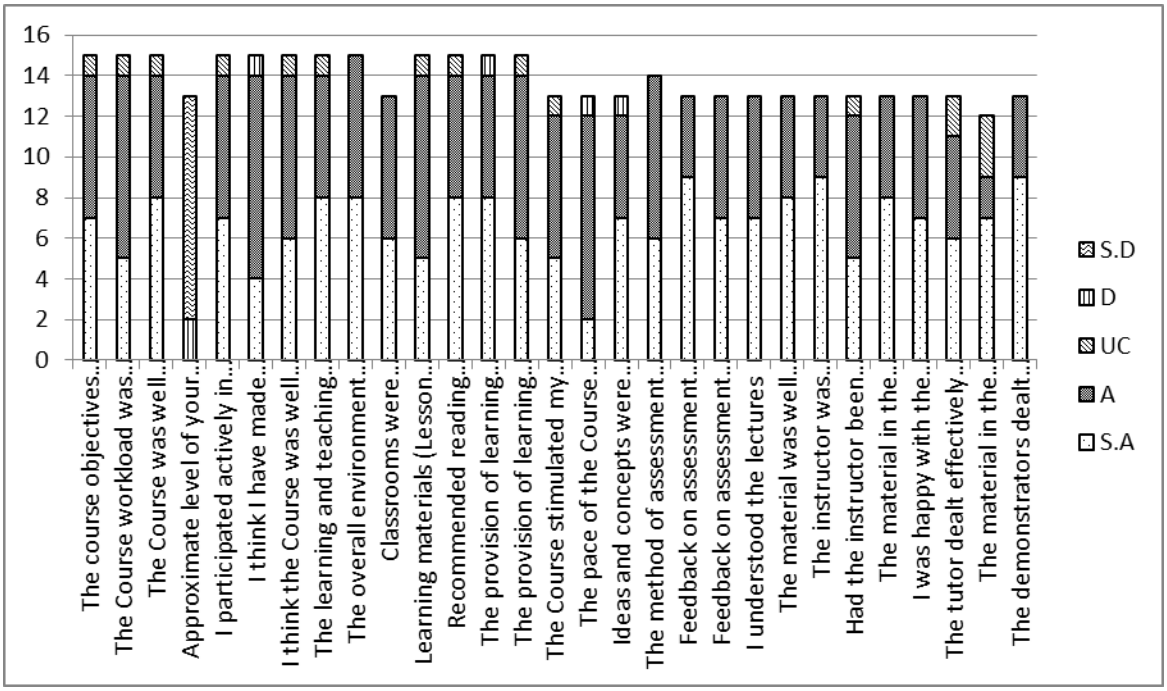

Figure-25: Course Evaluation AGR-505, Fall 2011

Data were collected from 15 students. The individual parameter showed that 54% students were strongly agreed and 46% agreed that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. More than 90 % of the students were strongly agreed and agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 85% students are of the view that the instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Environment was friendly and conducive for learning.
2. Teaching method was good.
3. Scientific approach with good communication skills.
4. Teacher was punctual reached and leave tha class in time.
5. Encourage class participation.

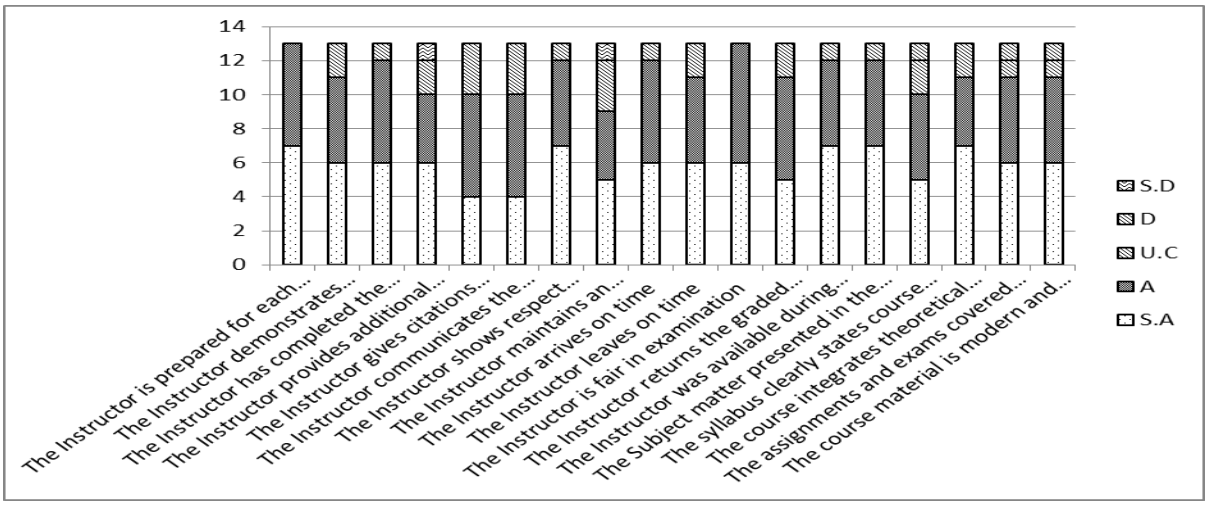

Figure-26: Teacher Evaluation AGR-505, Fall 2011

AGR-507 **Course Evaluation**

Data were collected from 19 students. The individual parameter showed that 79% of the students strongly agreed that the course objectives were clear. More than 53% of the students strongly agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). The 35% of the students strongly agreed that the approximate level of student's own 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 (there was a good balance of lectures, tutorials, practical etc.). 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, 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

1. The course was very informative.
2. Technical knowledge was good.
3. Course completed in due time and very interesting
4. Class environment was friendly and conducive for learning
5. Course was structured on modern trends in seed production techniques.

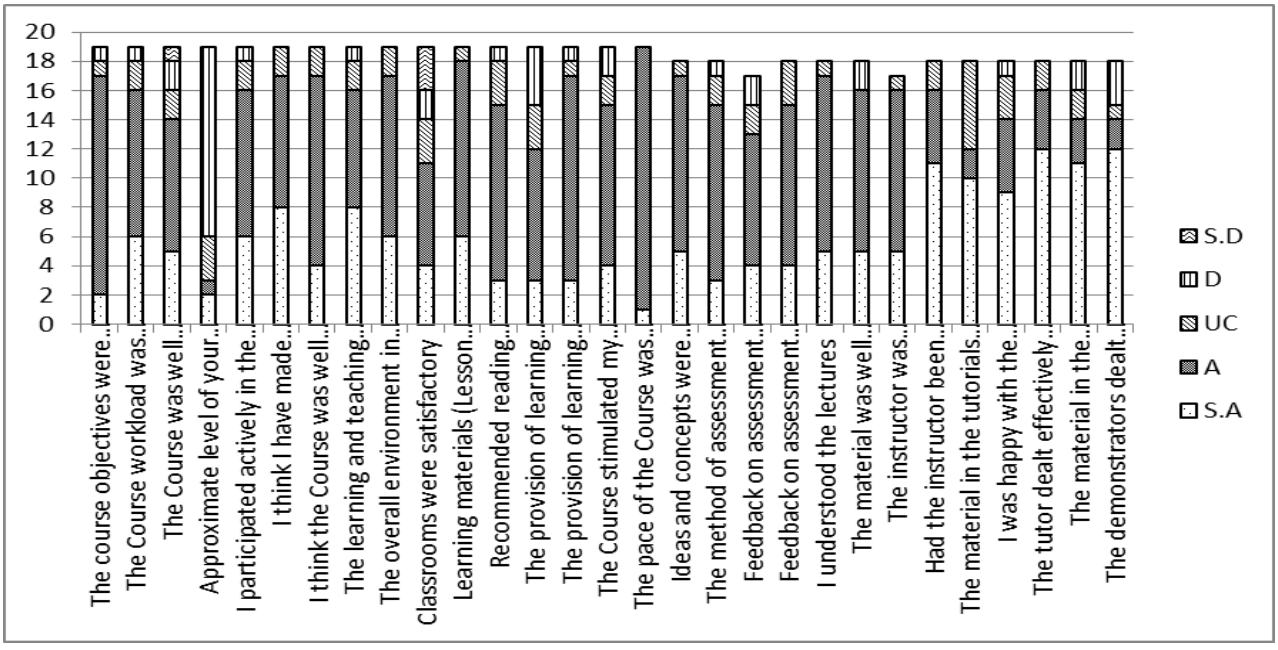

Figure-27: Course Evaluation AGR-507, Fall 2011

Data were collected from 19 students. The individual parameter showed that 63% students were strongly agreed and 37% agreed that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way. 32 % of the students were strongly agreed and 58% agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. More than 90% students are of the view that the instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Teaching method was good.
2. Scientific approach with good communication skills.
3. Teacher was punctual.
4. Environment was friendly and conducive for learning.
5. Encourage class participation.

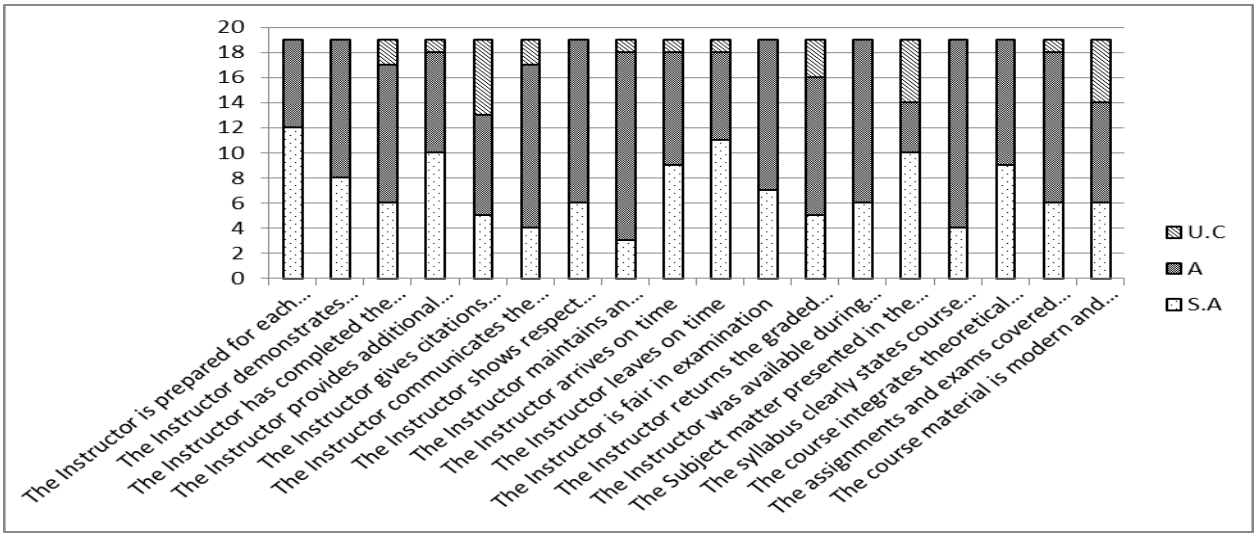

Figure-28: Teacher Evaluation AGR-507, Fall 2011

AGR-509 **Course Evaluation**

Data were collected from 21 students. The individual parameter showed that 42% of the students strongly agreed that the course objectives were clear. About 34% of the students strongly agreed and 42% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that 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. 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, 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

1. The course was very informative regarding conservation agriculture.
2. Technical knowledge was good.
3. Class environment was friendly and conducive for learning
4. Practical knowledge was relevant to modern techniques for soil conservation

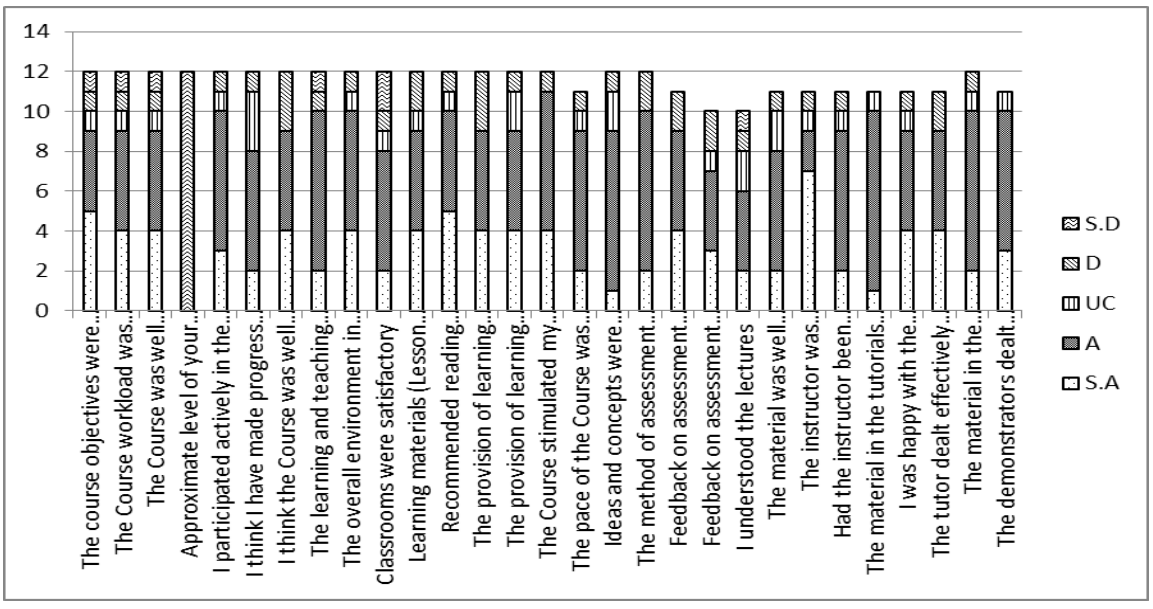

Figure-29: Course Evaluation AGR-509, Fall 2011

Data were collected from 21 students. The individual parameter showed that 38% students were strongly agreed and 43% agreed that the teacher is prepared for each class and demonstrate the subject knowledge in a very effective way, 20 % of the students were strongly agreed and 80% agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. All the students are of the view that the instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Teaching method was good.
2. Scientific approach with good communication skills.
3. Teacher was punctual.
4. Encourage class participation.

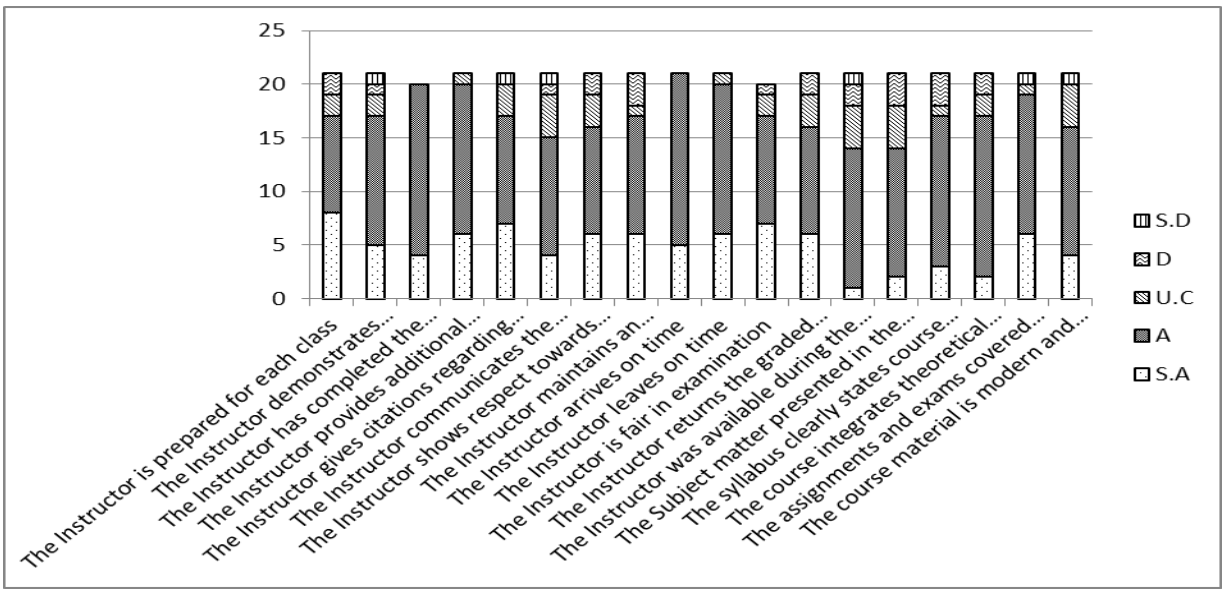

Figure-30: Teacher Evaluation AGR-509, Fall 2011

AGR-601 **Course Evaluation**

Data were collected from 17 students. The individual parameter showed that 76% of the students strongly agreed that the course objectives were clear. About 35% of the students strongly agreed and 53% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). The 47% of the students strongly agreed that the approximate level of student's own 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 (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning and teaching methods encouraged participation. 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, 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

1. The course was very informative regarding non traditional crops.
2. Technical knowledge was good.
3. Class environment was friendly and conducive for learning
4. Course was structured on modern techniques for production of non traditional crops as well as medicinal plants.

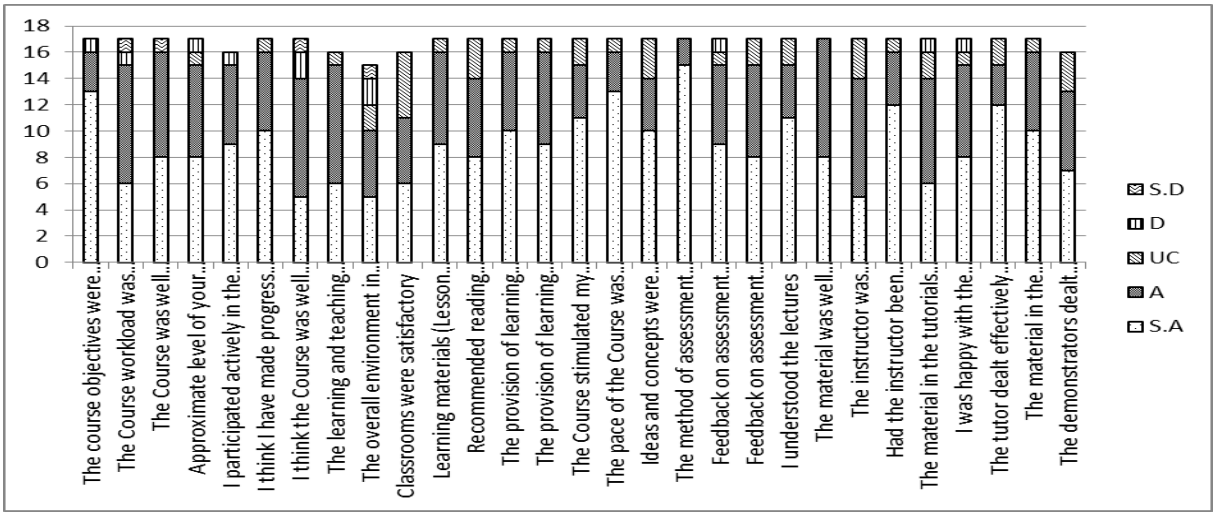

Figure-31: Course Evaluation AGR-601, Fall 2011

Data were collected from 17 students. The individual parameter showed that 65% students were strongly agreed and 35% agreed that the teacher is prepared for each class and. About 59% of the students were strongly agreed and 18% agreed that the instructor demonstrate the subject knowledge in a very effective way and all the students were agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. All the students were agreed that instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Excellent teaching method.
2. Scientific approach with good communication skills.
3. Teacher was punctual, arrived and leave the class in time.
4. Class environment was friendly and conducive for learning.
5. Also encourage class participation.

