

# **ANAND AGRICULTURAL UNIVERSITY**

## **2<sup>nd</sup> ANNUAL REPORT**

**2005-06**

# Acknowledgement

During the year 2005-2006 the Anand Agricultural University received assistance from many quarters in running the activities of the University research projects and various Educational and other programmes

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Mission Director, Bio-technology Mission, Gujarat State, Gandhinagar

Sr. General Manager (Operation) Unimark Remedies Ltd. Bavla

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General Manager (Tech.) Excel India, Mumbai

Research Development Manager, Crop Protection Products EI Dupont India Pvt. Ltd., Gurgaon

R&D Dept., Crystal Phosphate Ltd., New Delhi

General Manager (R&D), Excel Crop Care Ltd., Mumbai

Sr. Technical Manager, PI Industries Ltd., Gurgaon

Bayer Crop Science Ltd., Ahmedabad

The Manager, Product Development, EID Parry India Ltd. Bangalore

Marketing Manager, Krushi Rasayan Exports Pvt. Ltd. Ahmedabad.

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Dr.Purachand D.Mistry  
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## **Chapter – 1**

### ***Anand Agricultural University: Genesis and vitae***

Way back, in the forties, Krishi-go-Vidya Bhavan was established by the Iron Man of India, Sardar Vallabhbhai Patel not as merely an educational institution, but as a mission, a cause, primarily conceived to revitalize agriculture, following Gandhiji's call for village regeneration.

The Anand Agricultural University (AAU), carved out of the erstwhile Gujarat Agricultural University, was established at Anand by the Government of Gujarat, by enactment of Gujarat Act No. 5 of 2004. The Act was passed by the Gujarat Legislative and was assented by HE the Governor of Gujarat on 4<sup>th</sup> March, 2004. Through AAU, the farming community is being provided support in all the three facets, namely education, research and extension activities in agriculture and all its allied fields.

#### **Vision**

#### **Agriculturally Prosperous Gujarat and India**

#### **Mission**

- Search for new frontiers of Agricultural Sciences
- Development of excellent human resources and innovative technologies
- Service to farming community

AAU is located in Central Gujarat, in the Milk City Anand, three kilometers away from the Railway Station, 72° 50' longitude and 22° 35' latitude to the south, consisting of an area of approximately 301 ha. The Central Gujarat climatic zone includes six districts, i.e., Ahmedabad, Anand, Kheda, Vadodara, Panchmahal and Dahod, with a network of three colleges, seventeen research centers, and six extension education institutes.

The university imparts education in Agriculture, Veterinary, Dairy Science and allied sciences through semester system at following colleges:

1. B. A. College of Agriculture, Anand
2. Sheth M. C. College of Dairy Science, Anand
3. College of Veterinary Science & Animal Husbandry, Anand
4. Post-graduate Institute of Extension Education, EEI, Anand
5. Post-graduate Institute of Food Processing Technology & Bio-energy, Anand

The number of students admitted and passed during the academic year 2006-07 are as under:

Degree	Admitted	First class with Distinction	First class	Second Class	Pass Class	Total (passed out)
<b>Graduate</b>						
B.Sc.(Agri.)	64	12	12	32	14	70
B.V.Sc. and A.H.	64	05	19	14	00	38
B.Tech.(D.T.)	57	04	25	12	00	41
<b>Post Graduate</b>						
M.Sc.(Agri.)	78	06	21	36	--	63
M.V.Sc.	45	16	28	01	--	45
M.Sc. (Dairying)	06	--	--	--	--	--
M.Tech. (D.T.)	02	--	--	00	--	00
M.Sc.	08	--	03	--	--	03
M.Tech.(FPT)	05	--	--	--	--	--
Ph.D.	21	--	--	--	--	25
PG Diploma in Agril. (I.T.)	06	--	--	--	--	00

Further, **185** Candidates cleared various Diploma and Certificate courses organized by AAU.

All the research activities of AAU focus on productivity, sustainability, and improvement of the socio-economic condition of the farming community. These goals of AAU encompass newer areas such as distributing Soil Health Card, manufacturing Bio-fuel, growing medicinal plants along with the conventional crops and processing of food products on the agricultural plane, while animal scientists are busy conducting high quality research for preventive and curative measures against infection/infestation, high productivity in poultry/livestock, and different measures in animal nutrition. Under the Dairy Technology, emphasis is being placed on uplifting the standards of milk and milk products to compete at international level.

Our Extension discipline is actively engaged in transferring the technology from the lab to the land. The main motto of AAU as regards reaching out to the farmers right at the grass root level is being diligently carried out by the Extension Educationists. They are committed to integrate development and innovation in the rural areas through promoting sustainable and equitable rural progress.

There were other activities such as NCC, NSS, sports and games, youth festivals, quiz and debate competitions, discussion forum providing platform to the students to express themselves, to focus on technical and behavioral skill, and personality development of the students.

Dr M.D. Patel Library was selected by NATP, ICAR, New Delhi, as the Regional Library, to form a part of the nation-wide consortium of eighteen libraries, and eventually, acquired the status of Regional e-Library, with 2 MBPS connectivity, more than 66,000 entries electronically catalogued, 2170 theses abstracts digitized, and with the issue of e-cards, now e-circulation is fully operational in the Library. It caters to the educational needs of all the three colleges.

### **Authorization**

The authority to govern the affairs of Anand Agricultural University flows from the GAU Act, 2004.

A detailed account of AAU activities is presented in the subsequent chapters of the report. It is our continued endeavor to make agricultural research, education, and extension more responsive towards development needs of our farmer community.

## **Chapter - 2**

### ***Governance & Management***

The AAU is a body corporate established under the GAU Act, 2004 (Gujarat Act No. 5 of 2004) and consists of the Chancellor, Vice-Chancellor, Board of Management, Academic Council and Officers of the University. It has territorial jurisdiction of six districts of Gujarat namely Ahmedabad, Anand, Dahod, Kheda, Panchmahals and Vadodara.

The University is vested with the following powers.