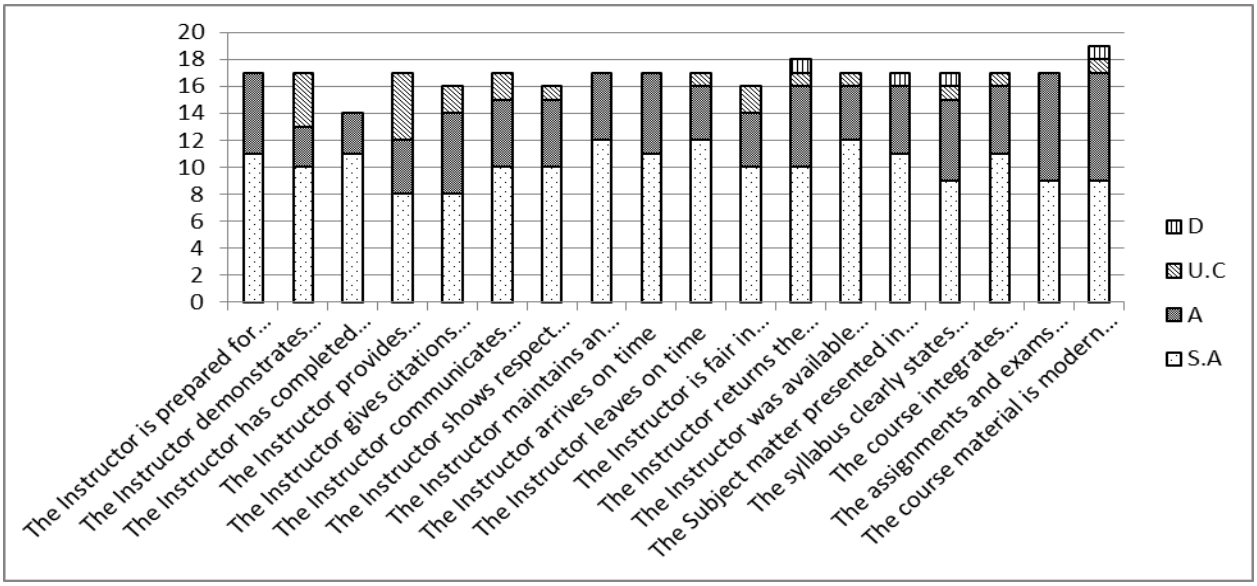

Figure-32: Teacher Evaluation AGR-601, Fall 2011

AGR-603 **Course Evaluation**

Data were collected from 17 students. The individual parameter showed that 53% of the students strongly agreed and 47 % agreed that the course objectives were clear. About 41% of the students strongly agreed and 53% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). The 12% of the students strongly agreed that the approximate level of student's own 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 (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. 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, 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

1. The course was very informative.
2. Class environment was friendly and conducive for learning
3. Understandable and conceptual.
4. New ideas related to the course.

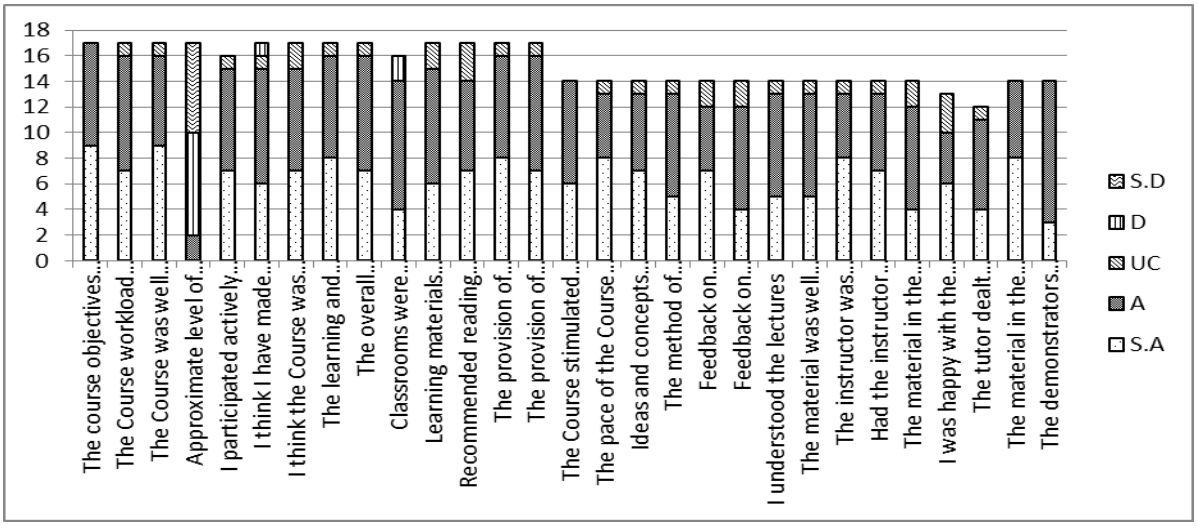

Figure-33: Course Evaluation AGR-603, Fall 2011

Data were collected from 17 students. The individual parameter showed that 39% students were strongly agreed and 50% agreed that the teacher is prepared for each class and. About 50% of the students were strongly agreed and 39% agreed that the instructor demonstrate the subject knowledge in a very effective way and more than 75% of the students were agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher was punctual, arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage class participation.
5. Goo teaching method.

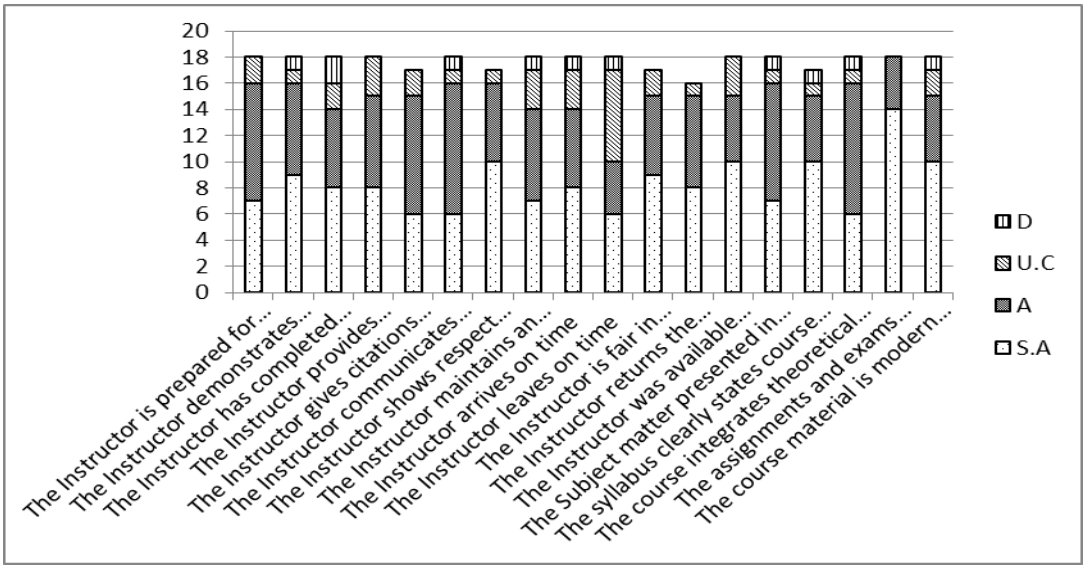

Figure-34: Teacher Evaluation AGR-603, Fall 2011

AGR-605 **Course Evaluation**

Data were collected from 19 students out of which 37% students were strongly agreed and 63 % agreed that the course objectives were clear and 79% students were agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 37% students were strongly agreed and 63% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also agreed that the pace of the Course was appropriate, concepts were presented clearly and the assessment method was reasonable. They were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed in due time

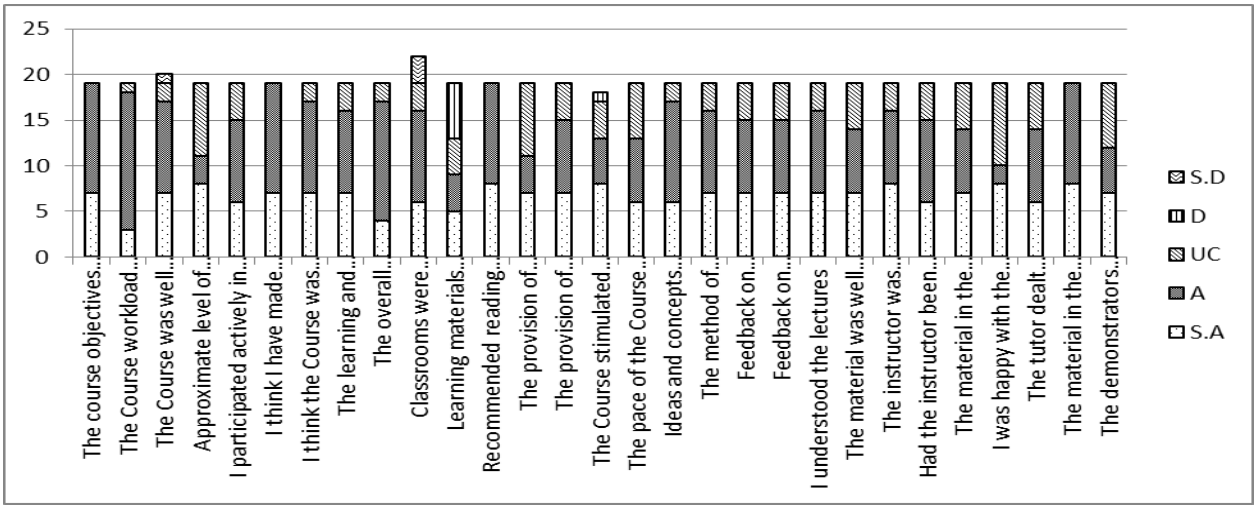

Figure-35: Course Evaluation AGR-605, Fall 2011

Data were collected from 19 students. The individual parameter showed that 62% of the students were strongly agreed and 38% agreed that the teacher is prepared for each class. About 56% of the students were strongly agreed and 44% agreed that the instructor demonstrate the subject knowledge in a very effective way and more all the students were agreed that the instructor has completed whole the course in time, provided additional information and also fair in examination. Similarly, most of the students agreed that instructor showed respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning. All the students were agreed that instructor arrived and leave the class on time and returned the graded scripts etc. in a reasonable amount of time. Most of the students agreed that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher was punctual, arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage class participation.
5. Good teaching method.

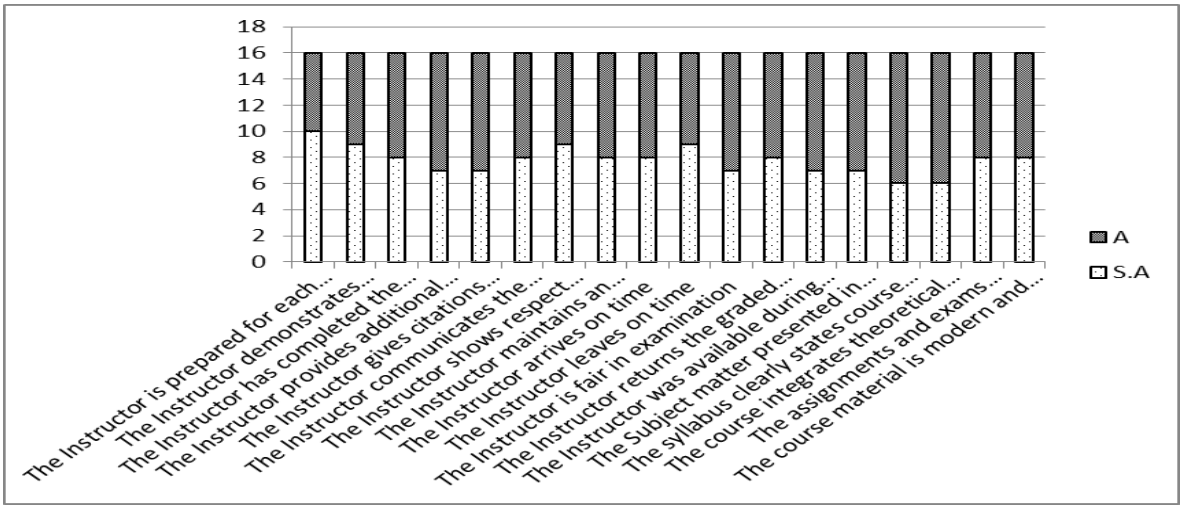

Figure-36: Teacher Evaluation AGR-605, Fall 2011

Spring 2012

AGR-302 **Course Evaluation**

Data were collected from 45 students out of which 56% students were strongly agreed and 44 % agreed that the course objectives were clear and 60% students were agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 36% students were strongly agreed and 58% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Production technology of summer crops was presented in detail.
4. Recent advance knowledge was presented in the class.
5. Course was interesting, informative and completed in due time

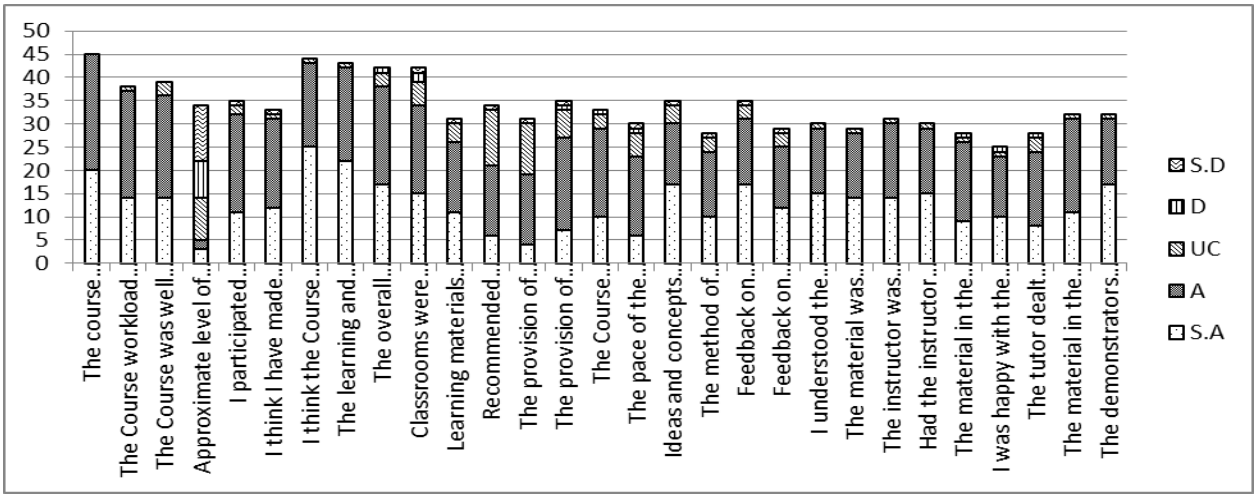

Figure-37: Course Evaluation AGR-302, Spring 2012

Dr. Abdul Manaf **Teacher Evaluation**

Data collected from 45 students. The individual parameter showed that 76% of the students are of the view that preparedness for each class and delivery of knowledge was excellent and 60% of the students graded excellent that the communication of subject matter was effective. More than 75% of the students graded excellent that the instructor encouraged them for participation and was regular and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher was punctual, arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage class participation.
5. Good teaching method.

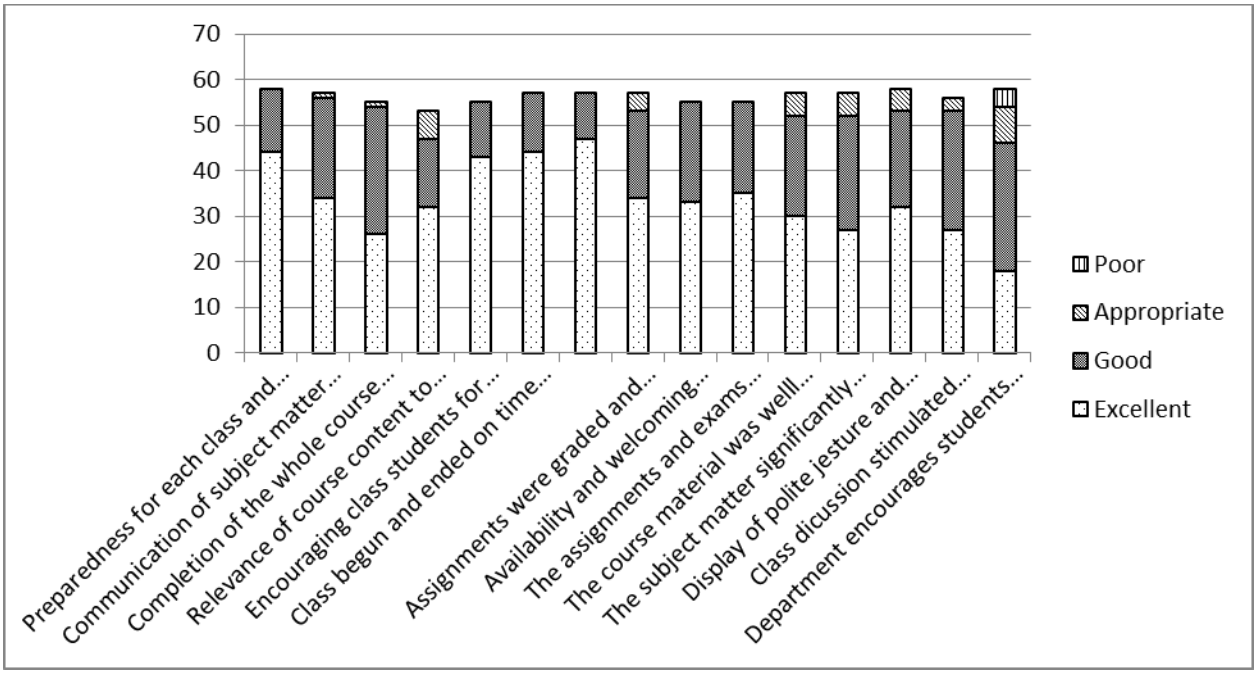

Figure-38: Teacher Evaluation AGR-302, Spring 2012

Data were collected from 15 students out of which 60% students were strongly agreed and 40 % agreed that the course objectives were clear and 33% students were agreed while 27% strongly agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 14% students were strongly agreed and 73% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed in due time

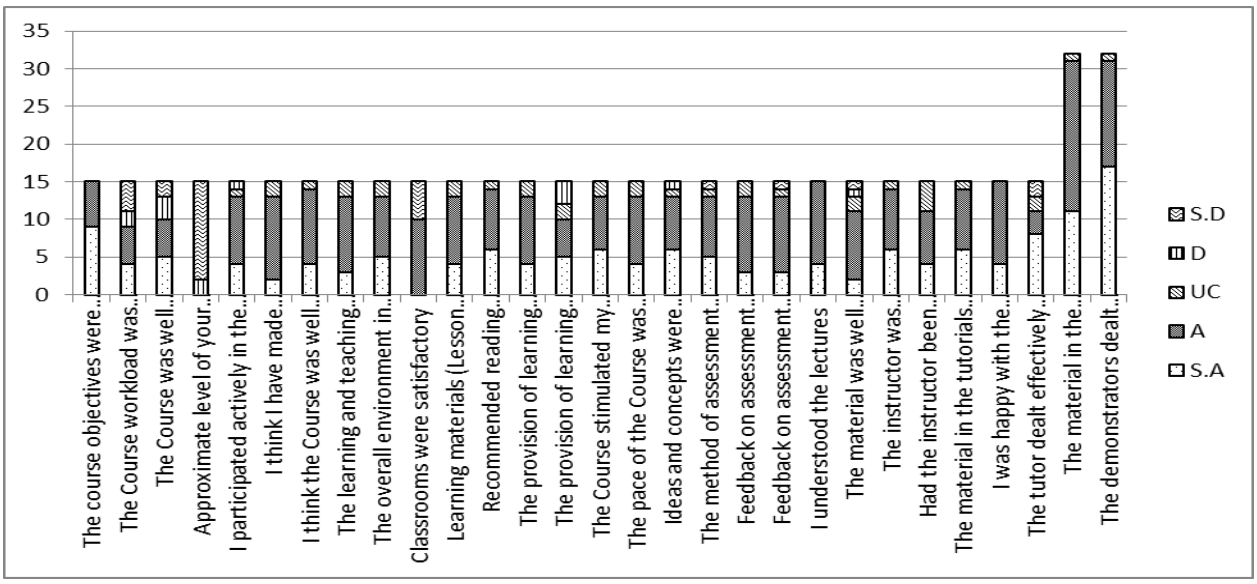

Figure-39: Course Evaluation AGR-502, Spring 2012

Data collected from 15 students. The individual parameter showed that 87% of the students are of the view that preparedness for each class and delivery of knowledge was excellent and 80% of the students graded excellent that the communication of subject matter was effective. About 80% of the students graded excellent that the instructor encouraged them for participation and was regular, and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Teacher was punctual, arrived and leave the class in time.
2. Class environment was friendly and conducive for learning.
3. Encourage class participation.
4. Teaching method was very effective.

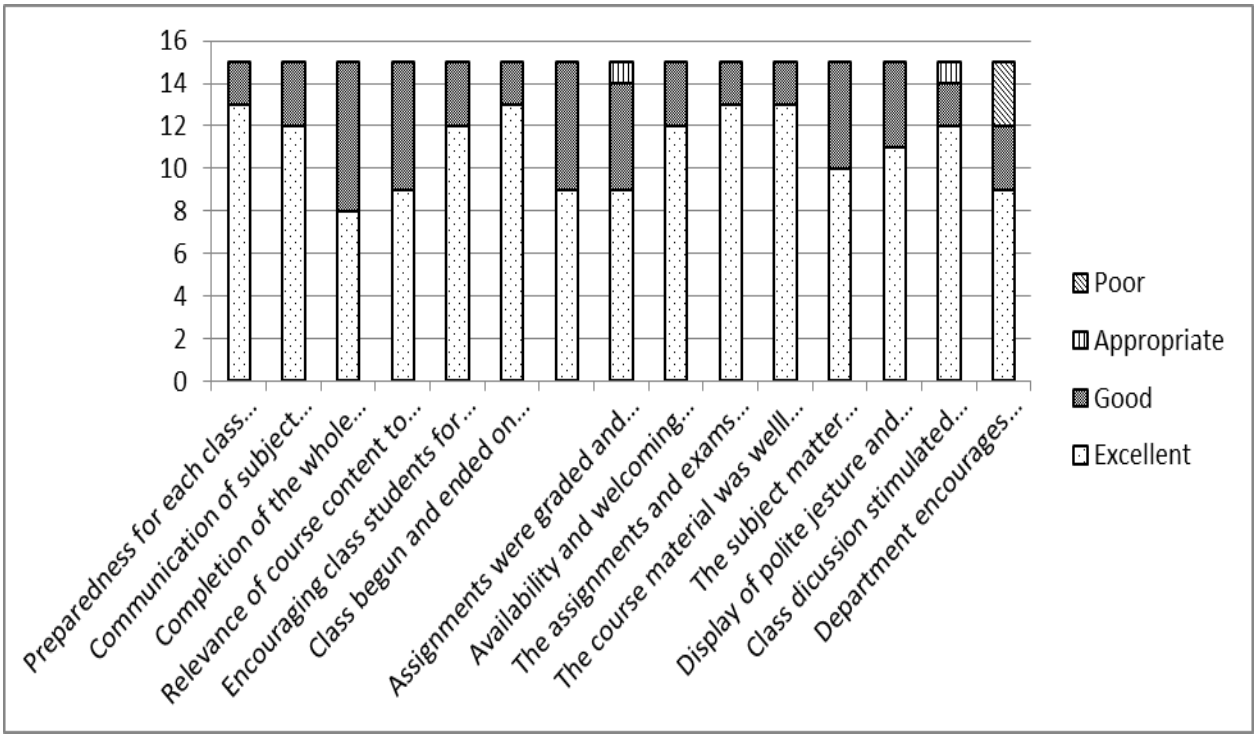

Figure-40: Teacher Evaluation AGR-502, Spring 2012

Data were collected from 16 students out of which 62% students were strongly agreed and 38 % agreed that the course objectives were clear and 56% students were agreed while 44% were strongly agreed bthat the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 38% students were strongly agreed and 50% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed on time

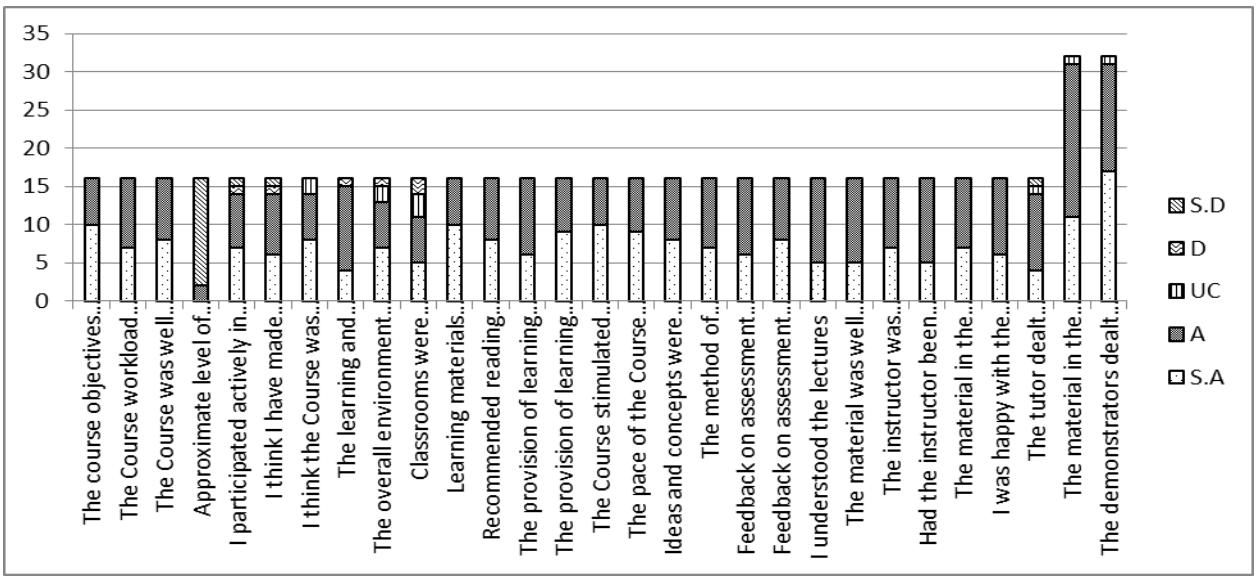

Figure-41: Course Evaluation AGR-506, Spring 2012

Data collected from 16 students. The individual parameter showed that 75% of the students are of the view that preparedness for each class and delivery of knowledge was excellent and 44% of the students graded excellent while 50% graded good that the communication of subject matter was effective. More than 44% of the students graded excellent and 37% good that the instructor encouraged them for participation and was regular and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Teacher was punctual, arrived and leave the class in time.
2. Class environment was friendly and conducive for learning.
3. Encourage class participation.
4. Good teaching method.

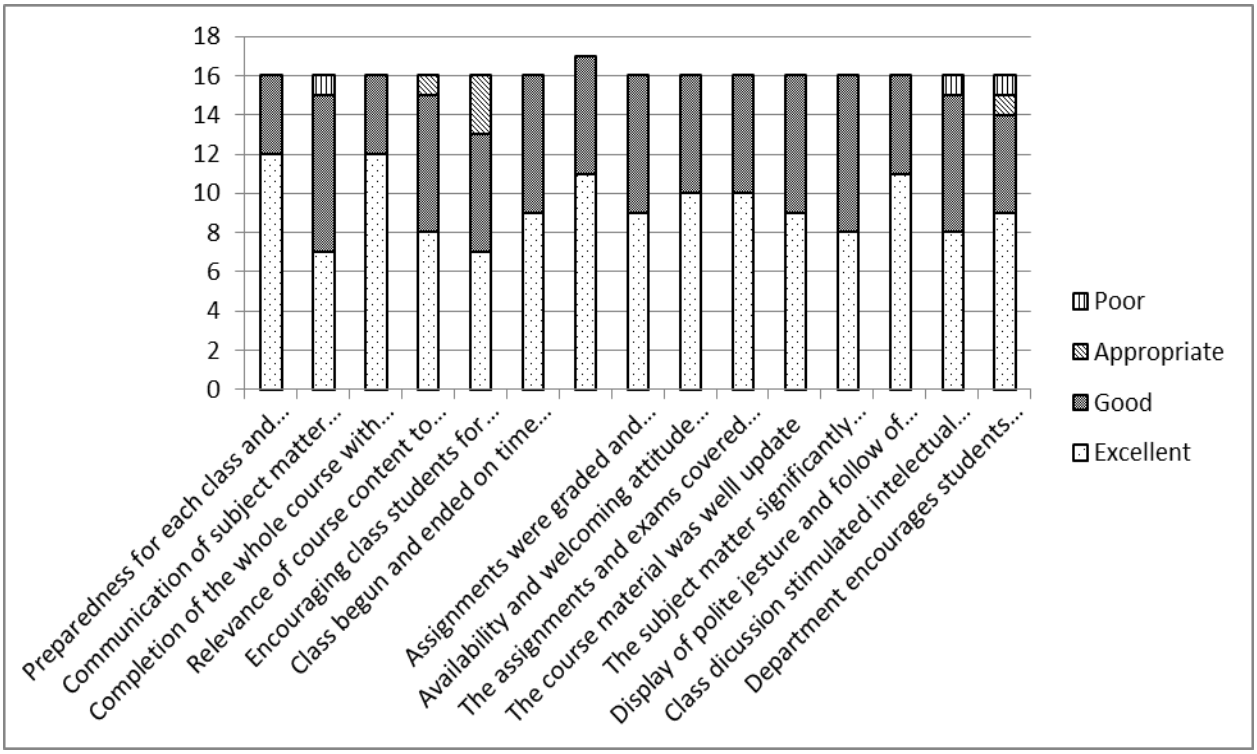

Figure-42: Teacher Evaluation AGR-506, Spring 2012

Data were collected from 20 students out of which 55% students were strongly agreed and 45 % agreed that the course objectives were clear and 45% students were agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 50% students were strongly agreed and 50% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed in due time
5. Learned a lot about organic farming

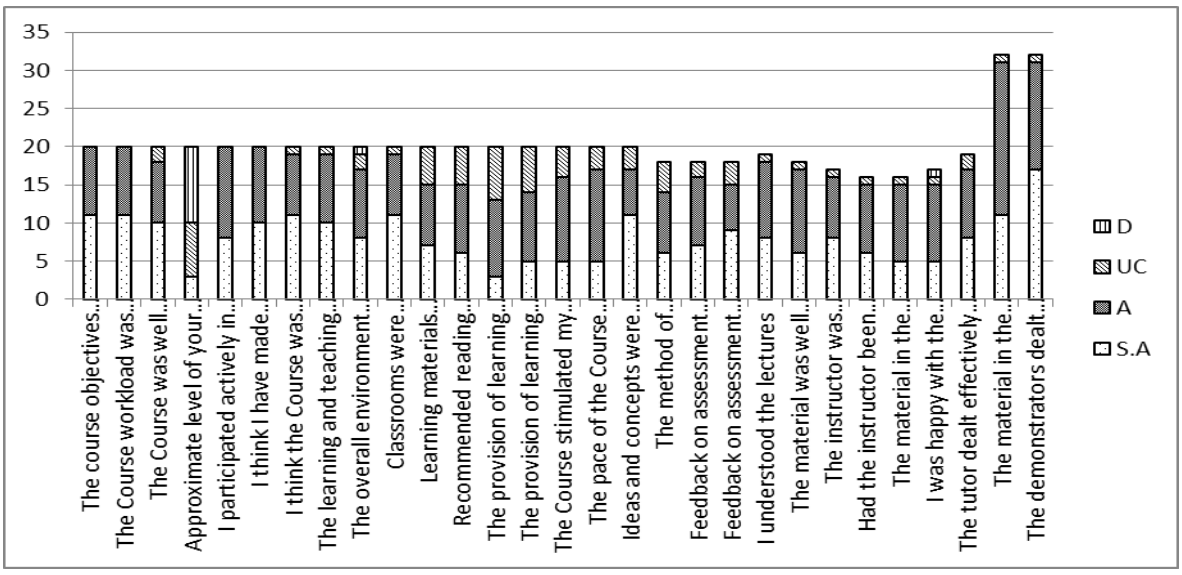

Figure-43: Course Evaluation AGR-602, Spring 2012

Data collected from 20 students. The individual parameter showed that 40% of the students are of the view that preparedness for each class and delivery of knowledge was excellent and 43% of the students graded excellent while 52% good that the communication of subject matter was effective. More than 67% of the students graded excellent that the instructor encouraged them for participation and was regular and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage class participation.
5. Good teaching method.

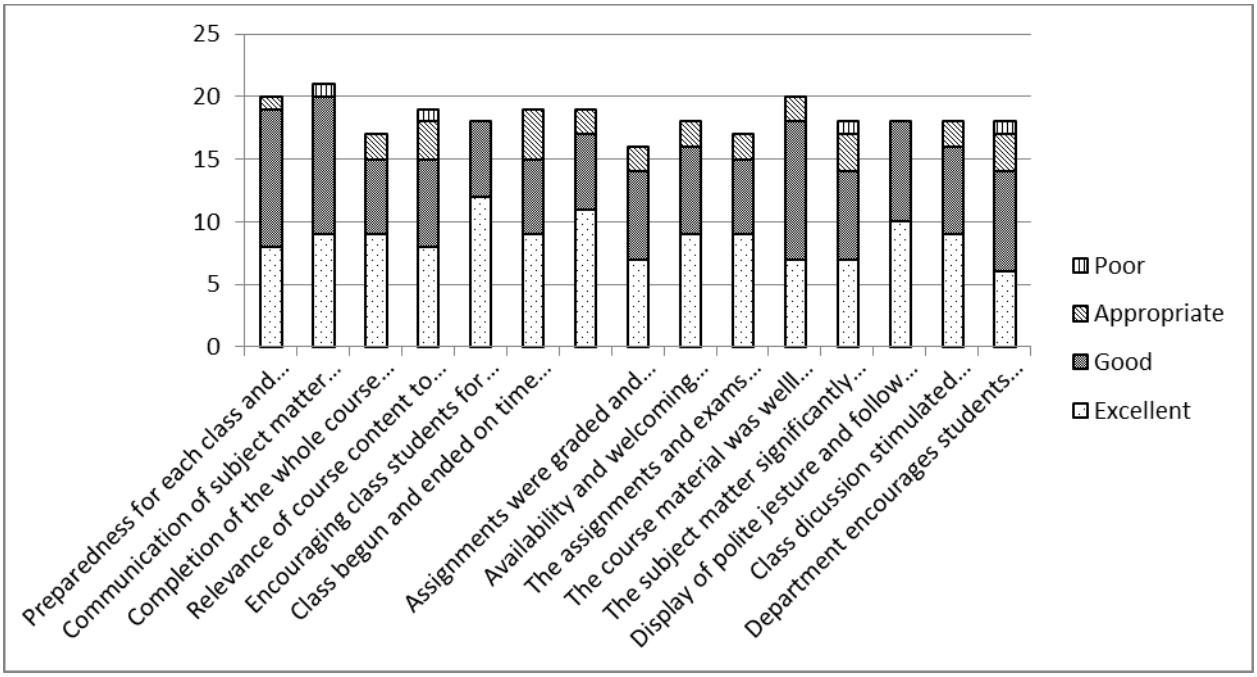

Figure-44: Teacher Evaluation AGR-602, Spring 2012

AGR-604 **Course Evaluation**

Data were collected from 22 students out of which 55% students were strongly agreed and 45 % agreed that the course objectives were clear and 59% students were agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 41% students were strongly agreed and 59% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also satisfied that the material was well organized and presented and 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

1. Understandable and conceptual.
2. Ideas presented clearly and precisely.
3. Recent advance knowledge was presented in the class.
4. Course was interesting, informative and completed in due time

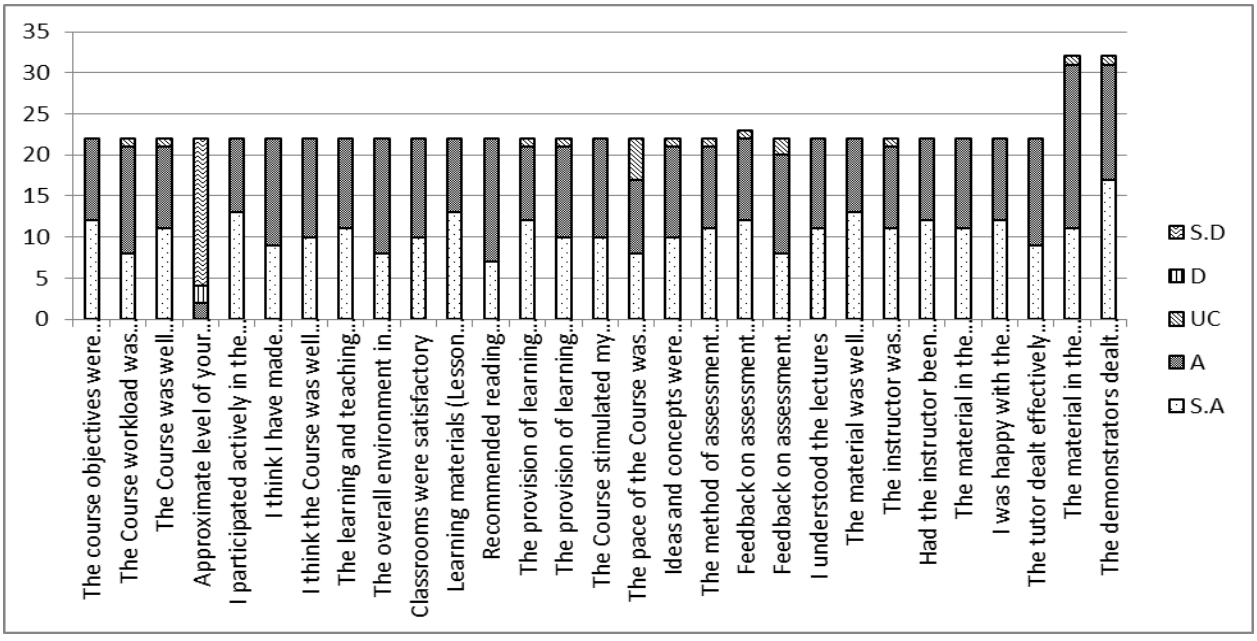

Figure-45: Course Evaluation AGR-604, Spring 2012

Data collected from 22 students. The individual parameter showed that 59% of the students are of the view that preparedness for each class and delivery of knowledge was excellent and 41% of the students graded excellent while 50% good that the communication of subject matter was effective. More than 60% of the students graded excellent that the instructor encouraged them for participation and was regular and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher was punctual, arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage class participation.
5. Encourage the students for consultion after class.
6. Teaching method was very good.