- (1) to provide for education and instruction in agriculture and allied sciences and in such other branches of learning as the University may deem fit;
- (2) to make provision for research in agriculture and allied branches of learning;
- (3) to make provision for dissemination of the findings of research and technical information through extension education programmes;
- (4) to make such provision which would enable affiliated colleges and recognised institutions to undertake specialisation of studies;
- (5) to institute degrees, diplomas and other academic distinctions;
- (6) to lay down courses of study and instruction for various examinations;
- (7) to hold examinations and confer degrees, diplomas and other academic distinctions and grant certificates to persons who—
  - (a) have pursued approved courses of study in the University or in a college unless exempted there from, in the manner prescribed and have passed the examinations prescribed by the University, or
  - (b) have carried on research under conditions prescribed;
- (8) to withdraw or cancel any degree, diploma or certificate conferred or granted by the University in such manner as may be prescribed;
- (9) to confer honorary degrees and other distinctions in the manner prescribed;
- (10) to provide lectures, instructions and training to persons who are not enrolled students of the University and to grant such certificates to them as may be prescribed;
- (11) to co-operate with any other University or authority in such manner and for such purpose as the University may determine;
- (12) to establish and maintain colleges for imparting education in agriculture and allied sciences,
- (13) to establish and maintain laboratories, libraries, research stations and institutions and museums for teaching, research and extension education;
- (14) to create such teaching, administrative and other posts as the University may deem necessary from time to time and make appointments thereto;

- (15) to institute and award fellowships, scholarships and prizes in accordance with the Statutes;
- (16) to associate or admit educational institutions imparting education in agriculture and allied sciences with, or to the privileges of the University by way of affiliation or recognition;
- (17) to withdraw or modify, either in whole or part, affiliation or recognition of educational institutions;
- (18) to inspect colleges and recognised institutions and to take measures to ensure that proper standards of instruction, teaching and training are maintained in them and that adequate library and laboratory provisions are made therein;
- (19) to lay down and regulate the salary scales, allowances and other conditions of service of the members of the teaching, other academic and non-teaching staff of the University;
- (20) to lay down and regulate the salary scales, allowances and other conditions of service of the members of the teaching, other academic and non-teaching staff in the affiliated colleges and recognised institutions;
- (21)
  - (a) to control and co-ordinate the activities of, and to give financial aid to, affiliated colleges and recognised institutions; and
  - (b) to regulate fees to be paid by the students in affiliated colleges and recognised institutions;
- (22) to institute and maintain residential accommodation for students and staff of the University;
- (23) to fix, demand and receive or recover such fees and other charges as may be prescribed;
- (24) to supervise, regulate and control the residence, conduct and discipline of the students of the University, and to make arrangements for promoting their health and general welfare;
- (25) to conduct, co-ordinate, supervise, regulate and control post-graduate teaching and research work in the University departments and affiliated colleges and recognised institutions;
- (26) to co-ordinate, supervise, regulate and control conduct of undergraduate teaching and instruction in the affiliated colleges and to undertake the same in University colleges;
- (27) to make special provision for agricultural education, research and extension in relation to arid areas and areas prone to scarcity in the University area;
- (28) to do all such other acts and things, whether incidental to the powers aforesaid or not, as may be requisite in order to further the objects of the University.

### **Functioning of Authorities:**

During the year under report following authorities were functional.

- The Board of Management
- The Academic Council
- The Faculties
- The Board of Studies of each faculty including Board of Post Graduate studies.



The Board of Management considers and decides matter of general policies relating to progress and development of University. During the year under report, five meetings of Board of Management and six meetings of Academic Council were held under the Chairmanship of Prof. M. C. Varshneya, Vice Chancellor.

The Organisational Chart and list of members of the Board of Management, Academic Council, Officers of the University and Heads of Departments are given in Appendices 1, 2, 3 and 4.

### **New Appointments:**

During the year under report, the Board of Management approved the selection of the following teachers in different faculties:

15 Professors and 27 Assistant Professors.

### **Award of D.Lit. Degree**

The Board also resolved to:

- Award the D. Lit. Degree Honours on Dr. V. R. Mehta, Founder and Vice-Chancellor of Gujarat Agricultural University and Dr. C. L. Patel, Chairman, Charutar Vidya Mandal, Vallabh Vidyanagar.

### **New Departments**

- The following Departments were constituted by Board of Management on recommendation of the Academic Council.
  1. Department of Agricultural Bio-technology.
  2. Post graduate courses in Poultry Science and Veterinary Extension.
  3. Postgraduate diploma in Agriculture Information Technology
- The Board approved Annual Development Plan of the University.
- Approved the signing of Memorandum of Understanding between Veterinary College, Anand and Shri Sarvadharm Jivdaya Sangh, Anand with regard to creation of new facilities for indoor patients at Veterinary Clinical Dispensary.
- Board of Studies under faculty of Food Processing Technology and Bio-energy were approved.
- Approved proposal for following construction:
  1. Administrative Building of AAU
  2. Girls Hostel for Vety. Science College.
  3. Bio-technology Laboratory
  4. Agricultural Technology Information Centre
  5. Girls hostel for B.A. College of Agriculture
  6. Office Building at KVK, Arnej

- Approved the Statute for appointment of Vice-Chancellor.
- Increased NRI seats/payment seats in different colleges.
- MoU with Shri Sarva Dharma Jiv Daya Sangh, Anand for construction of Indoor Patient facilities at Veterinary Clinical Complex was signed.
- P.G. course on Bio-technology (Agri., Vet., and Dairy) was approved along with Department of Bio-technology.

### **Special Events and Visitors :**

- The University organized successfully the first convocation of AAU on April 12, 2005, Hon'ble Dr. Mangala Rai, Director General, ICAR and Secretary, DARE, Govt. of India was the Chief Guest for convocation address.
- The Special Convocation of erstwhile Gujarat Agricultural University was held on January 11, 2006 at the Gymkhana Ground of Anand Agricultural University, Anand in the presence of the President of this occasion His Excellency the Governor of Gujarat and Chancellor of University Shri Naval Kishorji Sharma. Shri Narendrabhai Modi, Hon. Chief Minister of Gujarat State was the Chief Guest for convocation address and Shri Bhupendrasinhji Chudasma, Hon'ble Minister of Agriculture, Gujarat State was the Guest of Honour.
- Dr. C. D. Mayee, Chairman, ASRB inaugurated national seminar on "Food safety, food loss and standards relevant to dairy industries". Hon'ble Shri Bhupendrasinhji Chudasama, Minister of Agriculture was the Chief Guest for the Seminar organized by Indian Dairy Association and AAU, Anand at Ahemdabad on April 23-24, 2005.
- Dr. K. D. Singh, Director, Central Tobacco Research Institute, Rajahmundry visited and addressed the scientists of the centre during 12 -14 May, 2005.
- Dr. K.D.Singh, Director, CTRI, Rajahmundry visited on 23-05-2005 and appreciated project work.
- Inauguration of laboratory of "Embryo Transfer Technology" was done by the Dr. (Miss) Amrita Patel, Chairperson, N.D.D.B. on May 20, 2005.
- A team of scientist's viz., Dr Baboo Nair, Professor Emeritus and Dr. Asa Ljungh, Associate Professor, Lund University, Sweden; Dr. Range Fonden, Consultant, Arla Foods, Stockholm, Sweden; Dr. (Mrs) Kalpagam Polasa, Deputy Director, NIN, Hyderabad and Dr. G. Vijayalakshmi, Dy. Director, CFTRI, Mysore visited SMC College of Dairy Science, Anand during 26-27 May, 2005.