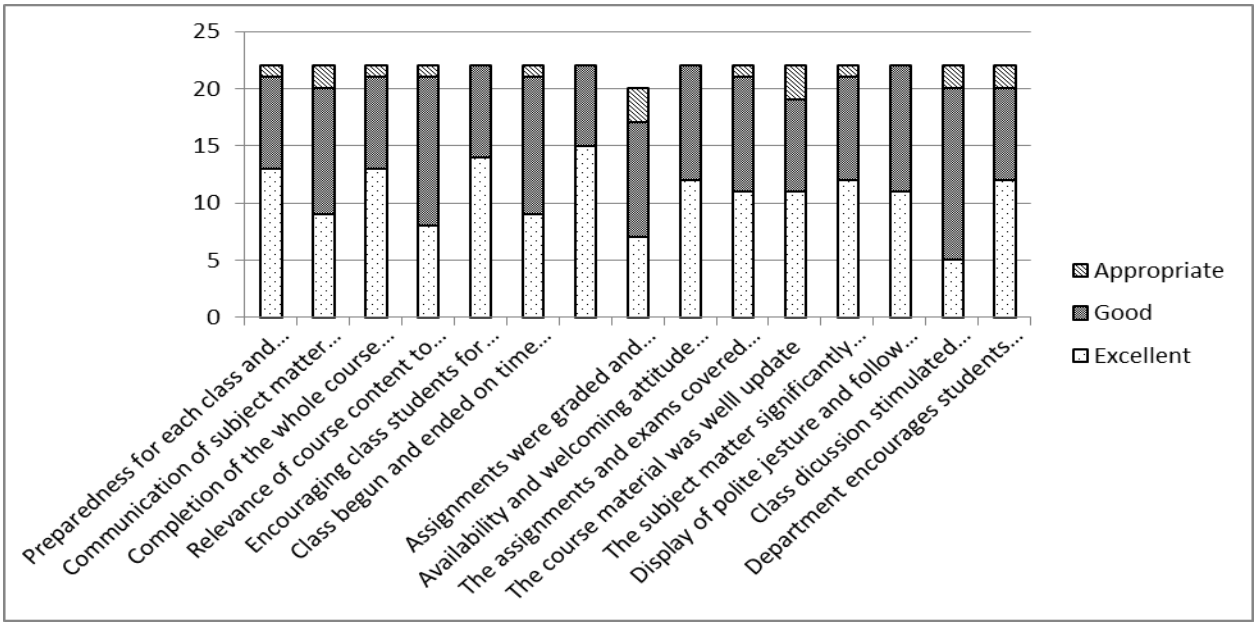

Figure-46: Teacher Evaluation AGR-604, Spring 2012

Data were collected from 21 students out of which 67% students were strongly agreed and 33 % agreed that the course objectives were clear and 47% students were strongly agreed while 43% agreed that the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc.). Most of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). About 33% students were strongly agreed and 52% agreed that they made progress in the course. They agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive 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. Most of the students were also agreed that the pace of the Course was appropriate, concepts were presented clearly and the assessment method was reasonable. They were also satisfied that the material was well organized and presented and 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

1. Ideas presented clearly and precisely.
2. Recent advance knowledge was presented in the class.
3. Course was interesting, informative and completed in due time
4. Course was most relevant to field research.

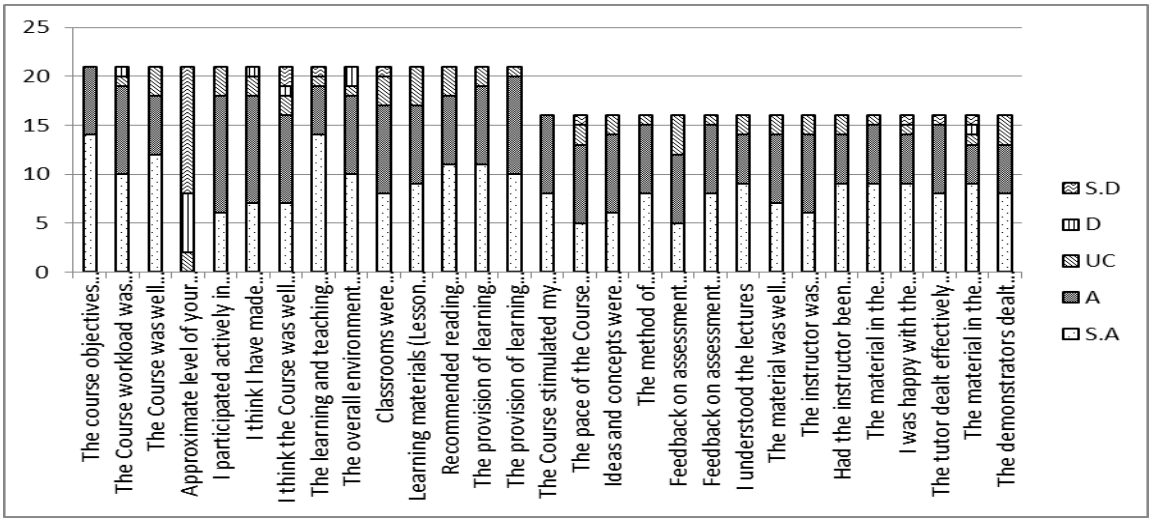

Figure-47: Course Evaluation AGR-608, Spring 2012

Data collected from 21 students. The individual parameter showed that 61% of the students are of the view that preparedness for each class and delivery of knowledge was excellent, and 35% of the students graded excellent while 56% good that the communication of subject matter was effective. More than 60% of the students graded excellent that the instructor encouraged them for participation and was regular and class begun and ended on time and graded scripts etc. in a reasonable amount of time. Most of the students are of the view that 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 and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

COMMENTS / SUGGESTIONS

1. Scientific approach with good communication skills.
2. Teacher was punctual, arrived and leave the class in time.
3. Class environment was friendly and conducive for learning.
4. Encourage the students for consultion after class.
5. Teaching method was very good.

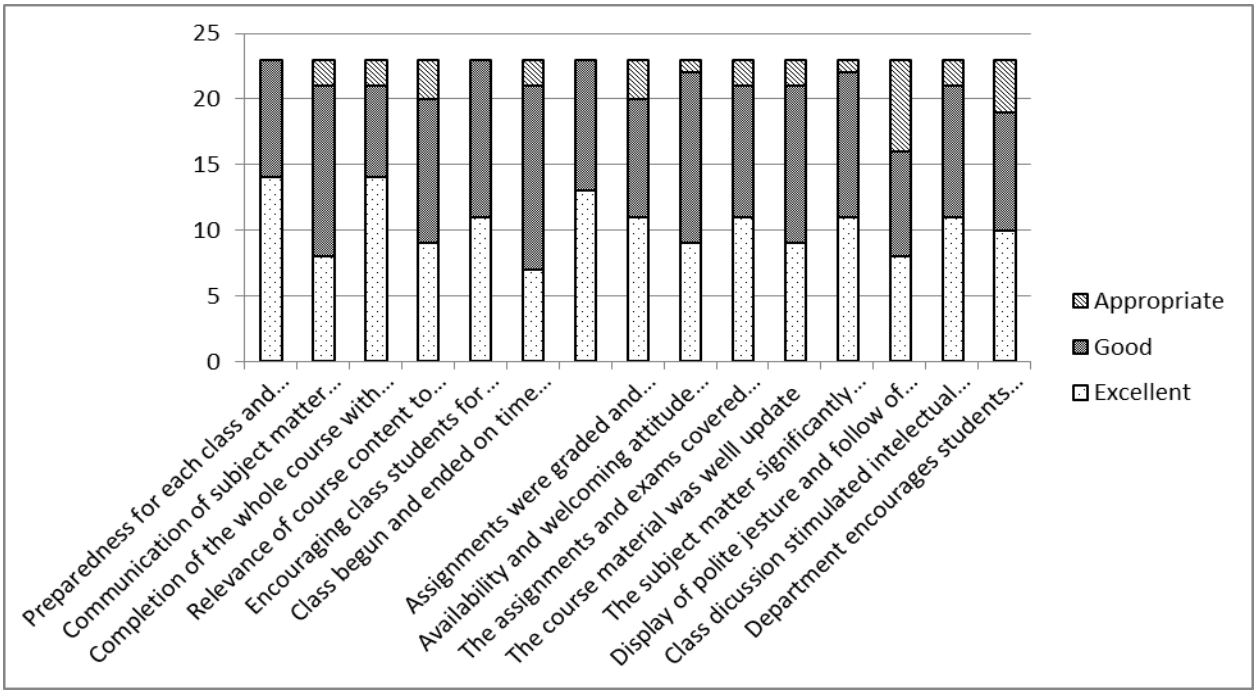

Figure-48: Teacher Evaluation AGR-608, Spring 2012

Proforma 2
Faculty course review report

The evaluation showed that the faculty is satisfied with curriculum. Evaluation Questionnaire were filled by each faculty member regarding his course and then analyzed and presented in the table given below. The internal evaluation was done through with mid and final term examinations for all courses offered by department.

Course code	Title	Credit Value	Assessment Methods/ Exams	No. of Students	comments on curriculum	Any changes for future in course	Semester	Course Instructor					
								A	B	C	D	F	
AGR-301	Basic Agriculture	3(2-2)	Mid term And Final	189	Good	Should be divided	Fall	25	35	30	8	2	Dr Mukhtar Ahmed/Mr. Safdar Ali
AGR-302	Summer Crops	3(2-2)	Mid term And Final	191	Good but lengthy	Should be divided	Spring	21	42	27	9	1	Dr. Abdul Munaf/ Dr Allah Wasaya
AGR-401	Winter Crops	3(2-2)	Mid term And Final	196	Good	Should be divided	Fall	20	41	24	13	2	Dr. Abdul Munaf/ Dr Allah Wasaya
AGR-402	Field crop physiology	3(2-2)	Mid term And Final	195	Excellent but lengthy	Should be divided	Spring	22	39	25	12	2	Dr. Abdul Razzaq/ Dr. M. Rasheed
AGR-501	Arid Zone Agriculture	2(2-0)	Mid term And Final	187	Very good	No	Fall	18	40	30	10	2	Dr. Muhammad Ansar
AGR-502	Principles of plant nutrition and Growth Regulators	3(2-2)	Mid term And Final	25	Well prepared	No	Spring	12	60	24	4	0	Dr. Zammurad Iqbal Ahmad
AGR-503	Crop Growth & Development	3(2-2)	Mid term And Final	25	Well prepared	No	Fall	42	35	20	3	0	Dr. Abdul Razzaq
AGR-504	Stress Physiology	3(2-2)	Mid term And Final	25	Well prepared	No	Fall	15	80	5	0	0	Dr. M. Rasheed
AGR-505	Crop water management	3(2-2)	Mid term &Final	25	Well prepared	No	Fall	40	37	20	3	0	Dr. M. Rasheed
AGR-	Principles of	3(2	Mid term	25	Very	No	Spring	52	40	4	0	2	Dr.

506	Weed Management	-2)	And Final		good								Muhammad Azim Malik
AGR-507	Seed Production technology	3(2-2)	Mid term And Final	25	Well prepared	No	Fall	41	39	18	2	0	Dr. Irfan Aziz
AGR-508	Forage and Fodder Production	3(2-2)	Mid term And Final	25	Well prepared	No	Spring	8	72	16	4	0	Dr. M. Ansar
AGR-509	Conservation agronomy	4(3-2)	Mid term And Final	25	Good	No	Fall	40	36	16	8	0	Dr. M. Ansar
AGR-601	Agro-technology of Non-traditional crops	3(2-2)	Mid term And Final	25	Excellent	No	Fall	35	34	21	5	2	Dr. Abdul Razzaq
AGR-602	Organic Farming	2(2-0)	Mid term And Final	25	Well prepared	No	Spring	20	48	16	16	0	Dr. Abdul Manaf
AGR-603	Biological Nitrogen Fixation	3(2-2)	Mid term And Final	25	Very good	No	Fall	50	42	4	0	2	Dr. Muhammad Rasheed
AGR-604	Farm record maintenace	3(2-2)	Mid term And Final	25	Very good	No	Fall	34	12	43	9	0	Dr. F.U. Hassan
AGR-605	Field crop ecology	3(2-2)	Mid term And Final	25	Well prepared	No	Fall	40	34	21	5	0	Dr. Irfan Aziz
AGR-608	Project planning, execution and scientific writing	2(1-2)	Mid term And Final	25	Well prepared	No	Fall	16	20	36	28	0	Dr. Abdul Razzaq
AGR-610	Crop Growth Modeling and its application	3(2-2)	Mid term And Final	25	Well prepared	No	Fall	20	48	32	0	0	Dr Mukhtar Ahmed

Proforma-3

Survey of Graduating Students

Results of survey of graduating students based on Proforma 3 are given in bar graph as under. The graduating students in the last semester of their degree were surveyed before the award of degree. The graph showed that on an average most of the students were very satisfied (VS) and satistified with regards to various questions asked through survey questioner. The information regarding the individual question are presented in graph.

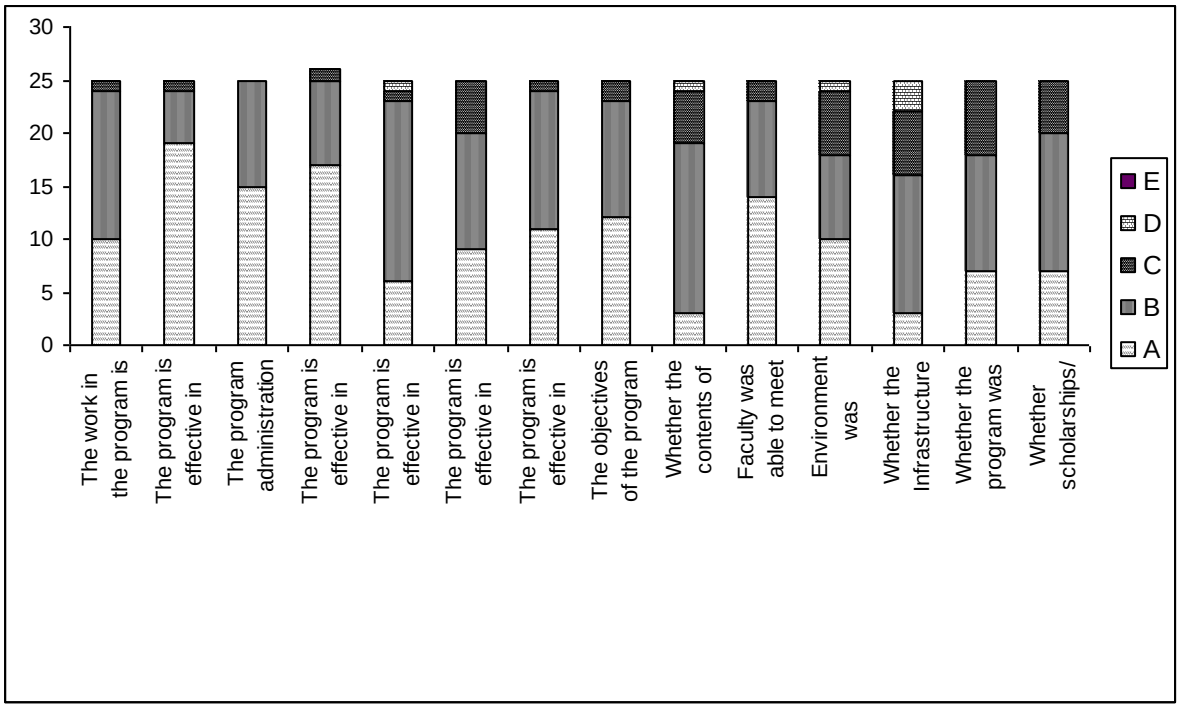

Figure-49: Survey of Graduating Students

Affectivity of internship:

The affectivity of internship was evaluated by conducting survey of graduating students. Data was collected from 25 students at the end of internship program. Majority of the students told that they were satisfied from the programme. The level of satisfaction and dissatisfaction regarding different questions are shown in the graph as under.

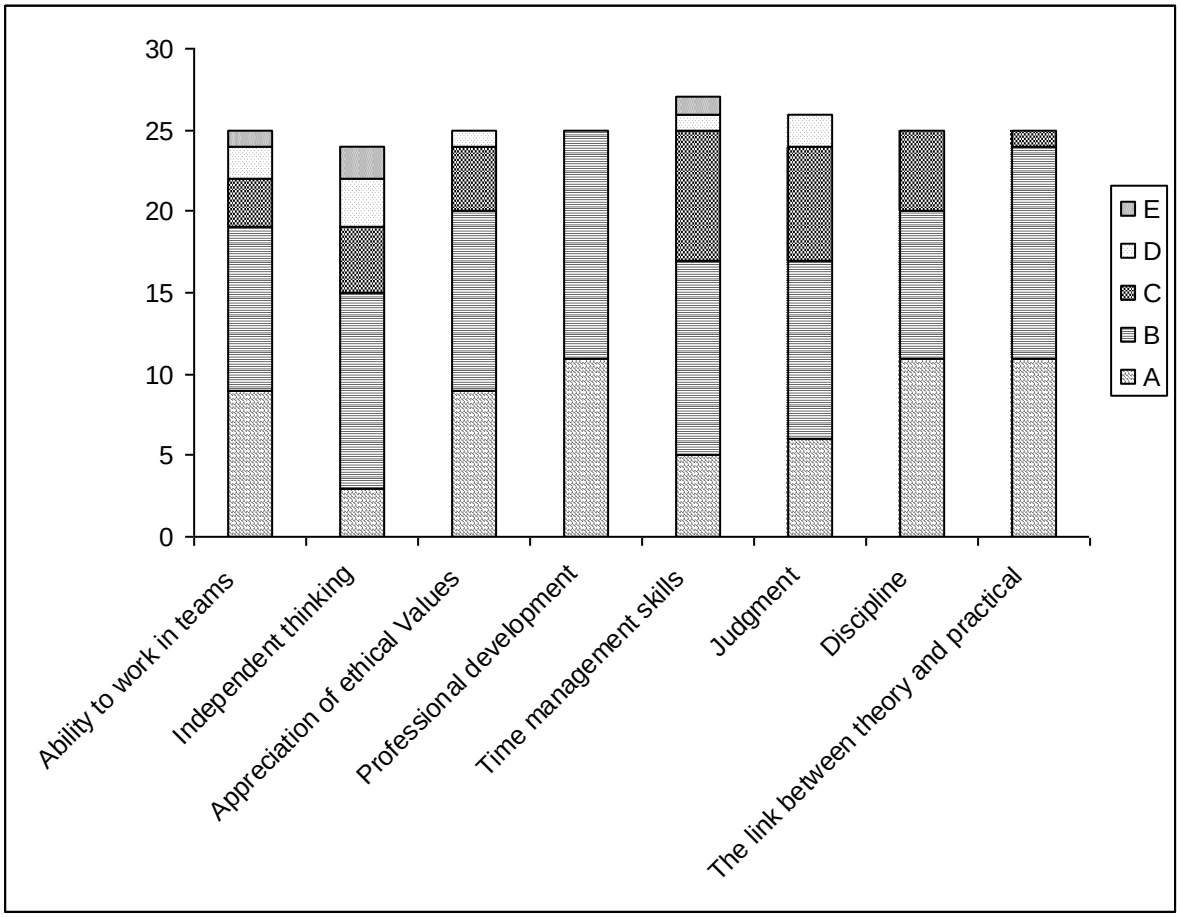

Figure-50: Affectivity of internship

Difficulties highlighted by the students:

1. Accommodation problem.
2. Lack of cooperation from officers for learning at some stations.

Improvements suggested:

The internees should be placed where the research/accommodation facilities are available.

Proforma 7

Alumni Survey:

Since majority of the Agronomy graduates joins research institutions and different organizations, Proforma 7 sent to them for their feedback. The overall results of program assessment by the alumni are presented in the Fig.51. About 100 alumni were surveyed and 85% of the alumni were of the view that the knowledge regarding science and professional discipline was good provided to them and 60% of the alumni were of the view that the ability to link theory to practical was good and 35% marked as very good. About 5% of the alumni graded fair about IT knowledge. Data showed that 60% of the alumni agreed that they got very good training about report writing, about 45% were of the view that they got good training of oral communication, and presentation skills. The data regarding individual parameter is shown in the graph.

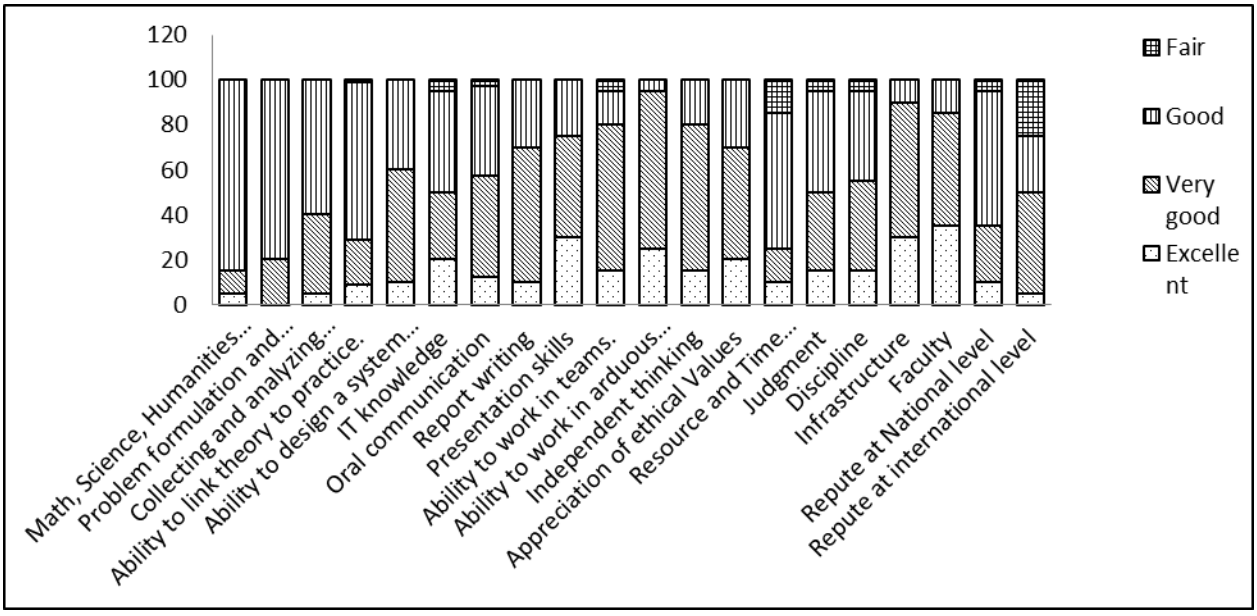

Figure-51: Alumni Survey

Proforma 8

Employer Survey

The purpose of this survey was to obtain employer's point of view about the skills and working of former students of Agronomy Department working in their organizations. The survey included University graduates employed in different organizations. A total of 10 employers provided the data. About 50% employers were of the view that the students graduted from PMAS-AAUR had very good knowledge of science, and 60% employers agreed that candidates have very good ability to link theory to practical. 80% of the employers viewed that the candidate had very good report writing skills and 30% agreed that they had excellent power of problem solving skills, and have great ability of oral communication and are reliable and ethically sound. Some of the employers showed a little concern regarding computer skills of the candidates. Overall performance of the university graduate was good as reflected from the employer survey.

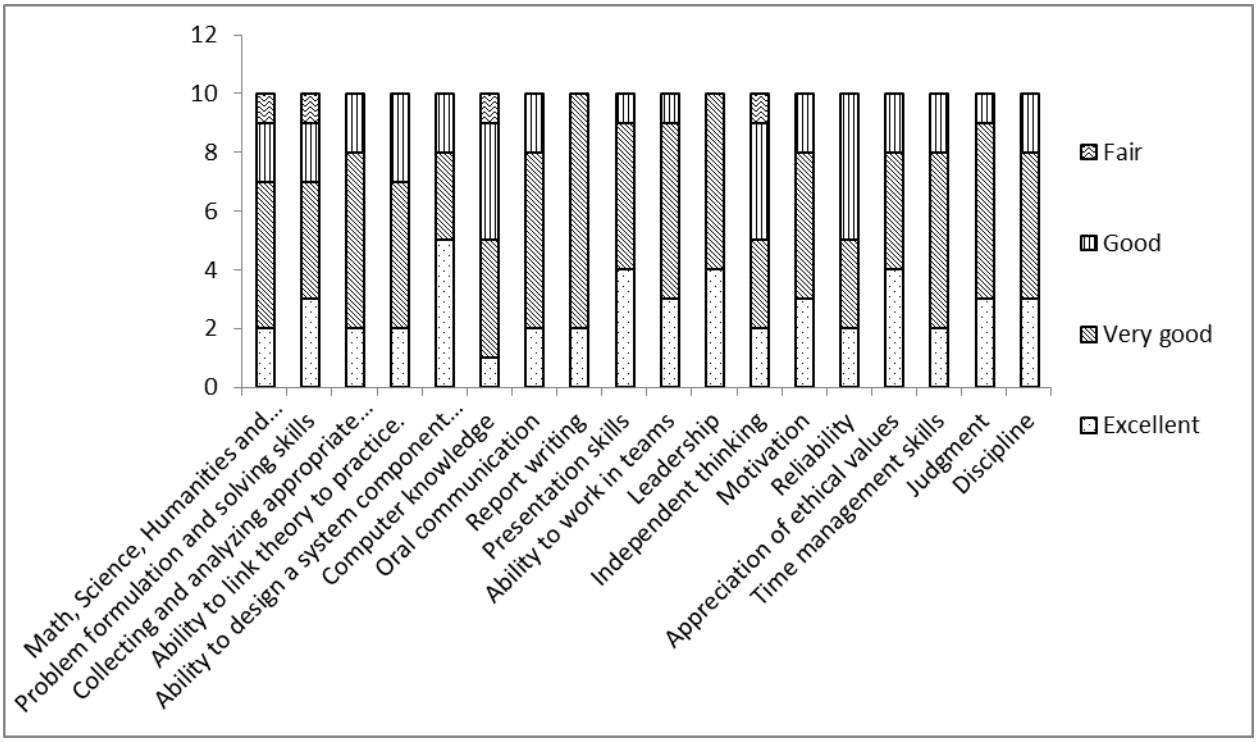

Figure-52: Employer Survey

Standard 1-3: The results of Program's assessment and the extent to which they are used to improve the program must be documented.

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 in variety of subjects such as crop physiology, fodder production, stress physiology, crop nutrition, weed science, crop modeling etc. and their full acquaintance with respective subjects. Majority of the faculty members are foreign qualified and are well versed in their area of interest. Their work has been published in national and international Journals They have also implemented national research projects and are highly conscious of the problems to be taken by the postgraduate students.

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. Green-house facilities are also lacking. Lecture rooms, common rooms, post-graduate laboratories are also lacking.

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:

Quantitative Assessment of the Department

Sr. #	Particular	No	Remarks
1.	B.Sc (Hons.) Degree awarded	48	Most of the students got admission to M.Sc (Hons.) while few got jobs.

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 use modern research tools, techniques and skills for building their professional career.

Standard 1-4: The department must assess its overall performance periodically using quantifiable measures.

Present Performance Measures for Research Activities (2010-12)

S. No.	Name of faculty member	Research Papers	Projects Completed
1.	Dr. Muhammad Azim Malik	11	-
2.	Dr. Fayyaz-ul-Hassan	21	2 (PSF, PMAS-AAUR)
3.	Dr. Zammurad Iqbal Ahmad	6	
4.	Dr.Abdul Razzaq	11	3(UAF, HEC)
5.	Dr. Irfan Aziz		
6.	Dr. Muhammad Ansar	13	
7.	Dr. Muhammad Rasheed		
8.	Dr. Abdul Manuaf	3	
9.	Dr. Mukhtar Ahmad	16	
10.	Mr. Safdar Ali		
11.	Dr. Allah Wasaya	5	1 (PMAS-AAUR)
Total		**86**	**6**

Faculty Satisfaction Regarding the Administrative Services

- .Administrative meeting (departmental, university, academic council and syndicates) are attended as and when required.
- The department upholds a percentage 4:1 for the academic (technical) and administrative non-technical staff which fulfils the standard set by HEC
- Proper records of the following is maintained:

(i) Research Reports

(ii) Assignments

(iii) Tour reports

(iv) Attendance report

(v) Evaluation report

(vi) Student Enrolment

Table No: 5

Degree	Pre-requisites
B.Sc (Hons.)	Academic minimum score of 2.5 CGPA, 140 credits hours normally in eight semester or maximum 12 semesters, examination evaluation and internship.

Major Future Improvement Plans

- Execution of research projects.
- Establishment of Crop Seed Research, Production and Training Centre.
- 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:

Degree Title: B.Sc. (Hons) Agriculture, major in Agronomy

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 on the basis of intermediate marks.

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	**Objectives**		
	HRD	**Research oriented**	**Integrated**
B .Sc. (Hons.) Agriculture	Highly satisfactory	Satisfactory	satisfactory

The Curriculum fits very well and satisfies the core requirements for the program, as specified by the respective accreditation body. The Curriculum satisfied the general arts and professional and

other discipline required for the program according to demands and requirements set by the Higher Education Commission (HEC).

Standard 2.2: Theoretical background, problems analysis and solution design must be stressed within the program's core material.

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

Standard 2.3: Credit hours distribution

Elements	Credit hours/ semester	Total credit hours	Theory	practical
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: Information technology component of the curriculum must be integrated throughout the program

There is deficiency of computer related courses but some activities and courses in program are useful to give basic training of computer use. However, during curriculum preparation all aspects of information technology were considered and after a critical analysis, relevant aspects were integrated into the program as:

• Courses related to IT and statistics based on computer practical usage were included in the curriculum to fulfill the I.T. requirements for the students of B.Sc (Hons) Agric. degree.

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

- Assignments are given to students relevant to course having practical usage which are presented by them orally and submitted as written report. This practice not only increase their knowledge but also enhance their oral and written communication skills.
- A 4 credit hours course of project planning, execution and scientific writing has been included in the curriculum of B.Sc. (Hons.) Agriculture.

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 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 funding 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

List of Lab Equipments of Agronomy Department

S. No.	Name of Item	Model, Make & Specification
1.	Analytical Balance	Sortorious 210 –S
2.	Balance Electronic	D-5 M-USA
3.	Balance Open Pan	Setra BL-410-S
4.	Top Loading Balance	Q-T-5000
5.	Analytical Balance	AR-2140 Ohaus USA
6.	Spring Balance	-
7.	Tripple Beam Balance	-
8.	Bio-microscope	XSZ-107BN
9.	Distillery Apparatus	Automatic Model 2001-2
10.	Hot Plate Magnet	Model ARE VELP Italy

	Stirrer	
11.	PH Meter	HANNA PH 210
12.	EC Meter	HANNA 215
13.	Centrifuge machine	Hermle Z 16019M-14000rpm
14.	Water Bath	-YCW-01
15.	Spectrophotometer	UV-9100,AC-220,50HRZ
16.	Leaf Area Meter-I	Model Cl-203,USA
	Leaf Area Meter-II	Model Cl-202,USA
17.	Seed Moisture Tester	Dickey JhonUSE-100Grams
18.	Chlorophyll meter	Japan made, Digital
19.	Hand Refractometer	ATAGO ATC 1-E Brix ,Made in Japan
20.	AXYOS incubator	LAE LTW 1 T2 MD control, Australia
21.	Osmometer 010	Fuse 05 A, Germany
22.	Flame photonmeter	Jenway PFP-7
23.	Seed counter	EG02C-Pakland
24.	Growth chamber	GLSC-HGC
25.	Drying oven	350C-1000Lit
26.	Seed cleaner	PQ303
27.	Seed Dispensing Machine	GLSC-SD02-01
28.	Drying Oven	3513-LC
29.	Gridding Machine	FFC/45 with motor 03 pH, China

- **Shortcoming in Laboratory facilities:**

The department has no class/lecture rooms, common room and library. Presently classes are being held in research laboratories. Moreover, a green house is direly needed for controlled experiments especially for stress experiments. Equipments regarding growth analysis/physiological parameters like IRGA and water potential measurement devices like moisture monitoring, Neutron probe, tensiometers, etc are lacking.

- **Safety arrangements:** There is no security plans and no proper safety arrangement in case of emergency. There is no emergency exit for the lab and classroom. No fire extinguishers have been installed in any laboratory.

Standard 3.1: Laboratory manuals / documentation / instructions for experiments must be available and edaily accessible to faculty and students.

Laboratory manuals of each subject are not available. The department has no library at all. However, books and thesis are placed in Chairman office.

Standard 3-2: There must be support personal for instruction and maintaining the laboratories.

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

Standard 3-3: The University computing infrastructure and facilities must beadequate to support program's objectives.

- **Computer facilities :** Most of the faculty members have their personal computers.
- **Shortcoming in computing infrastructure:** Computers with internet facilities should be available to all faculty members.

CRITERION 4: STUDENT SUPPORT AND ADVISING

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: Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner.

- Courses are taught as per policy of HEC.
- At undergraduate and postgraduate level courses are offered as per scheme of study provided by HEC and approved.
- Courses are offered according to scheme of study.
- 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: Courses in the major area of study must be structured to ensure effective interaction between students, faculty and teaching assistants.

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 assignments are given to the students whereas practicals 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 on how to complete the program must be available to all students and access to academic advising must be available to make course decisions and career choices.

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.
- Student can interact with the teachers in university, whenever they need.
- Realizing the need for exploring job opportunities for the university graduates, Directorate of Student Resource Centre has been established at PMAS-AAUR.

CRITERION 5: PROCESS CONTROL

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: The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

- 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.)	F.Sc. (Pre-medical)

- It is based on the recommendations of selection committee

Standard 5-2: The process by which students are registered in the program and monitoring of students progress to ensure timely completion of the program must be documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

- 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 quiz, 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.

<u>Standards 5-3:</u> The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

- Recruitment policy followed by the university is recommended by HEC for induction of new faculty is done 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 of 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.

<u>Standard 5-4:</u> The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meting its objectives.

- 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: The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The controller of examinations announces the examination commencement date. 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. Fayyaz-ul-Hassan Sahi	Professor	Ph.D.	UK	15-05-1963	fayyaz.sahi@uaar.edu.pk
2.	Dr. Muhammad Azim Malik	Professor	Ph.D.	USA	20-06-1955	drazim61@gmail.com
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.	Dr. Muhammad Ansar	Associate Professor	Ph.D.	UK	14-10-1964	Muhammad.ansar@uaar.edu.pk drmatarar@gmail.com
6.	Dr. Ghulam Qadir	Associate Professor	Ph.D.	PK	01-12-1968	Qadir@uaar.edu.pk
7.	Dr. Muhammad Rasheed	Assistant Professor	Ph.D.	PK	09-10-1962	drrasheed786@gmail.com
8.	Dr. Irfan Aziz	Assistant Professor	Ph.D.	PK		dIrfan.aziz@uaar.edu.pk
9.	Dr. Abdul Manaf	Assistant Professor	Ph.D.	PK	20-02-1970	munafawan@yahoo.com
10.	Dr. Mukhtar Ahmed	Assistant Professor	Ph.D.	PK	01-10-1979	mukhtarahmad@uaar.edu.pk
11.	Dr. M. Naveed Tahir	Lecturer	Ph.D.	China		
12.	Mr. Safdar Ali	Lecturer	M. Sc. (Hons.)	PK	01-10-1974	safdaraliarid@yahoo.com
13.	Dr. Allah Wasaya	Lecturer (leave vacancy)	Ph.D.	PK	13-10-1982	wasayauaf@gmail.com

Table: 8 Faculty Distribution by Program Areas in Agronomy

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

Standard 6.2: All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

- Professional training and availability of adequate research and academic facilities are provided to the faculty members according to the available resources.
- 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: All faculty members should be motivated and have job satisfaction to excel in their profession.

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

Proforma No. 5:

Results of Faculty Survey:

Table regardind faculty survey depicted that moast of the faculty members were satisfied from job such as job security, support from the department etc. But, they are slightly satisfied with the mentor available to them and progress through ranks. Some have their view that there is little problem regarding research facilities, and they desired that research facilities should be available. Some of the faculty members reflected their views in the proformas that they have less time for their families.

	Dr. M. Azim	Dr. F.U. Hassan	Dr. Z.I. Ahmed	Dr. A. Razzaq	Dr. M. Ansar	Dr. M. Rasheed	Dr. I. Aziz	Dr. A. Manaf	Dr. Mukhtar Ahmed	Dr. A. Wasaya
Your mix of research, teaching and community service	B	A	B	B	A	B	B	B	B	B
The intellectual stimulation of your work.	B	B	B	B	B	B	B	A	B	B
Type of teaching / research you currently do.	B	A	B	B	B	A	A	A	B	A
Your interaction with students.	A	A	A	B	B	B	B	B	A	B
Cooperation you receive from colleagues.	A	B	B	A	B	B	B	A	B	A
The mentoring available to you.	B	B	B	B	B	B	B	B	B	B
Administrative support from the department.	A	B	B	B	B	B	B	B	B	B
Providing clarity about the faculty promotion process.	A	B	C	B	B	B	B	B	D	D
Your prospects for advancement and progress through ranks.	B	B	C	B	B	B	B	B	D	D
Salary and compensation package.	A	C	B	B	B	B	B	B	D	B
Job security and stability at the department.	A	A	B	B	B	B	A	B	B	D
Amount of time you have for yourself and family.	B	A	B	A	D	B	A	C	D	B
The overall climate at the department.	A	B	B	B	B	B	B	A	D	B
Whether the department is utilizing your experience and knowledge	A	B	C	B	B	B	A	A	B	B

What are the best programs/ factor currently available in your department that enhances your motivation and job satisfaction?	All research groups are working good	No comment	Students motivation	Appropriate understanding of faculty	Field work directly beneficial for rural people of rainfed area	Proper guidance and consultation with senior colleagues	Should be combine team effort	We all discuss all matter related to res. and teach.	No such program available	Combine team effort
Suggest programs/factors that could improves your motivation and job satisfaction	Out reach program and field work	As above	-	Develop. Of promotion policy	Team work & participatory work needed	Promotion policy needed	Proper time promotion	More facilities related to res. and teach. should be available	Appreciation, training about new tools, Distribution of prizes	Appreciation, adjustment on regular basis

CRITERION – 7: INSTITUTIONAL FACILITIES

Criterion – 7: Institutional Facilities

Standard 7.1: The institution must have the infrastructure to support new trends in learning such as e-learning.

According to criterion the department must have the infrastructure to support new trends in learning and research including publications etc.

- 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.
- 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: The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

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-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

Research laboratories are being used for teaching purpose which affect the working of research students. Teachers have shared offices and in some offices two to three faculty members are sharing their offices. Common room for students is also missing.

CRITERION – 8: INSTITUTIONAL SUPPORT

Criterion – 8: Institutional Support

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: There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

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 laboratories, computer facilities and a departmental library.

Standard 8-2: There must be an adequate number of high quality graduate students, research assistants and Ph.D. students.

The intake is once in a year. A strict merit policy applies and University test/GRE/NTS is preferred. Around 25 students are allotted agronomy as major subject in their 5^{th} semester of B.Sc. (Hons) Agriculture.

Standard 8-3: Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities.

Total budget of the department of agronomy for the financial years 2010-11 was Rs. 202,000 which does not fulfill the departmental needs particularly for the purchase of equipment, chemicals etc.

SUMMARY

Agronomy is a diverse profession that encompasses all aspects of crop production and soil management. The Department is leading in the areas of food, agriculture and natural resources. The department started its B.Sc. (Hons.) degree program in 1986. The Department has well structured academic programme of B.Sc. (Hons) Agriculture. The courses aim to develop and strengthen students capacity to grasp principles and practices of Agronomy based on scientific principles. Agronomy graduates have key understanding of the modern concepts of crop and soil management. In addition they have sufficient specialist knowledge in selected areas to allow them to pursue a research degree in crop science. Graduates acquire scientific background as well as having gained experience in problem solving and have developed the communication, numerical and computer skills required for a wide range of careers. In order to assess whether department is fulfilling its objectives or not, surveys on various aspects such as course evaluation, teacher evaluation, alumni survey, graduating students surveys and faculty survey etc. have been conducted by the departmental members of the program team. The data revealed that students are satisfied with the subject approach of faculty members, their fairness in examination, and level of knowledge. However, the limited availability of lecture rooms and poor laboratories infrastructure were reported as major hurdles.

The Department has highly qualified and experienced faculty mostly having post doctorate research experience from foreign universities. The faculty has produced 86 publications during the last 2 years in journals of national and international repute.