- *Krishi Mahotsav*-2005 was organized by Govt. of Gujarat during May 11 to June 11, 2005, wherein 276 Scientists/technical persons of the university actively participated in two batches. During the *Krushi Mahotsav* the farmers were educated for recent advances in crop production, efficient water use and now to resolve the production constraints.
- A national seminar on "Monsoon-2005 – Ancient and Modern Techniques" was inaugurated by Hon'ble Chief Minister Shri Narendra Modi on June 20, 2005. H.E. Governor of Gujarat presided the valedictory function. Wherein, Hon'ble Shri Ashok Bhatt, Law Minister & Hon'ble Shri Bhupendrasinhji Chudasama, Minister of Agriculture were the Guest of Honour.
- A team of scientist viz., Prof Ingegerd Sjoholm, Professor, Lund Institute of Technology, Sweden, Prof Rickard Oste, Managing Director, Ceba AB, Sweden, Mr.Vijay Juneja, Managing Director, Dairy Craft India Pvt. Ltd., New Delhi and Mr PR Patel, Managing Director, Sumul Dairy, Surat visited SMC College of Dairy Science, Anand on 8-9 September, 2005.
- Foundation Stone Laying Ceremony for Hybrid Rice Laboratory at Main Rice Research Station, Nawagam on November 24, 2005 by Hon'ble Vice Chancellor Prof. M. C. Varshneya.
- Prof. M. C. Varshneya, Vice Chancellor, AAU, Anand inaugurated seminar on, "Fermented Food" organized by SASNET Project of Anand Agricultural University at IRMA. Dr. V. Kurien, Chairman, GCMMF, presided the function.
- Shri Subodh Kant Sahai, Hon. Minister for Food Processing Industries, Govt. of India, Dr Nagendra Shah, Professor, Victoria University of Technology, Australia, Professor T. Kimura, Graduate School of Life and Environment Sciences, University of Tsukuba, Japan, Dr PA Shankar, Director of Research, Karnataka Veterinary, Fishery and Animal Sciences University, Bangalore, Dr Olof Martensson, Ceba Foods AB, Lund, Sweden, Dr Tina Immerstrand, Ceba Foods AB, Lund, Sweden, Dr Sagarika E, Scientist, Faculty of Medical Sciences, University of Sri Jayevardenepura, Nugegoda, Sri Lanka and Dr. Mohamad Abdulla, UNESCO Institute for Trace Elements, Lyon, France visited the campus and Vidya Dairy, during the function of inauguration of 2<sup>nd</sup> International conference on Fermented Foods on December 17, 2005, organized by SMC College of Dairy Science, AAU, Anand.
- Minister of Agriculture, Government of Assam, visited tobacco seed production plots on 24 December, 2005 and appreciated the work.

- Hon. Minister of Agriculture, Shri. Bhupendrasingh Chudasama visited Anand campus on January 23, 2006 and appreciated the work.
- Shri Dilipbhai M Patel, MLA, Anand inaugurated "Khedut Din" organized by the centre on 24<sup>th</sup> January 2006.
- Dr. Rabindra, Project Director, Project Directorate of Biological Control, Bangalore visited on March 13, 2006.
- Mrs. Suman Kaushik, Additional Commissioner, NHM, Govt. of India, New Delhi visited Model Farm, Vadodra and appreciated work on Horticulture nursery.

#### **Other august Visitors**

- Hon'ble Deputy Director General (CS & Horti.), ICAR, Dr. Gautam Kalloo
- Hon'ble Ex. Minister of Finance, Gujarat State, Shri Vajubhai Vala
- Hon'ble Minister of Revenue, Gujarat State, Shri Kaushik Patel
- Dr. N. S. Talekar, Entomologist, AVRDC, Tai wan

#### ***Bhumi Pujan* of New Office Buildings**





## Chapter – 3

### ***Human Resource Development: Man is the mega resource***

The AAU while managing other resources takes special care for development of its human resources. Keeping in view the changing global scenario, traditional research and market driven economy, the AAU scientists are constantly encouraged to acquire and update knowledge, improvement of skill, development and generation of new technology through cutting edge research. Thus, at AAU the Human Resource Development Process is now accelerated.

#### **Seminar/ Workshop organized:**

The University during the year under report organized following programmes/ trainings/workshops/seminars and number of scientists were sent to attend training/seminar.

- National Seminar on “Food Safety, Food Loss and Standard Relevant to Dairy Industries” from April 23-24, 2005.
- National Seminar on "Monsoon-2005: Ancient and Modern Techniques” on June 20, 2005.
- National Conference on “Growing Concern for Improved Health Status of Livestock, Drug Residue in Animal Products and Some Diseases Affecting Human Health” from August 2-6, 2005.
- “National Dairy Products Contest “ on October 6, 2005
- National Seminar on “Augmenting Reproduction Efficiency of Dairy Animals”, December 10-12, 2005.
- Seminar on “Fermented Foods, Health Status and Social Well-being”- December 17-18, 2005.
- National Conference on “Technological Interventions in Animal Nutrition for Rural Prosperity”, January 7-9, 2006.
- Seminar on “Opportunities in Agriculture, Dairy and Veterinary Sciences under Globalization”, January 11, 2006.
- One day Workshop on “Animal Biotechnology for Executives of District Co. Op. Milk Marketing Producers Union”, January 16, 2006.

**Managerial Training:**

Besides the above mentioned, following administrative and managerial trainings were organized by the university.

Sr. No	Subject of training	Duration	Venue	Name of the Training Institute	Number of trainees
1	Outward and Inward Training	8-4-2005	Dairy Science College, Anand	AAU, Anand	19
2	Scientific Estimation and Redeployment of Man Power.	24-2-2006	Ahmedabad Management Association	Ahmedabad Management Association	03

As a part of skill development in computer courses the University provided training to 80 employees in CCC and CCC+. The following trainings at SPIPA were also organized. Departmental trainings and examinations were conducted for employees

Sr. No	Subject of training	Duration	Venue	Name of the Training Institute	Number of trainees
1	New Initiatives in Human and Financial Resource Management	17-4-05 to 19-4-05	Extension Education Institute, Anand	SPIPA-Ahmedabad	21
2	Service Rules, Finance Rules and General Administration	1-8-2005 to 6-8-2005	SPIPA-Ahmedabad	SPIPA-Ahmedabad	23
3	Departmental Examination Training	21-6-2005 to 30-6-2005	College of Vet. Science & A. H. AAU, Anand	AAU, Anand	50

**Assets Management:**

The properties and lands which were transferred to Anand Agricultural University by Govt. of Gujarat were in the name of GAU. In some cases the lands were not transferred and records was not available.

During the year under report the Registrar conducted the Special campaign successfully to transfer the land to Anand Agricultural University.

The following lands are transferred under the name of Anand Agricultural University.