The performance of the department may be further improved considering;

- Separate class rooms are required to enable the post-graduate students to continue laboratory works without breaks.
- There is also need to improve mix of research and teaching proportion to produce professionally sound graduates,
- Departmental Laboratories need strengthening through new equipments.
- At present there is no departmental library. Allocation of sufficient funds for this purpose will be helpful to establish a departmental library.

Annexure-1

List of Courses offered by the department

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-502	Principles of plant nutrition and Growth Regulators	3(2-2)
AGR-503	Crop Growth & Development	3(2-2)
AGR-504	Stress Physiology	3(2-2)
AGR-505	Crop water management	3(2-2)
AGR-506	Principles of Weed Management	3(2-2)
AGR-507	Seed production technology	3(2-2)
AGR-508	Forage and fodder production	3(2-2)
AGR-509	Conservation agronomy	3(2-2)
AGR-602	Internship	15(0-30)
AGR-601	Agro-technology of Non-traditional crops	3(2-2)
AGR-603	Biological Nitrogen Fixation	3(2-2)
AGR-604	Farming systems and farm records	3(2-2)
AGR-605	Field crop ecology	3(2-2)
AGR-608	Project planning and scientific writing	4(0-8)
AGR-610	Crop growth modeling and its application	3(2-2)

Proforma 9 FACULTY RESUME

Name	Prof. Dr. Fayyaz Ul Hassan
Personal	Professor of Agronomy Department of Agronomy University of Arid Agriculture, Rawalpindi Phone Office: +92-51-9062217, Cell: 0300-9514597 Fax Office: +92-51-9290160 e-mail:fayyaz.sahi@uaar.edu.pk drsahi63@gmail.com Phone Residence: +92-51-4848187
	Name: Fayyaz-ul-Hassan Date of Birth: 15-05-1963 Father's Name: Abdul Latif Permanent Address: Village & Post Office TOOR, Teh. & Distt. JHELUM
	EDUCATION University/Board — Degree — Year Curtin University of Technology, Perth, Australia — Post Doc — 2007 University of Wales Aberystwyth (UK) — PhD — 1995 University of Agriculture, Faisalabad (Pakistan) — M.Sc(Hons) — 1988 University of Agriculture, Faisalabad (Pakistan) — B.Sc(Hons) — 1986 Board of Intermediate & Secondary Education, Mirpur — F.Sc(Pre-medical) — 1981 Board of Intermediate & Secondary Education, Rawalpindi — Matric(Science) — 1979
Experience	**Date of Appointment** — **Title** — **Institution** 23-06-2007 — Professor of Agronomy — PMAS-AAU, Rawalpindi 29-05-2004 to 22-06-08 — Associate Professor — As above 22-01-1998 to 28-05-04 — Assistant Professor — As above 15-01-1992 to 22-01-98 — Assistant Agronomist — Agric. Dept. Govt. o Punjab 16-11-1989 to 14-01-92 — Agricultural Officer — As above 01-01-1989 to 15-11-89 — Assistant Research Officer — As above •
Honor and Awards	University Best Teacher Award for 2007, Awarded by HEC, Islamabad Endeavour Pakistan Research Award by Govt. of Australia, 2007 Overseas Research Students Award 1994-95(Awarded by CVCP UK). Ministry of Education Scholarship for PhD 1992.
Memberships	Life Member of Old Student Association, University of Wales, Aberystwyth. Life Member of Agriculture Society, of Wales, Aberystwyth

	Life Member Soil Science Society of Pakistan Life Member Pakistan Society of Agronomy Life Member Agricultural Foundation of Pakistan Life Member Pakistan Botanical Society
Supervised Students	PH.D STUDENTS THESIS SUPERVISED Shuaib Kaleem 2010 Physio-morphic expression of Sunflower in response to environmental variations Mukhtar Ahmad 2011 Climatic Resilience of Wheat (Triticum aestivum) using simulation modeling in Pothwar M.Sc(Hons) STUDENTS THESIS SUPERVISED Obaid Afzal 2011 Response of Safflower to Integrated Nutrient management. M. Usman Qadir 2011 Comparison of Brassica genotypes for yield and quality traits under rainfed conditions Fozia Kanwal 2011 Response of Safflower to Silicic acid for physio-morphi attributes Farina Shaheen 2011 Response of Safflower to Potassium silicate for drought tolerance Munir Jillani 2012 Response of Brassica hybrids to detoping
Service Activity	Teaching and Research.
Brief Statement of Research Interest	• Crop production and Management. • Oilseed crop production and enhancement. • Alternate crop production. • Soil conservation and crop production •
Publications	**PUBLICATIONS IN IMPACT FACTORS & HEC RECOGNIZED JOURNALS** 1. ***Fayyaz-ul-Hassan*** and Muhammad Arif. 2012. Response of white Mustard (*SINAPIS ALBA* L) to spacing under rainfed conditions J. Anim. & Plant Sci. 22:137-141. **(IF.0.585)** 2. Ahmad Sher, Muhammad Ansar, ***Fayyaz-ul-Hassan***, Ghulam Shabbir and Muhammad Azim Malik. 2012. Hydrocyanic Acid Content Variation amongst Sorghum Cultivars Grown with Varying Seed Rates and Nitrogen Levels. Int. J. Agric. & Biol. 14:720-726. **(IF.0.94)** 3. Mukhtar Ahmed, ***Fayyaz-Ul-Hassan***, M. Aslam and M.A. Aslam. 2012. Physiological Attributes Based Resilience of Wheat to Climate Change. Int. J.

Agric. & Biol. 14:407-412. . **(IF.0.94)**

4. Muhammad Akmal, M.S. Altaf, R. Hayat, ***Fayyaz-ul-Hassan***, M. Islam. 2012. Temporal changes in soil urease, alkaline phosphatase and Dehydrogenase activity in rainfed wheat field of Pakistan. J. Anim. & Plant Sci. 22:457-462. **(IF.0.585)**
5. Mukhtar Ahmed, ***Fayyaz-ul Hassan*** and M. Asif. 2012. Physiological response of bread wheat (*Triticum aestivum* L.) to high temperature and moisture stresses. Aust. J Crop Sci. 6:749-755. . **(IF.1.623)**
6. ***Fayyaz-ul-Hassan*** and Mukhtar Ahmed 2012. Oil and fatty acid composition of peanut cultivars grown in Pakistan. Pak. Jour. of Botany, 44(2):627-630. . **(IF.0.94)**
7. Muhammad Islam, S. Ali, S. Mohsin, R. Khalid, ***Fayyaz-ul-Hassan***, A. Mehmood and S. Afzal. 2012. Relative efficiency of two sulfur sources regarding nitrogen fixation and yield of Chickpea. Communications in Soil Science and Plant Analysis, 43:811–820**, (IF. 0.506)**
8. Mukhtar Ahmed and ***Fayyaz-ul-Hassan,*** 2011. "Cumulative Effect of Temperature and Solar Radiation on Wheat Yield". Not. Bot. Horti. Agrobo., 39(2):146-152**.(IF.0.643)**
9. Mukhtar Ahmed, ***Fayyaz-ul-Hassan***, Yasir Khurshid, 2011. Does silicon and irrigation have impact on drought tolerance mechanism of sorghum?. Agric. Water Manag. 98:1808-1812. **(IF. 1.998)**
10. M. Ijaz, M. I. Haque, C. A. Rauf, ***Fayyaz-ul-Hassan***, A. Riaz, S. M. Mughal. 2011. Correlation between humid thermal ratio and epidemics of Cercospora leaf spot of Peanut in Pothwar. *Pak. J. Bot*., 43(4): 2011-2016. **(IF.0.94)**
11. Islam, M, S. Mohsan, S. Ali, R. Khalid, ***Fayyaz-Ul-Hassan***, A. Mahmood and Abid Subhani, 2011. Growth, Nitrogen Fixation and Nutrient Uptake by Chickpea (*Cicer arietinum*) in Response to Phosphorus and Sulfur Application under Rainfed Conditions in Pakistan. Int. J. Agric. & Biol. 13:725-730. . **(IF.0.94)**
12. Mukhtar Ahmed, ***Fayyaz-ul-Hassan***, M. Aqeel Aslam, Mustazhar Nasib Akram and M. Akmal, 2011. Regression model for the study of sole and cumulative effect of temperature and solar radiation on wheat yield**.** Afr. J. Biotech. 10(45):9114-9121.
13. M. Ahmed, ***Fayyaz-Ul-Hassan***, A. Razzaq, M.N. Akram, M. Aslam, S. Ahmad & M. Zia-Ul-Haq. 2011 "Is Photothermal quotient determinant factor for spring wheat yield?" Pak. Jour. of Botany, 43(3):1621-1627. . **(IF.0.94)**
14. Shuaib Kaleem, ***Fayyaz- ul- Hassan***, M. Ahmad, Imran Mahmood, Allah Wasaya, M. A. Randhawa and Pervaiz Khaliq. 2011. Effect of growing degree days on autumn planted Sunflower. Afr. J. Biotech. Vol. 10(44):8840-8846
15. ***Fayyaz-ul-Hassan***, S. Kaleem & M. Ahmad. 2011. Oil and fatty acid distribution in different circles of sunflower head. Food Chemistry, 128: 590-595. **(IF.3.478)**
16. Mukhtar Ahmed, **Fayyaz-ul-Hassen**, Ummara Qadeer & M. Aqeel Aslam 2011. Silicon application and drought tolerance mechanism of sorghum" Afr. J. Agric. Res. 6(3): 594-607.

PUBLICATIONS IN OTHER JOURNALS

1. Abid Hussain, Abdul Saboor, Muhammad Azeem Khan, Abdul Qayyum Mohsin and ***Fayyaz -ul-Hassan***. 2012. Technical Efficiency Of Wheat Production In Rain-Fed Areas: A Case Study Of Punjab, Pakistan. *Pak. J. Agri. Sci.,* 49(3), 411-417.
2. Safdar Ali, Sahiba, M. Azim Malik, ***Fayyaz-ul-Hassan*** and M. Ansar. 2012. Growth of rainfed fodder maize under different levels of nitrogen and phosphorus. Pak. Jour

	Agric. Res. 25(3):196-205. 3. Sidra Mukhtar, Muhammad Arshad, Saikat Basu, ***Fayyaz-ul-Hassan***, Mukhta Ahmed and Muhammad Asif. 2012**.** Influence of capsule position on seed traits and oil content of linseed (*Linum usitatissimum* L.). Plant Knowledge Journal. 1(2):52 56. 4. M. Ahmed, Muhammad Asif, ***Fayyaz-ul-Hassan***, Zammurad Iqbal Ahmed and Arshad Nawaz Chaudhry. 2012. Resilience of physiological attributes of whea (*Triticum aestivum* L.) to abiotic stresses. Scientific Research & Essays. 7(35):3099 3106. 5. Shuaib Kaleem, ***Fayyaz- ul- Hassan***, I. Mahmood, M. Ahmad, Rehmat Ullah and M Ahmad. Response Of Sunflower To Environmental Disparity**.** Nature and Science 9(2):73-81. 2011 6. Shuaib Kaleem, ***Fayyaz-ul-Hassan***, M.A.A.H.A. Bukhsh, I. Mahmood, R. Ullah, M Ahmad and A. Wasaya "Oil and Oil Quality in Different Circles of Mature Sunflower Head as Influenced by Varying Environments". Pakistan Journal o Nutrition 10 (4): 373-377, 2011
Research Grants and Contracts	**<u>Research Grants and Contracts</u>** **Date** **Title** **Funding Agency/An** July, 2008-June 2011 Phenotypic plasticity of safflower (*Carthamus tinctorius*) in response to environment and integrated Nutrient management. PARC, 1.9 million
Selected Professional presentation	**Participation in Workshops/Conferences/Symposiums** 1. 12th National and 3rd International Botany Conference held at Quaid-I-Azan University, Islamabad, 1-3 September, 2012. 2. International Seminar on "Crop Management: Issues and options" held at University of Agriculture, Faisalabad. 1-2, June, 2011. 3. Stakeholders workshop "Edible oilseed Crops: Threats and challenges from production to consumption" held on 4th Aug. 2010 at University of Agriculture Faisalabad. Final meeting of ICARDA project "Integrated watershed development for food security and sustainable improvement of livelihood in Barani areas" held on 15-17 June, 2010

Dr. Zammurad Iqbal Ahmed			
Personal	Father's Name:	Ghulam Ahmed	
	Date of Birth :	1st May 1960	
	Gender :	Male	
	Nationality :	Pakistani	
	Marital Status :	Married	
	Present Address :	Associate Professor University of Arid Agriculture, Rawalpindi, Pakistan Phone : Office 051-9062256 Cell 0333-5101247 E-mail : azammurad@hotmail.com	
	Residential Address :	House # 11, University Colony # 2 Opposite Divisional Public School, Shamsabad Rawalpindi, Pakistan	
	Permanent Address :	Kakrala, Tehsil Sohawah, District Jhelum Pakistan	
ACADEMIC & PROFESSIONAL QUALIFICATION	Examination Passed	Year of Passing	Major Subjects
	Matriculation	1976	Science Group
	F. Sc.	1979	Science Group
	B. Sc. (Hons.)	1984	Agronomy(Production and Field Management)
	M. Sc. (Hons.)	1986	Agronomy(Production and Field Management)
	Ph. D.	1996	Agronomy(Production and Field Management)
	MBA Management	2004	Human Resource
	Post Doc China	2008	Zhejiang University
	COMPUTER TRAINING	FROM TO	TOPIC
	Pakistan Computer Bureau Training Islamabad	02.04.2001 01.05.2001	IT

EXPERIENCE	I have a variety of experience in teaching, research and extension services. I have served in BS-17 in Government of the Punjab from June 15, 1986 to December 28, 1986 I have been serving as Lecturer since 1986 in Barani Agricultural College, Rawalpindi. Currently I am working in University of Arid Agriculture, Rawalpindi as Associate Professor. Here my main duties are teaching and research both at undergraduate and graduate levels. I have published a number of research articles in journals of repute. I am member of Academic Council and Faculty Board of Studies. I have also the charge of Head of the Department of Library for the last ten years. I had been Hall Warden for about two years and member of Central Purchase Committee of the University. I am also member of National Curriculum Revision Committee of Higher Education Commission.
LIST OF PUBLICATIONS	1. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. Emir. J. Food Agric. 22 (1): 25-36. 2. Jin, Z.L. F. Zhang, Z.I. Ahmed, M. Rasheed, M.S. Naeem, Q.F. Ye, W.J. Zhou. 2010. Differential morphological and physiological responses of two oilseed *Brassica* species to a new herbicide ZJ0273 used in rapeseed fields Pestic. Biochem. Physiol. In Press, Corrected Proof, Available online 18 April 3. Ullah, N., L. Xu, Z. I. Ahmed, M. Rasheed, G. Jilani, M. S. Naeem, W. Shen and W. Zhou. 2011. Ultraviolet-C mediated physiological and ultrastructural alteration in *Juncus effuses* L. shoots. Acta Physiologiae Plantarum: 33(2) 481-488. 4. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2011. Response of maize-legume intercropping system

to different fertility sources under reainfed conditions. Sarhad J. Agric. 27(4):503-511.

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

6. Minhas, N. M., S. U. Ajmal, Z. I. Ahmed and M. Munir. 2012. Genetic analysis for grain quality traits in Pakistan wheat varieties. Pak. J. Bot. 44(5): Accepted.

Proforma 9

Dr. Abdul Razzaq

Name	Dr. Abdul Razzaq
Personal	Father's Name: Muhammad Din Religion: Islam Nationality: Pakistani Date of Birth: August 1, 1957 Postal Address: University of Arid Agriculture Rawalpindi. PC - 46300. Pakistan Permanent Address: House No.15, Colony No.2, University of Arid Agriculture (Murree Road), Rawalpindi, Pakistan Phone Number: 0092-51-4455173 (home) 0092-321-5623307 (mobile) Email: arazzaq57@yahoo.co.in Qualifications: Certificate/Degree Year of passing Institute Div./Grade Major Subject B.Sc.(Hons)Agri. 1986 Barani Agri. College, B (3.96 CGPA) Agronomy University of Agriculture Faisalabad M.Sc.(Hons)Agri. 1988 University of Agriculture B (3.77 CGPA) Crop physiology Faisalabad Ph. D. 2005 Agricultural University of Hebei, A (94%) Plant Breeding Baoding PR China & Genetics
Experience	Associate Professor University of Arid Agriculture Rawalpindi From Sept 2007 to date Agronomy Assistant Professor University of Arid Agriculture Rawalpindi From Ma 2005 to Sep- 2007 Agronomy Lecturer Agronomy University of Arid Agriculture Rawalpindi From Ju 1988-March 2005 1- About 24 years' experience of teaching introductory courses on Crop Production and Management, Crop Physiology, and Supervision of Master students. 2- About five years' experience of rice production and its pest management in Pest Management Project of Pakistan Agricultural Research Council, Islamabad.

	Additional Duties: 1 Hostel superintendent Barani Agricultural College Raalpindi (Presently PMAS University of Arid Agriculture Rawalpindi) for more than three years 2- Incharge Agronomy Laboratory, University of Arid Agriculture Rawalpindi w.e.f 2006 to date Equipped the lab for all basic facilities for research in stress physiology and nano-biotechnology 3- Chairman Masjid Committee, Main Campus PMAS-AAUR 4- Controller of Examinations w.e.f 26th May, 2012 to Oct. 2012
Honor and Awards	1- Academic Gold Medal for standing first in B.Sc. (Hons.) Agri. (1982-86) 2- Certificate of Appreciation from Hebei Academy of Agriculture and Forestry Sciences, Shijiazhuang, PR China 3- Honor Certificate from Hebei Education Department, Shijiazhuang PR China 4- Member Syndicate, PMAS-Arid Agriculture University Rawalpindi for three years w.e.f. 2008 to 2011 5- Member Planning and Finance Committee, PMAS-Arid Agriculture University Rawalpindi for three years w.e.f. 2008 to 2011
Students Supervised	PH.D STUDENTS THESIS SUPERVISED **Name Year Title** Muhammad Ahmed 2012 Responsiveness of wheat varieties to chilling period and developing temperature based sowing model Abdul Qayyum 2011 Molecular and physiological evaluation of wheat cultivars for drought tolerance Imran Mahmood 2012 Improvement of wheat for drought tolerance through tissue culture M.Sc. STUDENTS THESIS SUPERVISED Talal Ahmed Shafique 2012 Relationship between proline accumulation

	and drought tolerance in wheat. Madiha Rashid 2012 Evaluation of Abscisic acid sensitivity as a criterion for drought tolerance in wheat Riaz Hussain Shahzad 2011 Qualitative response of canola to different temperature and moisture regimes Hafiz Muhammad Shahzad Akhtar 2011 Study on drought tolerance of maize in relation to anthesis interval
Service Activity	Teaching and Research.
Brief Statement of Research Interest	Stress Physiology, Biological Yield Potential of Crops, Genetic Transformation of Crops
Publications	1. Mahmood, I., A. **Razzaq**, S. A. H. Bukhari and M. N. Tahir. 2010. Optimizat NPK for quantitative and qualitative response of lentil (lens culinaris Medic.) cu under rainfed conditions. J. Agr. Res. 48 (3). (X-category) 2. Arshad Ullah, M., J. Azal, M. Anwar, A.S. Rana, M. Rasheed, A. Ali, **A.Razzaq**. Assessment of promising exotic grasses at Faisalabad, Pakistan. Pak. J Agri. Sci. 1-5 (X) 3. Mahmood, I., **A. Razzaq**, M. Ashraf, I.A.Hafiz. S. Kaleem, A. Qayyum, M. A 2012. *In vitro* selection of tissue culture induced somoclonal variants of whe drought tolerance. J. Agri. Res. 50(2) (X category) 4. Ahmad, M., Fayyaz-ul-Hassan, A. Razzaq, M.N. Akram, M. Aslam, S. Ahmad a ul-Haq. 2011. Is photothermal quotient determinant factor for spring wheat yield? Bot., 43(3): 1621-1627. (IF) 5. Mahmood, I., A. Razzaq, Z. Khan, I.A. Hafiz, and S. Kaleem. 2012. Evaluation of culture responses of promising wheat (Triticum aestivum L.) cultivars and develo of efficient regeneration system. Pak. J. Bot. (Special Issue) 44: 277-284 (IF) 6. Rao, S.R., A. Qayyum, A. Razzaq, M. Ahmad, A. Sher.2012. Role of foliar appli of salicylic acid and L-trptophan in drought tolerance of maize. JAPS, 22 (3): 76 (IF) **International** 7. Mahmood, I., A. Razzaq, I.A. Hafiz, S. Kaleem, A. A. Khan, A. Qayyum and M. A 2012. Interaction of callus selection media and stress duration for in vitro selec drought tolerant callus of wheat. African J. Biotechnol. 11(17), pp. 4000-4006. (IF) 8. Ahmad, M., A. Razzaq, A. Qayyum and M. A. Jenks. 2011. Response of sprin wheat (Triticum aestivum L.) cultivars to different chilling treatments. African J. B AJB-11-2331. African J. Biotech. 10(73): 16541-16547. (IF) 9. Qayyum, A., A. Razzaq, M. Ahmad and M. A. Jenks. 2011. Water stress differential effects on germination indices, total soluble sugar and proline con wheat (Triticum aestivum L.) genotypes. African J. Biotech. 10(64): 14038-14045. 10. Razzaq, A., I. A. Hafiz and I. Mehamood. 2011. Development of in planta transfo

	protocol for wheat. African J. Biotech. 10(5), 740-750. (IF) 11. Kaleem, S., Fayyaz-ul-Hassan, A. Razzaq, A. Manaf, and A. Saleem. 2010. (Rhythms in sunflower (Helianthus annuus L.) in response to environmental di African J. Biotech. 9 (15): 2242-2252. (IF)
Research Grants and Contracts.	1- Strengthening Informal Seed Supply System at Two Locations in Pothwar Through Participatory Technology Transfer Funds: Rs. 2.087 millions Funding agency: Endowment Fund University of Agriculture Faisalabad Duration 2 years (July 2011 to June 2013) 2- Potential Application of 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 Duration: 3 years (January 2012 to December 2014)
Selected Professional presentation	**1. Razzaq, A.**,, A. Rehman and M. Jabeen. 2011. Effect of Silver Nano-Partic Germination and Seedling Growth of Wheat. Poster Presentation In: Recent Tren Chemistry. 3rd Chemistry Conference. PAEC, Pakistan. October 17-19, 2011 (Presentation).