Sr. No.	Name of the Centre	Total Land (ha)		
1	Anand Centre	H	R	
	ECFP	286	58	99
	Jitodiya	10	03	26
	Hadgud	08	43	41
	Navli	68	76	82
2	Tobacco Research Centre, AAU,Dharmaj	12	13	06
3	Main Rice Research Centre, Navagam	24	67	58
4	Agriculture Science Centre, Devataj	17	20	50
5	Narmada Irrigation Res. Scheme ,Khandha	24	64	55
6	Regional Cotton Research Centre, Viramgam	24	58	48
7	Paddy Research Centre, Dabhoi	29	13	44
8	Agriculture Research Centre, Dhandhuka	83	07	23
9	Agriculture School- Vadodara	03	08	57
10	Regional Sugarcane Research Centre,Thasra	15	75	24
11	Bhal and Coastal Area Dept. Arnej	60	46	18
	Total			



## **Chapter – 4**

### ***Education: Chiselling Agritech Entrepreneurs***

The Gujarat Agricultural Universities Act, 2004 is enacted "to establish and incorporate teaching and affiliating Universities for imparting education in agriculture and allied sciences in the state of Gujarat...". The main motto of Anand Agricultural University, as manifested in its mandate, is academic excellence and reiteration of Green Revolution in the country through intensive research.

AAU imparts effective education in Agriculture through residential semester system of under-graduate and post-graduate degree program, providing the degrees in three faculties namely, Agriculture, Dairy Science and Veterinary Science and Animal Husbandry.

In Agriculture faculty, B. A. college of agriculture, one of the five oldest college of agriculture in the country, started in 1947 provides education and education involves exposure to concepts, skills and knowledge in agriculture and related sciences. During the year 2005-06 (1) 70 B.Sc.(Agri.) (2) 63 M.Sc.(Agri.) and (3) 20 Ph.D.- candidates have completed their studies through the portals of B.A. College of Agriculture.

In the faculty of dairy Science, Sheth M.C. College of Dairy Science had started in 1961, and the then SMC graduates were being awarded Diploma (IDD, Indian Dairy Diploma). Through years, the College broadened its educational horizons, and the dairy students started earning their Bachelor of Science degrees in Dairy Technology. In 1989, the course work was upgraded to an enormous extent with many new subjects and wider orientations. Students starting their education in 1989 and after were awarded the Degree of B.Tech. (Bachelor of Technology) in Dairy Technology.

In Veterinary Science and Animal Husbandry, the College of Veterinary Science & Animal Husbandry, Anand, established in the year 1964, played a key role in development and growth of livestock sector in Gujarat. The College shoulders major responsibilities in teaching subjects of Veterinary and Animal Science, conducting high quality research, and enhancing the economic productivity, as well as transferring the technology to the farmers.

With a great heritage behind, Anand Agricultural University (AAU) stands for revitalization of technology in order to develop rural community and caters the need for knowledge workers to make India a developed country. On one hand, this University imparts graduate and post-graduate programs in Agriculture, Veterinary Science and Dairy Technology under the administration of the Registrar, and on the other, it imparts diploma

and certificate courses in Agriculture, Home Science, Extension Education and Baking Technology under the supervision of Director of Extension Education.

### **Graduate Study Program and Admission Procedure**

The University is mainly a residential one and follows semester system. Duration of B.Sc. (Agri.) and B.Tech. (Dairy Technology) study course is of four years/eight semesters and for B.V.Sc. & A.H, it is of five years/ten semesters. The candidates should pass Higher Secondary School Certificate examination in science stream with English, Physics, Chemistry, Biology and Mathematics for all the degree courses run by the University. Candidates are selected for admission strictly on merit basis and the medium of instruction is English. 7% of total seats are reserved for the category of SC, 15% for ST, and these seats are interchangeable between both the groups. 15% seats for Agriculture and Dairy Technology are reserved for candidates through All India Common Entrance Test, conducted by the ICAR, and for B.V.Sc. & A.H., through the common test conducted by the Veterinary Council of India, New Delhi. 27% are reserved for candidates who are in SEBC category. The candidates of Central Board of Secondary Education of Gujarat will be admitted on pro rata basis to the Gujarat Secondary Education Board students.

For B.Sc. (Agri.) course, 13 seats are reserved for candidates recommended by Sheth Amruthlal Hargovind Das Trust, and three seats for Sheth Mansukhlal Chhaganlal Trust. SMC Trust reserves 2 seats for Dairy Technology course.

Weightage of 5% marks is given to the members of farmers' family on submission of certificate (7-12 record) from a competent authority for having land in Gujarat under cultivation. At graduation level, 20 seats in Agriculture, 15 seats in Veterinary and 15 seats in Dairy faculty are reserved as NRI/NRI sponsored/Payment seats. The fee for NRI seat is \$3500 for each semester, and for the payment seats, one needs to pay Rs.25,000/-. Three per cent seats are reserved for the physically challenged candidates according to the verdict of the Supreme Court.

The number of seats and the actual admitted students' details for the academic year 2005-06 are as under.

## Graduate study course

Sr. No.	Graduation & its duration	Name of the College	Admission capacity				Students Admitted	Students Passed
			Gen/ SC/ ST/ OBC	NRI/ Payment	ICAR/ VCI	Donor		
1.	B.Sc. (Agri.) 4 Years (8 semesters)	B. A. College of Agriculture, Anand	65	20	10	13	64	70
2.	B.V.Sc. & A.H. 5 years (10 semesters)	College of Vety. Sci. & A.H., Anand	50	15	09	00	64	38
3.	B. Tech. (Dairy Technology) 4 Years (8 semesters)	Sheth M.C. College of Dairy Science, Anand	40	15	06	02	57	41

## Post-Graduate study course

There is no separate building or department for the PG study program. The faculties meant for the UG studies and Research handle the PG studies of their respective subjects.

## Admission procedure

A candidate aspiring to take admission in PG studies should have a graduate degree of the related field with an OGPA of not less than 6.00/10.00. A basic science graduate should have 55% in aggregate as well in the field in which he/she seeks admission.

Eligible applicants will have to appear for the entrance test and personal interview. The basis of selection is the performance in the entrance test, interview, and as per the intake capacity.

Two academic years are required for the course work, research thesis preparation and examination leading to the Master's Degree. A minimum period of three academic years (6 semesters) is required for the Ph.D. degree.

The University runs following PG courses leading to Masters and Ph.D. in various faculties.

### Agriculture:

Agricultural Chemistry and soil Science, Agricultural Economics, Agricultural Entomology, Agricultural Meteorology, Agricultural Microbiology, Agricultural Sciences, Agronomy, Extension Education, Horticulture, Nematology, Plant Biochemistry, Plant Breeding and Genetics, Plant Pathology and Plant Physiology and Ecology.

### **Veterinary Science and Animal Husbandry:**

Anatomy, Animal Genetics and Breeding, Animal Nutrition, Animal Physiology and Bio Chemistry, Livestock Production, Parasitology, Reproductive Biology, Veterinary Extension and Animal Husbandry, Veterinary Medicine, Veterinary Microbiology, Veterinary Obstetrics and Gynecology, Veterinary Pathology, Veterinary Pharmacology and Toxicology, Veterinary Public Health, Veterinary Surgery.

### **Dairy Science and Technology :**

Dairy Chemistry, Agril. Engineering and Processing.

### **Food Processing Technology and Bio-Energy**

Food Processing Technology

### **Admission and Output:**

During the year under report admissions given in different faculties at Masters and Ph.D level are as under.

The details of admission in PG studies have been given in the following Table

Sr. No.	Name of the Course	Duration of the course	Name of the College	Students Admitted	Students passed
1.	M.Sc. (Agri.)	2 Years (4 semesters)	B.A. College of Agriculture, Anand	78	63
2.	M.V. Sc.	2 Years (4 semesters)	College of Vety. Sci. & A. H., Anand	45	45
3.	M.Sc. (Dairying)	2 Years (4 semesters)	S.M.C. College of Dairy Science, Anand	06	00
4.	M. Tech. (D.T.)	2 Years (4 semesters)	S.M.C. College of Dairy Science, Anand	02	00
5.	M.Sc.	3 Years (6 semesters)	B.A. College of Agriculture, Anand	08	03
6.	M.Tech (FPT)	2 Years (4 semesters)	Faculty of Food Processing Technology and Bio-Energy	05	-
7.	Ph. D.	3 Years (6 semesters)	All the above colleges	21	25
8.	P.G. Diploma in Agril. (I.T.)	1 ½ Years (3 Semester)	B. A. College of Agriculture, Anand	06	00

## **Examination:**

The University conducted its examination regularly and as per schedule for the various degree courses mentioned hereabove and the results were also declared in time. Annual Board examinations prescribed by Veterinary Council of India for B.V.Sc. and A.H. were conducted during September-October 06.

## **Convocation**

### **First Annual Convocation:**

April 12, 2005 was a historic day for Anand Agricultural University as its First Annual Convocation was held in the presence of His Excellency the Governor of Gujarat and the Chancellor of the University, Shri Naval Kishorji Sharma, the Guest of Honour Shri Bhupendrasinhji Chudasma, Hon'ble Minister of Agriculture, Gujarat State, the Chief Guest Dr. Mangala Rai, Secretary (DARE) and Director General of ICAR, New Delhi, Prof. M. C. Varshneya, Hon'ble Vice Chancellor, AAU, Members of Board of Management, Academic Council, distinguished guests and beloved students.

In this convocation Shri V. R. Mehta, the first Vice Chancellor of erstwhile Gujarat Agricultural University and Dr. C. L. Patel, Chairman, Charutar Vidhya Mandal, Vallabh Vidyanagar were awarded honorary degree of D. Litt.

Shri Nirajkumar Ratilal Makadia, a student of Veterinary College was awarded Chancellor's Gold Medal for M.V.Sc. degree and Dr. Manoj Kumar Avasthi was awarded Chancellor's Gold Medal for Ph.D. degree in Veterinary faculty. Also Ms. Chitra Mishra, a student of B. A. College of Agriculture and Shri Dipak Samata, a student of Dairy Science college were awarded Vice Chancellor's Gold Medal.

H.E. the Governor of Gujarat and the Chancellor of AAU, Anand Shri Naval Kishore Sharma conferred the degrees on the graduates and post-graduates in person and in absentia. In all, **183** graduate and post-graduate candidates received the degrees in this Convocation.



## Special Convocation:

The Special Convocation of erstwhile Gujarat Agricultural University was held on January 11, 2006 at the Gymkhana Ground of Anand Agricultural University, Anand in the presence of the President of this occasion His Excellency the Governor of Gujarat and Chancellor of university Shri Naval Kishorji Sharma, Chief Guest Shri Narendrabhai Modi, Hon. Chief Minister of Gujarat State, Guest of Honour Shri Bhupendrasinhji Chudasma, Hon'ble Minister of Agriculture, Gujarat State, Hon'ble Vice Chancellor of Anand Agricultural University, Prof. M. C. Varshneya, the Former Vice Chancellor of erstwhile GAU, the present Vice Chancellors of State Agricultural Universities, the Board of Management, Academic Council, Faculties and Board of Studies of Anand Agricultural University, and the young graduates and post-graduates who received their degrees and other invited guest.

H.E. the Governor of Gujarat and Chancellor of AAU, Anand Shri Naval Kishorji Sharma conferred the degrees on the graduates and post-graduates in person and in absentia. In all, **217** graduate and post-graduate candidates received the degrees in this Convocation.

In this Convocation, Shri Paresh Patel of agriculture faculty, Shri Ashok Nagpal of Veterinary faculty and Megha Kunj Pandya of Dairy faculty were awarded Vice Chancellor's Gold Medal for the year 2002-2003 at Under-graduate level. List of Gold Medals and the name of their recipients are given in Appendix-I.



H.E. the Governor of Gujarat and the Chancellor Shri Nawal Kihore Sharma  
awarding Gold Medal to a student at the first annual convocation





Hon'ble Chief Minister, Shri Narendrabhai Modi awarding Gold Medal to a Student at Special convocation

Appendix-1

**Members of the Board of Management**

**Vice Chancellor**

Prof. M. C. Varshneya  
Chairman

**Secretary**

**Agriculture & Cooperation Department**

Dr. K. N. Shelat

**Secretary**

**Finance Department**

Shri A. K. Jyoti

**Secretary**

**Education Department**

Shri P. Paneervel

**Director of Agriculture**

Dr. R. A. Sherasiya

**Director of Animal Husbandry**

Dr. R. B. Shukla

**Director of Horticulture**

Dr. B. R. Shah

**Dean, Dairy Science College**

Dr. S. Sannabhadati  
(Up to 31.10.05)

**Dean, Agriculture College**

Dr. A. M. Shaikh  
(From 1.11.2005 onward)

**Director**

**NRC M & AP (Boriavi)**

Dr. S. Maiti  
(From 14-2-2006 onward)

**Registrar**

Shri V. P. Macwan  
Member Secretary



Appendix-2

**Members of Academic Council**

**Vice Chancellor**

Prof. M. C. Varshneya  
Chairman

**Research Scientist**

**Bio-control Department**

Dr. D N. Yadav (Nominated) From 16-8-2005

**Director of Research & Dean PG  
Studies**

Dr. A. R. Pathak

**Professor & Head**

**Animal Genetics & Breeding**

Dr. J. V. Solanki (Nominated)

Director of Extension Education  
Dr. K. F. Patel

**Professor & Head**

**Veterinary Pathology**

Dr. K. S. Prajapati (Nominated)  
From 21-4-2005

**Dean, Agriculture**

Dr. A. M. Shaikh

**Professor & Head, Dairy Chemistry**

Dr. Sukhminder Singh (Nominated)