Proforma 9

<table>
<tr><td>Name</td><td>Muhammad Ansar</td></tr>
<tr><td>Personal</td><td>Associate Professor Agronomy, Pir Mehr Ali Shah – Arid Agriculture University Murree Road, Rawalpindi

Ph. No. 03215563037</td></tr>
<tr><td>Experience</td><td>
<table>
<tr><th>Date</th><th>Title</th><th>Institution</th></tr>
<tr><td>28.05.2010 to date</td><td>Associate Professor - Agronomy</td><td>PMAS-AAUR</td></tr>
<tr><td>05.03.2005 to 27.05.10</td><td>Assistant Professor - Agronomy</td><td>PMAS-AAUR</td></tr>
<tr><td>23.10.2003 to 04.03.2005</td><td>Assistant Research Officer -Agronomy</td><td>Fri, Sargodha</td></tr>
<tr><td>26.04.1997 to 22.10.2003</td><td>Assistant Research Officer-Agronomy</td><td>Sawcri, Chakwal</td></tr>
<tr><td>01.09.1991 to 25.04.1997</td><td>Assistant Research Officer-Agronomy</td><td>Bari, Chakwal</td></tr>
</table>
</td></tr>
<tr><td>Honor and Awards</td><td>(1) Overseas Research Student Award (By CVCP UK)
(2) 1st Position in Agronomy during B.Sc. (Hons) Agri.
(3) Muslims Student Scholarship Award, (FOSIS UK)
(4) Ministry of education scholarship for PhD from U.K.
(5). PMAS-AAUR Award for Post-doctoral training at ICARDA, Syria.
(6) 1st division throughout the academic career.</td></tr>
<tr><td>Memberships</td><td>➢ Life membership of Agronomy Society of Pakistan
➢ Life membership of Soil Science Society of Pakistan
➢ Life membership of Weed Science Society of Pakistan
➢ Member and Subject Matter Specialist of Sarhad Journal of Agriculture
➢ Member and Subject matter specialist of Journal of Agriculture Research, AARI, Faisalabad
➢ Member of Journal of Phytopathology Society of Pakistan</td></tr>
<tr><td>Graduate Students
Postdocs
Undergraduate Students

Honour Students</td><td>
<table>
<tr><td>Rao Sabir Sittar</td><td>Evaluation of Different Oats-Vetch Mixtures for Forage Yield and Quality Under Rainfed Condition</td></tr>
<tr><td>Fahid Sheraz</td><td>Comparison of Winter Fodder Crops for Yield and Quality Under Rain fed Condition of Pothwar.</td></tr>
<tr><td>M. Asad Mukhtar</td><td>Forage Yield and Quality as Influenced by Different Ratios of Winter Cereals With Vetch</td></tr>
</table>
</td></tr>
<tr><td>Service Activity</td><td>Teaching and research</td></tr>
</table>

Brief Statement of Research Interest	1- Forage production, preservation and utilization. 2- Conservation Agriculture. 3- Integrated Weed Management. 4- Management of Farm Crops.
Publications	**A-PUBLICATIONS IN HEC RECOGNISED NATIONAL JOURNALS** 1. 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. 2. 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. 3. 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. 4. 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. 5. 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. 6. Ashiq, S., Javed, H. I., S., Saleem, R., **M. Ansar**; Zia, M. A. 2011. Effect of split application of potash fertilizer on maize and sorghum in Pakistan. Pakistan Journal of Agricultural Research. 24(1-4): 31-34. **A1-PUBLICATIONS SUBMITTED IN HEC RECOGNISED NATIONAL JOURNALS** 7. **Ansar, M**., A. Sher, M. Irfan, M. A. Mukhtar and M. Hussain. 2012. Evaluation of barley cultivars for forage and seed yield under rainfed conditions of Pothwar. Submitted in Journal of Animal and Plant Sciences No.12-0161. 8. **Ansar, M**., A. Sher, M. Hussain, M. Irfan and M. Majeed. 2012. Comparison of hybrid VS composite brassica varities for forage and seed yield under rainfed conditions of Pothwar. Submitted in Journal of Animal and Plant Sciences No.12-0194. 9. **Ansar, M**. S.S. Ijaz, M.A. Malik, F. Sheraz, A. Sher and G. Shabbir. 2012. Yield and quality of sugarbeet genotypes as influenced by cultivation methods in a subtropical climate. Submitted in Pak. J. Bot. **B- INTERNATIONAL PUBLICATIONS**

10. Sher, A., **M. Ansar**, G. Shabbir, M. A. Malik, A. Wasaya and R. H. Qureshi. 2012. Variability of hydrocyanic acids in fresh leaves of forage sorghum (Sorghum Bicolor (L.) Moench) grown under different soil moisture regimes. Archive Des Sci., 65(11): 752-762.
11. Jabeen Z., A. Riaz, K. Sultana, A. Ikram, **M. Ansar,** I. Hassan and I. Ahmad 2012 Incidence of *Aspergillus flavus* and extent of aflatoxin contamination in peanut samples of Pothwar region of Pakistan. African Journal of Microbiology Research Vol. 6(9), pp. 1942-1946.
12. Sher A., Lorenzo. B., **M. Ansar,** A. Manaf and S. Kaleem**.** 2011. Late harvest associated with P and S fertilization enhances yield and quality of forage sorghum (*Sorghum bicolor* (L.) Moench), grown as a rainfed crop in Pakistan. African Journal of Agricultural Research. 29 (6):6232-6239.
13. Umair A., S. Ali, **M. Ansar**, R. Hayat. 2011. Evaluation of seed priming in mung been vigna radiate for yield, nodulation and biological nitrogen fixation under rainfed conditions. African Journal of Biotechnology. 79 (10) 18122-18129.

E-Book Published

14. Zahid, A., A. khunam, and **M. Ansar**. 2011. Sorghum Hydrogen Cyanide-cutting and post cutting effect. VDM Verlag Publishers, Germany.

Research Grants and Contracts.

Date	Title	Agency / Organization	Status	Duration
	cut and carry Fodder	USAID	Completed	200-08
	Feed livestock	IFAD	Completed	2007-2009
	comparison of different cereal-legume fodder mixtures	PMAS-AAUR	completed	2009-210
	Development of On-Farm Students Research Facilities (at Koont Gujar Khan)		In progess	2007 to to date

Proforma 9

Irfan Aziz

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. • 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.
Service Activity	Teaching and Research.

Proforma 9: Faculty *Resume*

Name	Dr. Muhammad Rasheed
Personal	*Assistant professor,* Department of Agronomy, PMAS Arid Agriculture University, Rawalpindi. Cell #0334- *5204364*
Experience	16-03-1988 to 29-03-2005 Agriculture Officer- In Agri. Ext. Deptt. 30-03-2005 to 22-09-2006 *Lecturer - PMAS-AAUR* 23-09-2006 to onward *Assistant professor PMAS-AAUR*
Honor and Awards	i. Award of post doctorate fellowship by HEC for the year 2007.
Memberships	*i. Life membership of Society of Agronomy of Pakistan.* *ii. Program Team Member for Self Assessment Report of Agronomy Department* *iii. Secretary board of study of the department*
Graduate Students Postdocs Undergraduate Students *Honour Students*	**Imran Ali Shah**- M.Sc. (Hons.)- Yield and yield attributes of rain fed lentil as influenced by various phosphorus fertilizer levels (Completed, 2010). **Sajjad Ahmad**- M.Sc. (Hons.)- Enhancing phosphorus use efficiency in mungbean by co-application of fertilizers and compost (Completed, 2010) **Marium Maqsood** M.Sc. (Hons.)-Enhancing bioavability of Phosphorus through acidulation of rock phosphates (Completed, 2011) **Awais Ali**- M.Sc. (Hons.)-Enhancing Solublisation of Phosphorus through acidulation of Farmyard manure (Completed, 2011)
Service Activity	*i. Informal wheat seed supply to the farmers in two locations of district Rawalpindi and Chakwal districts.* *ii. Self-assessment reports compilation and submission to University QEC.*
Brief Statement of Research Interest	*Crop Nutrient management, Stress physiology/Stress tolerance in plants and cropping patterns*

Publications	*List publications in standard bibliographic format with earliest date first.* 1. Ling XU., U. Najeeb, W.Q. Shen, G. Jilani, **M. Rasheed** and W.J. Zhou .2010 Establishment of *Agro bacterium*-mediated BT gene transformation system in mat rush (*juncus effusus* l.) ***Pak. J. Bot.*, 41(5): 2615-2624. (Impact factor: 0.937).** **2. Rasheed, M**., G. Jilani, I. A. Shah, N. Ullah and T. Iqbal. 2010. Improved lentil production by utilizing genetic variability in response to phosphorus fertilization. **Acta Agri. Scandinavica, Section B - Plant Soil Science, 60(6):485-493 (Impact factor: 0.699).** **3.** Jinking Z. L., F. Zhang, Z. I. Ahmad, **M. Rasheed,** L. Lu, Q. F. Ye, W. J. Zhou. 2010. Differential morphological and physiological responses of two oilseed Brassica species to new herbicide ZJ0273 used in rapeseed fields. Pesticide Biochemistry and Physiology 98 (2010) : 295-302. **(Impact factor**: **2.064)** 4. M.S. Naeem , **M. Rasheed** , D. Liu , Z.L. Jin , D.F. Ming, K. Yoneyama, Y. Takeuchi and W.J. Zhou .2011. 5-Aminolevulinic Acid Ameliorates Salinity Induced Metabolic, Water Related and Biochemical Changes in *Brassica napus* L Acta Physiol Plantarum. 33:517–528. (**Impact factor**: **1.639).** 5. Najeeb, U., L. Xu, Z.I. Ahmed, M. Rasheed, G. Jilani, M.S. Naeem, W.Q. Shen and W.J. Zhou . 2011. Ultraviolet-mediated physiological and ultra structural alterations in Juncus effusus shoots, Acta Physiologiae Plantarum, 33: 481–488 **(Impact factor 1.639).** 6. Arshadullah, M., **M. Rasheed**, S. I. Hyder, and M. Anwar.2011. Screening of panicum antidotal grass species under spring and monsoon seasons in the mesic climate of Pothowar plateau (Pakistan), J. Ani. Plant Sci., 21(3): 531-534 **(Impact factor 0.585).** 7. Arshadullah, M., M. Anwar, S. N. Mirza, **M. Rasheed**. 2012. Forage production and nutritional quality of grasses in mesic climate of Pothwar plateau, Rawalpindi, J. Ani. Plant Sci., 22(3): 781-784 **(Impact factor 0.585).** 8. Awan, F. K., **M. Rasheed,** M. Ashraf, M. Y. Khurshid **.**2012 **.** Efficacy of brassica sorghum and sunflower aqueous extracts to control wheat weeds under rainfed conditions of Pothowar, Pakistan J. Ani. Plant Sci., 22(3): 715-721**(Impact factor 0.585).**. 9. Arshadullah, M. **M. Rasheed** , S. Bano and S. A. R. Zaidi.. 2012. Salinity shocks to rice (oryzasativa l.) at

	different growth stages, Accepted for J.Ani. Plant Sci. 22(4):2012 **(Impact factor 0.585).** 10. Arshadullah, M., M.A.Malik, **M. Rasheed**, G. Jilani ,F. Zahoor, and Shoaib Kaleem, 2010**.** Seasonal and Genotypic Variations Influence the Biomass and Nutritional Ingredients of *Cenchrus ciliaris* Grass Forage. **Internat. J. Agric. Biol. 13(1):120-124 (Impact factor 0.940)** 11. H. Ali, N. Tariq, S. Ahmad, **M. Rasheed**, T. H. Chattha and A. Hussain. 2012. Growth and radiation use efficiency of wheat as affected by different irrigation levels and phosphorus application methods. J. Ani. Plant Sci. 22(4):1118-1125 **(Impact factor 0.585).** 12. Razzaq A., A. Rehman, M. Jabeen,H.M. Jhanzeb**, M. Rasheed** and A. Hafeez.2012.Role of silver and gold nano particles in germination and seedling growth of wheat. African J. Biotech**. (Accepted on 30-05-2012 with previous impact factor=0.573)** 13. **M. Rasheed,** Kaleem, S., F. Zahoor, G. Jilani and M. Arshadullah.2012. Physio- morphic traits in mungbean (*Vigna radiata* l.) as influenced by varying phosphorus levels and sources under rainfed conditions **(Submitted in Journal of animal and plant Sciences (JAPS) for publication**). 14. Munaf A, E.Ahmad, **M. Rasheed**, A.Wasaya and A. Razzaq**.2012.** Morphological attributes in mungbean (V*igna radiata* l.) as influenced by seasonal variation under rainfed conditions **(Submitted in J. Ani. Plant Sci., vide #12-0741 for publication).** 15. Muhammad Arshadullah, Nazir Hussian, Helge Schemisky and Muhammad Rasheed.2012. Inoculation and intercropping of legumes in established grass for increasing biomass of fodder (**submitted in the JAPS).** 16. Muhammad Arshad ullah, Nazir Hussain, Helge Schemisky and Muhammad Rasheed.2012. Improving fodder quality through intercropping and inoculation **(submitted in Journal of chemical society of Pakistan).** 17. Muhammad Arshadullah, Nazir Hussain, Helge Schimesky and Muhammad Rasheed.2012.Fodder quality improvement through intercropping and fertilizer application. (**Submitted journal agricultura tropica et subtropica).** 18. Muhammad Arshadullah, Nazir Hussain, Helge Schimesky and Muhammad Rasheed.2012. Enhancing soil fertility through intercropping, inoculation and fertilizer application. (**Submitted in journal soil science**

& plant nutrition).

19. Mahmood, I., A. Razzaq, **M. Rasheed,** A. Qayyum, M. Ahmad, M. M. Q. Baig. 2012. Tissue culture induced somaclonal variation: A potential source of genetic variability for developing drought tolerant plants of wheat. Pak. J. Bot. **(Submitted for publication).**
20. Mahmood I**.,** A. Razzaq, **M. Rasheed**, A. Qayyum, M. Ahmad. 2012. Comparative study of somaclones and their donor parents for drought tolerance in wheat (Triticum aestivum L.). Aust. J. Crop Sci. **(Submitted for publication**).
21. Faisal Z, R. Zaheer, M. H. Kazmi , M. Hussain M. Ramzan Anser. M. Rasheed. S. H. Raza.2012. Wheat yield and phosphorus (P) use efficiency with various organic and inorganic P amendments under sub-humid climatic conditions (**Submitted for publication** in.**TAR-1212-79).**
22. Anser, M. R., F. Zahoor, M. A. Malik, K. Mahmood, M. Ansar, M. Rasheed and S. H. Raza .2012. Wheat response to various tillage-herbicide interactive systems under semi-arid climate. (**Submitted for publication Pak J. Bot**.)
23. Arshadullah M., M. Anwar, A.S. Rana, M. Rasheed, A. Ali .2012.Assessment of promising exotic forage grasses at Faisalabad, Pakistan, Pak.J. Agric. Sci. 49(2):339-343.
24. **Rasheed, M**., S. Kaleem, F. Zahoor, Imran Mahmood and Faiz Kareem.2011. Effect of phosphorus levels and sources on the growth and yield of mungbean (***Vigna radiata*** **L**.)-**Submitted in AJAR** for publication.
25. Arshadullah, M., **M. Rasheed** and S. A. R. Zaidi.2011. Salt tolerance of different rice cultivars for their salt tolerance under salt-affected soils **Internat. Res.J. Agr. Sci.and Soil Sci.**1-5:183-184 .
26. Arshadullah, M., **M. Rasheed** and S. A. R. Zaidi . 2011. Influence of toxicity thresh hold levels of sodium chloride in rice (Oryza sativa L.). **Agric. Sci. Res. J.** 1(6):126 – 128.
27. Kaleem S., M. Ahmad alias, H. A. Bukhsh, **M. Rasheed**, A. Wasaya, M.Ishaque and G. Qasim. 2010. Seed quality comparison of chickpea (Cicer arietinum l.) for the estimation of field planting values. **Life Sci Internat. J**. 4(4):1852-56.
28. M. Arshadullah, **M. Rasheed**, S. Bano and K.H: Abbasi .2011. Effect of salt stress on the growth and yield of digitaria grass (digitaria decumbens) in-vitro . **Pak: J. Live Sci**.3 (3): 192-196.
29. Malik M. A., F. Zahoor, M.R. Anser, **M. Rasheed**,

	U.Aslam, K. Mehmood and S. H. Raza.2012 Weed biomass and economic yield of wheat (*Triticum aestivum L.*) as influenced by chemical weed control under rainfed conditions. **African J. Biotech.** 11 -7- 1567-1573. 30. Faisal, Z., M. A. Malik, Khalid Mehmood, **M. Rasheed,** Ramzan Ansar, Muzammil Hussain, Mushtaq H. Kazmi1 and M. Jamil1 2012. Optimizing herbicide use in wheat (*Triticum aestivum* L.) under rain-fed conditions **African J of Agric Res** 7 (35): 4858 4866 31. A booklet published entitled " **Quality seed production techniques of Wheat"** with financial help" Strengthening Informal Seed Supply System at Two Locations in Pothwar Through Participatory Technology Transfer in 2012. 32. A booklet published entitled " **Importance of Groundnut seed and its production technology"** with financial help" Strengthening Informal Seed Supply System at Two Locations in Pothwar Through Participatory Technology Transfer in 2012. **<u>Booklets</u>** A booklet published entitled " **Quality seed production techniques of Wheat"** with financial help" Strengthening Informal Seed Supply System at Two Locations in Pothwar Through Participatory Technology Transfer in 2012 A booklet published entitled " **Importance of Groundnut seed and its production technology"** with financial help" Strengthening Informal Seed Supply System at Two Locations in Pothwar Through Participatory Technology Transfer in 2012.
Research Grants and Contracts.	**Title;** Enhancing Phosphorous Efficiency (PUE) in mungbean through acidulation of Phosphatic fertilizer with organic manures **Date :** 2010 **Agency / Organization :** PMAS-Arid agriculture University, Rawalpindi **Total Award Amount:** 0.100 Million **Completed :** Yes

Proforma 9

Dr. Abdul Manaf

Name	DR. ABDUL MANAF Assistant Professor
Personal	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.
Experience	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
Honor and Awards	Got HEC Post Doctorate Fellowship in 2010
Memberships	Member Pakistan Society of Agronomy.
Service Activity	Teaching and Research.
Brief Statement of Research Interest	Oil Seed Production, Crop Physiology, Seed Technology.
Publications	1. Allah Wasaya, Muhammad Tahir, Abdul Manaf, Mukhtar Ahmed, Shuaib Kaleem and Ijaz Ahmad. 2011. Improving maize productivity through tillage and nitrogen management. Afr. J. Biotechnol., 10(81): 19025-19034.