**Dean, Veterinary Science**

Dr. F. S. Kavani  
(Up to 2-6-2005)  
Dr. M. C. Desai  
From 3-6-2005

**Assoc. Director of Research**

Dr. D. J. Koshiya (Co-opt)

**Librarian**

Dr. V. V. Ushabala (Co-opt)

**Dean, Dairy Science**

Dr. S. S. Sannabhadti  
Upto 31-1-2005  
Dr. Sukhminder Singh  
From 1-2-2005

**Professor & Head**

**Gynaecology**

Dr. F. S. Kavani (Co-opt)

**Managing Director, Vidya Dairy**

Dr. H.K. Desai (Co-opt)

**Dean Food Processing Technology &  
Bio-energy**

Dr. D. C. Joshi

**Retd. Prof. Horticulture**

Dr. K. P. Kikani (Co-opt)

**Prof. & Head**

Agricultural Statistics  
Dr. S. K. Dixit (Nominated)

**Dean, Home Science**

MS University, Baroda  
Dr. Veena Gandotara (Co-opt)

**Prof. & Head**

Agriculture Botany  
Dr. G. C. Jadeja (Nominated)

**Director of Student Welfare**

Dr. A. M. Thaker (Co-opt)

**Research Scientist, Godhra**

Dr. S. N. Goyal (Nominated)

**Registrar**

Shri V. P. Macwan

**Member Secretary**

**Professor & Head**

Agril. Chemistry & Soil Science  
Dr. N. K. Kalyansundaram (Nominated)  
Upto 30-6-2005

Appendix-3

**Officers of the University**

**Chancellor**

Shri Nawal Kishore Sharma

**Dean Food Processing Technology &  
Bio-energy**

Dr. D. C. Joshi

**Vice Chancellor**

Prof. M. C. Varshneya  
Chairman

**Director of Extension Education**

Dr. K. F. Patel

**Registrar**

Shri V. P. Macwan

**Comptroller-cum-Accounts Officer**

Shri P.S.Vyas

**Director of Research & Dean PG  
Studies**

Dr. A. R. Pathak

**Librarian**

Dr. V. V. Ushabala (Co-opt)

**Dean, Agriculture**

Dr. A. M. Shekh

**Director of Student Welfare**

Dr. A. M. Thaker (Co-opt)

**Dean, Dairy Science**

Dr. S. S. Sannabhadti

Upto 31-10-2005

Dr. Sukhminder Singh

From 1-11-2005

**Director, Information Technology**

Dr.J.G.Sarvaiya

**Dean, Veterinary Science**

Dr. F. S. Kavani

(Up to 2-6-2005)

Dr. M. C. Desai

From 3-6-2005

**Executive Engineer**

Shri B.N.Bhalia

**Dean Food Processing Technology &  
Bio-energy**

Dr. D. C. Joshi

Appendix-4

**Heads of the Department**  
**Agriculture Faculty**

**Agronomy**  
Dr.T.G.Meisheri  
Professor Agronomy

**Agril.Economics**  
Dr.B.D.Bhatt  
Professor, Agril.Economics

**Agri.Chem. & Soil Science**  
Dr.J.C.Patel  
Professor, Agril.Chem. and & Soil Sc.

**Extension Education (In-charge)**  
Dr.P.P.Patel  
Extension Educationist

**Plant Pathology**  
Dr.B.N.Patel  
Research Scientist, Tobacco

**Microbiology (In-charge)**  
Dr.M.S.Vohra  
Research Scientist (P)

**Bio-Control/Entomology**  
Dr.D.N.Yadav  
Research Scientist, Biological Control

**Nematology (In-charge)**  
Dr.B.A.Patel  
Assoc.Research Scientist, Nematology

**Plant Breeding**  
Dr.S.N.Goyal  
Professor, Botany

**Agricultural Statistics**  
Dr.S.K.Dixit  
Professor, Agricultural Statistics

**Agricultural Meterology**  
Dr.A.M.Shekh  
Professor, Agricultural Meteriology

**Bio-Chemistry**  
Dr.R.Bhatnagar  
Research Scientist (P)

**Horticulture**  
Dr.K.I.Joshi  
Professor, Horticulture

### **Veterinary Faculty:**

#### **Veterinary Microbiology**

Dr.J.H.Purohit  
Professor, Vety.Microbiology/Bacteriology

#### **Veterinary Parasitology**

Dr.A.I.Patel  
Professor, Veterinary Parasitology

#### **Animal Re-production Gynaceology and Obste.**

Dr.F.S.Kavani  
Professor, Animal Re-production  
Gynaceology and Obste

#### **Clinical Veterinary Medicine**

Dr.P.R.Patel  
Professor, Clinical Vety.Medicine

#### **Epidemiology and Veterinary Medicine**

Dr.P.R.Patel  
Professor, Epidemiology and Veterinary  
Medicine

#### **Veterinary Pathology**

Dr.K.S.Prajapati  
Professor, Veterinary Pathology

#### **Livestock Production & Management**

Dr.A.M.Patel  
Professor, Livestock Production &  
Management

#### **Animal Nutrition**

Dr.Subhash Parnerkar  
Research Scientist(P)  
Animal Nutrition

#### **Animal Breeding and Genetics**

Dr.J.V. Solanki  
Professor  
Animal Breeding and Genetics

#### **Veterinary Anatomy (In-charge)**

Dr.Y.L.Vyas  
Professor(P)  
Veterinary Anatomy (In-charge)

#### **Veterinary Bio-Chem./Biotech.**

Dr.A.M.Pandey  
Professor(P)  
Veterinary Physiology

#### **Veterinary Pharmacology and Toxicology (In-charge)**

Dr.A.M.Thaker  
Professor(P)  
Veterinary Pharmacology & Toxicology  
(In-charge)

#### **Veterinary Surgery (In-charge)**

Dr.D.B.Patil  
Professor, Veterinary Surgery (In-charge)

#### **Livestock Production Technology (In-charge)**

Dr. M.N. Brahmbhatt  
Associate Professor(P)  
Livestock Production Technology

#### **Veterinary Public Health**

Dr. M.N. Brahmbhatt  
Associate Professor(P)  
Veterinary Public Health

#### **Teaching Veterinary Hospital (In-charge)**

Dr.D.M.Patel (P)  
Teaching Veterinary Hospital (In-charge)

**Dairy Science Faculty**

**Dairy Chemistry**

Dr.Sukhminder Singh  
Professor, Dairy Chemistry

**Dairy Technology**

Dr.M.J.Solanki  
Professor, Dairy Technology

**Dairy Engineering**

Dr.B.P.Shah  
Professor, Dairy Engineering

**Dairy Microbiology**

Dr.J.B.Prajapati  
Professor, Dairy Microbiology

**Dairy Business Management  
(In-charge)**

Dr.R.H.Patel  
Associate Professor, Dairy Business  
Management.

**Food Processing Technology  
and Bio-Energy Faculty:**

**Food Engineering**

Dr.D.C.Joshi  
Professor, Food Engineering

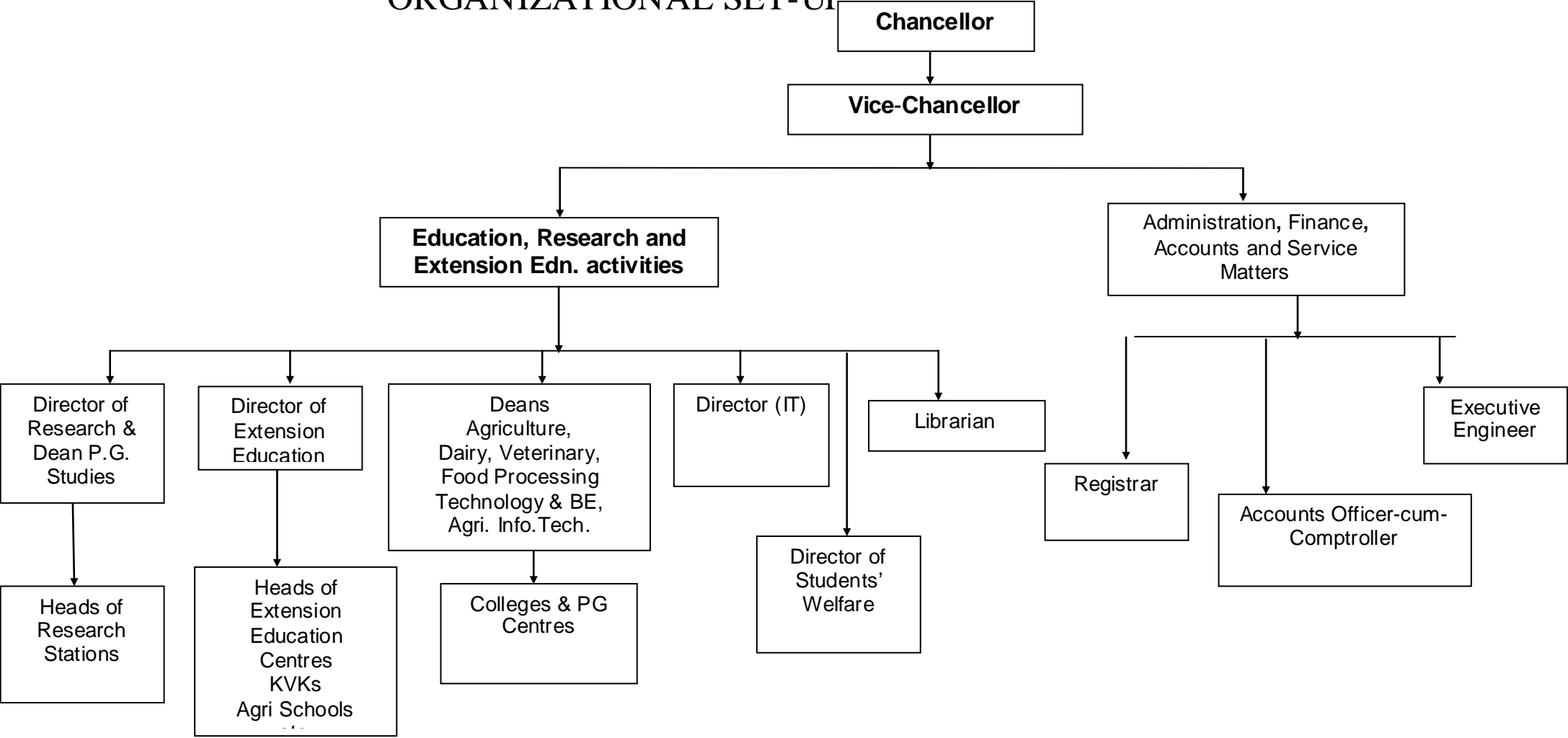
**Post-Harvest Engineering &  
Technology**

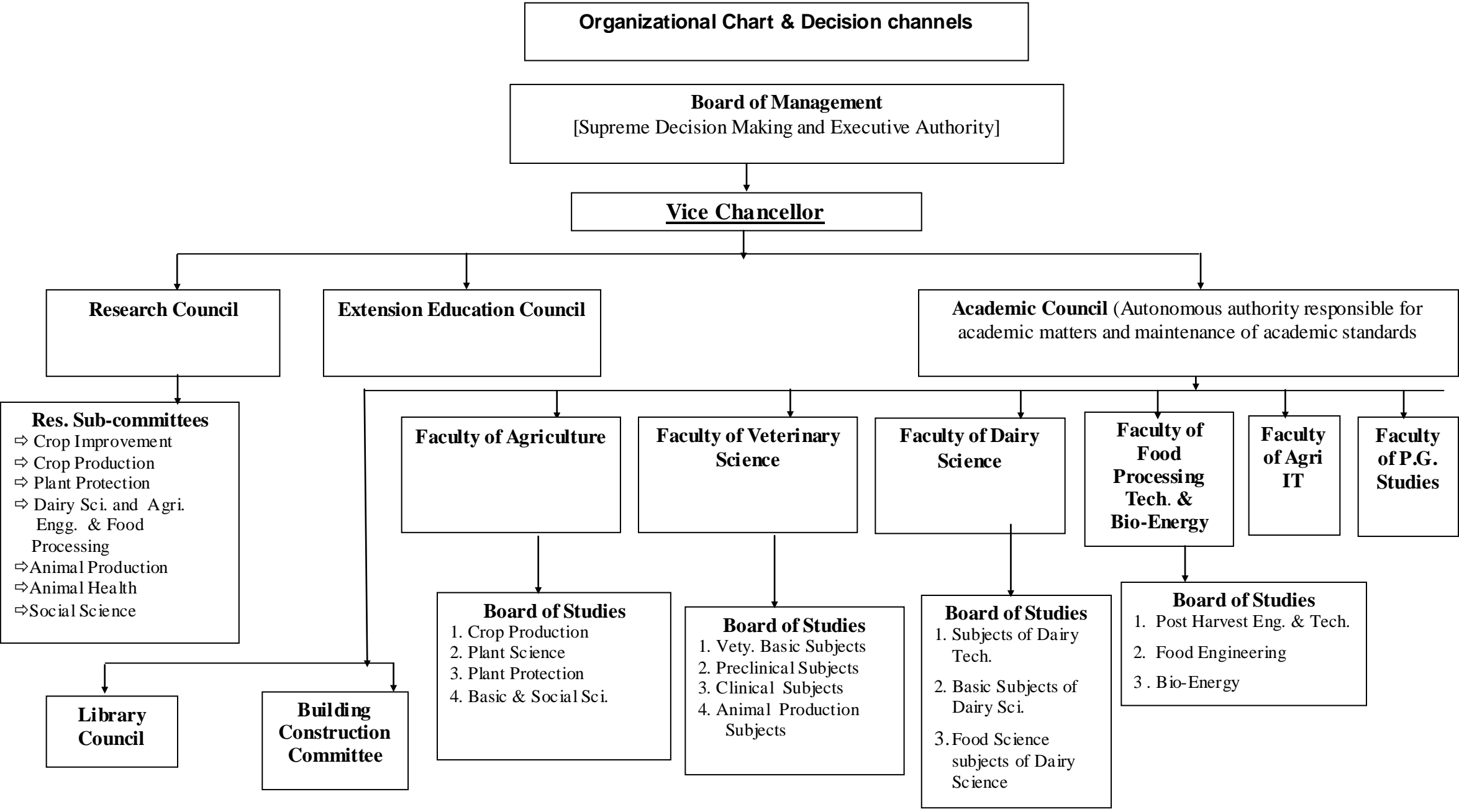
Dr.R.F.Suthar  
Professor, Post-Harvest Engineering  
& Technology