Proforma 9 *Faculty Resume*

Name	**Mukhtar Ahmed**
Personal	PMAS, Arid Agriculture University Rawalpindi-46300 Pakistan Telephone: +92-51-9290757 Cell: +92-300-5173896
Experience	List current appointment first, each entry as follows: ***Date, Title, Institution.*** **2011 - to-date** *Assistant Professor* PMAS Arid Agriculture University Rawalpindi, Pakistan **2005-2011** Lecturer PMAS Arid Agriculture University Rawalpindi, Pakistan **2004-2005** Agricultural Officer Farmer trainings and dissemination of research at Extension Department of Punjab Rawalpindi, Pakistan **2003-2004** Research Associate ALP Research Project (Sustainable cropping pattern for Pothwar Plateau) PMAS Arid Agriculture University Rawalpindi, Pakistan
Honor and Awards	✓ PIARN Australian Scholarship ✓ HEC Indigenous ✓ APCC Young scientist Scholarship S. Korea Busan ✓ Research Productivity Award 2012 By Pakistan Council for Science and Technology (PCST)
Memberships	✓ Australian Society of Agronomy ✓ American Society of Agronomy ✓ Pakistan Botanical Society ✓ Pakistan Society of Agronomy ✓ International Society for Agrometeorology (INSAM)
Graduate Students Postdocs Undergraduate Students *Honour Students*	**Years Degree Name** **Show other information as appropriate and list membership on graduate degree committees.** 1. 2010 M.Sc (Hons) Studies on climatic factors for sustaining wheat (*Triticum aestivum*) yield in rainfed conditions. 2. 2011 M.Sc (Hons) Comparison of different modeling approaches for simulating wheat growth kinetics 3. 2011 M.Sc (Hons) Evaluation of Silicon Enhanced Drought Tolerance in Wheat 4. 2012 MS (Biotechnology) Modeling QTL effects for Drought Stress Adaptation in Spring Wheat 5. 2012 M.Sc (Hons) Modeling NUE in wheat 6. 2012 MS Bioinformatics Modeling Disease Dynamics of Spring Wheat

	7. In process Modeling PUE in Wheat
Service Activity	Faculty representative at DSA office in the organization of faculty activities, Counseling to students
Brief Statement of Research Interest	*Crop modeling and physiology. Use and recommendation of model as decision support tool.* The top interest will be practical application of models to quantify the impact of different climatic variables and management practices on sugar crop yield and its quality. As Climatic variation has many facades including changes in rainfall pattern and distribution, temperature variability and ultimately prevailing extreme events on global scale. This variability had significant impact upon agricultural production and sustainability. The frequency of extreme events such as high temperatures is predicted to increase in a future warmer climate. Heat stress severely restricts plant growth and productivity and is classified as one of the major abiotic adversities for many crops particularly when it occurs during reproductive stages, which led to substantial yield. Therefore, I am determined to develop and validate model in response to climatic variables and management options. Furthermore recommendations of best management practices on longterm basis to ensure food security and yield sustainability under changing climate. Meanwhile conduction of sensitivity analysis to prove model as a decision support tool.
Publications	*List publications in standard bibliographic format with earliest date first.* 1. Floris van Ogtrop, **Mukhtar Ahmed**, Carina Moeller. Sea surface temperatures as predictors of seasonal rainfall in rainfed wheat growing areas of Pakistan. Accepted in Meteorological applications 2. Zohra Aslam, **Mukhtar Ahmed**, Muhammad Sajad, Muhammad Asif, Muhammad Akmal, Fahad Karim Awan, Waqas Ijaz, Raseela Ashraf, and Jabar Zaman Khan Khattak. **A Comparison of Statistical and Dynamic Modeling of Wheat (*Triticum aestivum* L.) Fungal Diseases under the Climate Change.** Accepted in Journal of Food Agriculture and Environment 3. Mukhtar Ahmed, Muhammad Asif, Muhammad Sajad, Jabar Zaman Khan Khattak, Waqas Ijaz, Fayyaz-ul-Hassan, Allah Wasaya and Jong Ahn Chun. **Could agricultural system be adapted to climate change? A Review.** Accepted in Australian Journal of Crop Sciences 4. Mukhtar Ahmed, Atif Kamran, Muhammad Asif, Ummara Qadeer, Zammurad Iqbal Ahmed, Aakash

Goyal. Silicon priming: a potential source to impart abiotic stress tolerance in wheat: A review. (2013). Australian Journal of Crop Sciences. 7(4): 484-491

5. Nazima Batool, Muhammad Asif, Muhammad Arshad, Fayyaz-ul-Hassan, Mukhtar Ahmed and Saikat Basu. Effects of siliqua position on physico-chemical composition of canola (*Brassica napus* L.) seed. (2013). Plant Knowledge Journal.2(1):51-55
6. *Mukhtar Ahmed, Arvind H. Hirani, Muhammad Asif, Muhammad Sajad. Modeling soil water dynamics under rainfed agriculture to mitigate climate change. (2013). Journal of Agriculture Science.5(3):90-104*
7. Mukhtar S., Arshad M., Basu S., Hassan F.U., Ahmed M., Asif M. Influence of capsule position on seed traits and oil content of linseed (*Linum usitatissimum* L.). (2012). Plant Knowledge Journal. 1(2): 52-56.
8. Ahmed M., Hassan F.U., Asif M "Physiological response of bread wheat (*Triticum aestivum* L.) to high temperature and moisture stresses" (2012) Australian Journal of Crop Sciences Vol:6(4) pp:749-755.
9. Ahmed M., Hassan F.U., Aslam M., Aslam M.A "Physiological Attributes Based Resilience of Wheat to Climate" (2012) International Journal of Agriculture & Biology Vol: 14(3) pp:407-412.
10. Hassan F.U., Ahmad M "Oil and Fatty Acid Composition of Peanut Cultivars Grown In Pakistan " (2012) Pakistan Journal of Botany Vol:44(2) pp:627-630.
11. Hayat R, Iftikhar-ul-Hassan M, Akram S, Sheirdil RA, Ahmed M (2012) Evaluation of compost application for improving legumes yield and N2-fixation. African J Biotec. 11(41):9758-9764.
12. Ahmed M, Hassan FU (2011) APSIM and DSSAT models as decision support tools. 19th International Congress on Modelling and Simulation, Perth, Australia. pp:1174-1180. http://mssanz.org.au/modsim2011.
13. Ahmed M., Hassan F. U, Khurshid Y "Does silicon and irrigation have impact on drought tolerance mechanism of sorghum" (2011) Agricultural Water Management Vol:98 pp:1808-1812.
14. Ahmed M and Hassan F.U. "Cumulative effect of temperature and solar radiation on wheat yield" (2011) Notule Botanicae Horti Agrobotanici Cluj-Napoca

	Vol:39(2) pp:146 -152. 15. Ahmed M., Hassan F.U., Aslam M.A., Akram M.N., Akmal M "Regression model to study sole and cumulative effect of temperature and solar radiation on wheat yield " (2011) African Journal of Biotechnology Vol:10(45) pp:9114-9121. 16. Wasaya A., Tahir, M., Manaf, A., Ahmed, M., Kaleem, S, and Ahmad, I "Improving maize productivity through tillage and nitrogen management" (2011) African Journal of Biotechnology Vol:10(81) pp:19025-19034. 17. Ahmed. M., F.U.Hassan., A.Razzaq., Akram. M.N., Aslam. M., S.Ahmad., M.Zia-ul-Haq "Is Photothermal Quotient Determinant Factor for Spring Wheat Yield" (2011) Pak. J. Bot Vol:43 pp:1621-1627. 18. Hassan F.U., Kaleem S., Ahmad M "Oil and fatty acid distribution in different circles of sunflower head" (2011) Food Chemistry Vol:128 pp:590-595. 19. Ahmed M., Hassen F.U., Qadeer U., Aslam M.A "Silicon application and drought tolerance mechanism of sorghum" (2011) African Journal of Agricultural Research Vol:6 pp:594-607. 20. Ahmed. M., F.U.Hassan., Aslam. M., Akram. M.N., Aslam. M.A "Photosynthesis of spring wheat (*Triticum aestivum*) in rainfed ecology of Pakistan" (2010) African Journal of Biotechnology Vol:9 pp:7495-7503. 21. Ahmed. M., F.U.Hassan., Asim. M., Aslam. M.A., Akram. M.N "Correlation of photothermal quotient with spring wheat yield" (2010) African Journal of Biotechnology Vol:9 pp: 7869-7876. 22. Ahmed. M., Hassen.F.U., Aslem. M (2010). Climatic Resilience of Wheat Comparing Modeled and Observed Crop Yields in Pothwar/East Pakistan. The International Journal of Climate Change: Impacts and Responses Vol:2(2) pp:31-48 23. 24.
Research Grants and Contracts.	✓ "Evaluation of Silicon Enhanced Drought tolerance in *Sorghum Bicolor*" (University funded). ✓ "Allelopathic crop residue use for weed management in rainfed areas of Punjab" Co-P.I. (HEC funded).

Other Research or Creative Accomplishments	GAM model for rainfall forecasting, APSIM parameterization
Selected Professional Presentations	1. Simulation Modeling: A Decision Support System for Agro-technology Tranfer for Improving the Standards of Research" Department of Agronomy, Bahauddin Zakariya University Multan from 04-05 March, 2013. National Invited Speaker Given two days training about APSIM 2. United Nations/Pakistan International Workshop on Integrated use of Space Technology for Food and Water Security (11-15 March 2013), Islamabad Pakistan 3. Water Policy Modeling Workshop by Pakistan Strategy Support Program and IFPRI at University of Agriculture Faisalabad (January 28-Febrauary 1, 2013) 4. International Conference on Crop Management in Changing Climate (Feb 11-13,2013) at University of Agriculture Faisalabad 5. Modeling Water futures Using Environment sustainability approach by National University of Sciences and Technology (NUST) (22-23 January 2013) 6. 12th National and 3rd International Conference of Botany (1st – 3rd September 2012) at Quaid-i-Azam University, Islamabad, Pakistan 7. International Conference on Climate, Water and Policy (ICCWP) 2012 11 - 13 September 2012 in Busan, Republic of Korea 8. International Symposium on Managing Soils for Food Security and Climate Change Adaptation and Mitigation, 23-27 July 2012. Vienna, Austria Conference Code: D1-CN-191 9. The 19th International Congress on Modeling and Simulation (MODSIM2011) Perth Convention and Exhibition Centre in Perth, Western Australia, from 12 to 16 December 2011 10. International Seminar on Crop Management: Issues and Options, 01-02 June, 2011 Department of Agronomy, University of Agriculture Faisalabad, Pakistan, Titles of Papers Presented: (i) "Modeling as a tool for crop management" (ii) "Forecasting of intermittent rainfall as risk management strategy" 11. The CCRSPI Conference 2011, The National Climate Change Research Strategy for Primary Industries Feb, 15-17, 2011, MCG, Australia. 12. PIARN Postgraduate Professional Development Workshop, Feb, 14, 2011, MCG, Australia. 13. Pakistan Metrological Department. National Conference

	on Global Warming Impact on Agriculture and Adaptation Strategies 8th July, 2010. 14. ASA, CSSA, SSSA, 2010, International Annual Meeting Oct31-Nov 4 Long Beach CA USA (Poster presentation Video Conferencing) Title: ENSO Cycle Effects on Rainfed Wheat of Pakistan. 15. The Second International Conference on Climate Change: Impacts and Responses, University of Queensland, Brisbane, Australia, 8 -10 July 2010. **www.Climate-Conference.com**. Title of presented: Climatic Resilience of Wheat: Simulation Modeling in Pothowar. (Presented Online)

Proforma 9 *Faculty Resume*

Name	Dr Allah Wasaya
Personal	Father's name Haji Ahmad Yar Date of Birth 13-10-1982 Phone Number +92-51-9290757, +92-300-6765024
Experience	Assistant Professor: Department of Agronomy, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi, Pakistan, 03/10/2012 to date. Lecturer: Department of Agronomy, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi, Pakistan, 01/10/2009 to 31/08/201231/08/2012
Honor and Awards	List honors or awards for scholarship or professional activity.
Memberships	Life member of Pakistan Society of Agronomy Annual member of Pakistan Botanical Society (2011)
Graduate Students Postdocs Undergraduate Students *Honour Students*	**Name Year Title** 1. Muhammad Affan. 2012. "Enhancing drought tolerance in maize by potassium application"
Service Activity	❖ *Teaching and Research,* ❖ Coordinator of departmental time table/date sheet ❖ Member of department Self-Assessment Report (SAR) team
Brief Statement of Research Interest	Nutrient Management in field crops, stress physiology and Tillage

Publications	**Papers published in HEC recognized journals** 2. **Allah Wasaya**, Muhammad Tahir, A. Tanveer and M. Yaseen. 2012. Response of maize to tillage and nitrogen management. J. Anim. Plant Sci. 22(2): 452-456. **(Impact Factor: 0.585)** 3. Sher, A., M. Ansar, M. A. Malik, **A. Wasaya,** G. Shabbir and R. H. Qureshi. 2012. Variability of hydrocyanic acids in fresh leaves of forage sorghum (*Sorghum bicolor* (L.) Moench) grown under different soil moisture regimes. Archive De Sci. 65(11): 752-762. 4. **Allah Wasaya**, Muhammad Tahir, Abdul Manaf, Mukhtar Ahmed, Shuaib Kaleem and Ijaz Ahmad. 2011. Improving maize productivity through tillage and nitrogen management. Afr. J. Biotechnol., 10(81): 19025-19034. 5. Shuaib Kaleem, Fayyaz- ul- Hassan, M. Ahmad, Imran Mahmood, **Allah Wasaya**, M. A. Randhawa and Pervaiz Khaliq. 2011. Effect of growing degree days on autumn planted sunflower. Afr. J. Biotechnol. 10(44): 8840-8846. 6. Kaleem, S., F. U. Hassan, M. A. A. H. A. Bukhsh, I. Mahmood, R. Ullah, M. Ahmad and **A. Wasaya**. 2011. Oil and oil quality in different circles of mature sunflower head as influenced by varying environments. Pak. J. Nutr., 10 (x): xx-xx, 2011.
Research Grants and Contracts.	**Date Title Agency / Organization** 2012. Enhancement of drought tolerance in maize by potassium application" PMAS-Arid Agriculture University, Rawalpindi.
Other Research or Creative Accomplishments	*N/A*

Selected Professional Presentations	1. **Wasaya, A.**, M. Tahir and A. Tanveer. 2011. Role of different tillage systems and nitrogen levels in improving maize yield. Abstract of the "*International seminar on Crop management: issues and options"* Faisalabad, Pakistan, June 01-02, 2011. 2. **Wasaya, A.,** F.U. Hassan, M. Tahir, M. Ansar and A. Manaf. 2012. Pyysiological expression and dry matter production of maize in response to tillage and nitrogen application. Abstarct of the "*12th National and 3rd International Conference of Botany*" Islamabad, Pakisatan Sep. 01-03, 2012.

Proforma 9 *Faculty Resume*

<table>
<tr><td>Name</td><td>SAFDAR ALI</td></tr>
<tr><td>Personal</td><td>Lecturer, Department of Agronomy, Faculty of Crop and Food Sciences, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi.

Mobile: +923085261880

Email: safdarali@uaar.edu.pk / safdaraliarid@yahoo.com</td></tr>
<tr><td>Experience</td><td>
<table>
<tr><td>Date</td><td>Title</td><td>Institution</td><td>Responsibilities</td></tr>
<tr><td>September 20, 2007 till to date</td><td>Lecturer</td><td>PMAS-Arid Agriculture University, Rawalpindi</td><td>Teaching and Research</td></tr>
<tr><td>November 2009 to date</td><td>Hostel Superintendent</td><td>Jinnah Hall for Boys Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi.</td><td>Management and look after of the Hostel and Student Affairs</td></tr>
<tr><td>17-02-2004 to 26.10.2006</td><td>Area Manager</td><td>Ali Akbar Enterprises Pakistan Ltd.</td><td>Management of field staff, Provision of Technical Advisory services to Agricultural Farmers for crop maximization and conducting research trials of different seeds fertilizers and pesticides on different crops</td></tr>
<tr><td>23-12-2000 To 17-02-2004</td><td>Technical Sales Officer</td><td>Syngenta Pakistan Ltd.</td><td>Management of field staff, Provision of Technical Advisory services to Agricultural Farmers and conducting</td></tr>
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<tr><td>Honor and Awards</td><td>1. HEC PhD Scholar
2. HEC Master Trainer
3. KOICA Master Trainer</td></tr>
<tr><td>Memberships</td><td>1. Life Member of Pakistan Society of Agronomy
2. Life Member of Pakistan Society of Weed Science
3. Member of Syndicate of PMAS-AAUR for the duration of 12-08-2011 to 11-08-2014.</td></tr>
<tr><td>Graduate Students
Postdocs
Undergraduate Students

Honour Students</td><td>
Graduate Students Supervised
<table>
<tr><td>Sr. No.</td><td>Name</td><td>Degree</td><td>Year</td><td>Thesis Title</td></tr>
<tr><td>1</td><td>Tauqir Ahmad</td><td>M. Sc. (Hons.) Agriculture</td><td>2013-14</td><td>Response of soil weed seed bank to different tillage systems in rainfed wheat</td></tr>
</table>
Committee Member of graduate students
<table>
<tr><td>Sr. No.</td><td>Name</td><td>Degree</td><td>Year</td><td>Thesis Title</td></tr>
<tr><td>1</td><td>Mubashar Hussain</td><td>M. Sc. (Hons.) Agriculture</td><td>2013-14</td><td>Comparative study of soil weed seed bank determination techniques in rainfed wheat</td></tr>
</table>
</td></tr>
<tr><td>Service Activity</td><td>Technical Advisory Services to the Farmer Community Through Telecom.</td></tr>
<tr><td>Brief Statement of Research Interest</td><td>RESEARCH INTERESTS
• Weed science
• Seed bank dynamics</td></tr>
</table>

	• Conservation agriculture • Tillage systems • On-farm crop production • Fodder crops • Crop nutrition
Publications	**Articles published by refereed journals.** 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. **Papers under review:** 1. Qualitative response of maize fodder to different levels of N & P under rainfed conditions. 2. Yield and quality of rainfed sorghum fodder under different levels of nitrogen and potash 3. Growth response of wheat and weed flora to different tillage systems at developmental stage 4. Response of *Convolvulus arvensis* to different tillage combinations in rainfed wheat 5. Dynamics of *Fumaria indica* under different tillage systems in rainfed wheat 6. Dynamics of *Chenopodium album* under different tillage systems in rainfed wheat