**Bio-Energy**

Dr.S.S.Kapdi  
Associate Professor, Bio-Energy

# ORGANIZATIONAL SET-UP





## **Chapter – 5**

### ***Expanding Horizons of Agriculture***

#### **Research**

Anand Agricultural University has objective to enhance production and productivity of agricultural and related commodities to uplift socio-economic status of farming community.

The total geographical area of the state is 198.6 Mha. Out of which 16.2% is covered by the districts (Ahmedabad, Anand, Dahod, Kheda, Panchmahal and Vadodara) under the jurisdiction of Anand Agricultural University. The total cultivable area of the region is 21.70 lakh ha. These districts have varying soil and climatic conditions, which are divided into three agro-climatic zones viz., III, IV and VIII. Agro-ecological situations of these zones have various challenges and issues for research.

Multi-dimensional research approach covering varieties of soil seeds, agronomical aspects of crops, pests, pathogen, irrigation system, climate and eco-factors, post-harvest technology, value addition etc., is viewed and executed looking to present demand of market. Conservation, identification and development of indigenous breeds of animal and birds for better productivity along with their health status and management are the major issues which draw attention of scientist of Animal Science.

Research in Dairy Science is always targeted to quality improvement and prolongation of shelf-life of milk and milk products along with dairy business management.

Scientists of Anand Agricultural University are actively engaged in developing cutting-edge technologies in different aspects of agriculture and related field as per requirement of different agro-climatic zones and ecological situations.



**Table- 5.1: Agroclimatic zone wise Research Stations of AAU and their area**

Sr. No.	Name of Centre	Mandated Crop / Research	Area (ha)
<b>MIDDLE GUJARAT AGROCLIMATIC ZONE-III</b>			
1			
	Bidi Tobacco Research Station Anand	Tobacco	25.43
	Forage Research Station, Anand	Forage crops	18.44
	Vegetable Research Station, Anand	Vegetable crops	23.99
	Medicinal & Aromatic Plants Project, Anand	Medicinal & Aromatic Plants	6.30
	Bio-control Research Project, Anand	Biocontrol Research	-
	Micronutrient Research Project, Anand	Research on Micronutrient of different crops	-
	Faculty of Food Processing Technology and Bio-energy, Anand	Processing technology of horticultural crops and food crops as well as biofuel & biogas	-
	Centre for Organic Farming, Anand	Organic food testing and production	-
	Regional Research Station, Anand	Research on Cotton, Oilseeds, Pearl millet, Wheat, Water management and Seed Production on commercial basis and its research and training.	29.69
	Centre of Excellence on Bio-technology, Anand	Biotechnological Research on Plant, Animal and Food Technology	-
	H. F. Project, Anand	Bull mother farm, ET in Exotic Cattle	51.18
	Livestock Research Station, Anand	Cross Bred Dairy herd for the farmers of middle Gujarat. Improvement of Kankrej.	21.20
	Poultry Complex, Anand	Poultry breeding for egg laying chicken, Rural poultry farming and training to the rural youth.	-
	Reproductive Biological Research Unit, Anand	Improving reproductive efficiency of farm animals.	2.00
	Animal Nutrition Research Station, Anand	Animal, feed, food and byproduct utilization for better health and production of animal.	1.93
	Agronomy Farm, Anand	PG Student research, Seed production.	40.70
	Horticulture Farm, Anand	Research on Horticultural crops and maintenance of germplasm	34.70
2	Main Rice Research Station Nawagam	Paddy Research & Seed production	25.92
3	Maize Research Station, Godhra	Maize Research & Seed production	22.15
4	Agril. Research Station, Derol	Drilled paddy, Pulses and Oil seed Research	38.42
5	Agril. Research Station, Thasra	Research on Sugarcane, Cotton, and irrigated crops.	15.71

6	Pulse Research Station Vadodara	Pulses crops, production of cuttings/saplings of horticultural crops.	33.08
7	Paddy Research Station, Dabhoi	Paddy Research and Seed production Water management Research in Narmada Command.	29.13
8	Hillmillet Research Station, Dahod	Minor Millet, Drilled Paddy, Maize and Pulses Research, KVK and Tribal Training.	46.70
9	Tobacco Research Station, Dharmaj	Research on Chopadiu type tobacco.	11.92
10	Narmada Irrigation Research Project, Khandha	Water management on field and horticultural crops in Narmada command.	24.62
11	Tribal Research-cum- Training Centre, Devgadh baria	Maize and Budded cotton, Tribal Training Centre.	35.54
12	Krushi Vigyan Kendra, Devataj	Krushi Vigyan Kendra.	18.92
<b>NORTH GUJARAT AGROCLIMATIC ZONE -IV</b>			
13	N. C. Farm, Chharodi	Breeding of Kankrej cow, Arid Horticultural crops research and Jatropha cultivation. Seed production.	809.40
14	Agricultural Research Station, Sanand	Seed production of Cotton.	6.44
15	Regional Cotton Research Station, Viramgam	Research on Deshi Cotton and Dual Sorghum, Seed production.	24.43
<b>BHAL AND COASTAL AGROCLIMATIC ZONE-VIII</b>			
16	Agril. Research Station, Dhandhuka	Research on Rainfed wheat, gram, cotton and water management, Seed production.	44.32
17	Agricultural Research Station Arnej	Research on rainfed wheat, gram, rabi sorghum and problematic soils, KVK and NCMRWF.	60.84

## **Seasonal Weather condition during the year 2005-06**

The onset of monsoon took place on 24<sup>th</sup> June 2005 with rainfall of 27.6 mm. Rainfall of 10.6 mm received on 20<sup>th</sup> June was helpful in field preparation for sowing. Therefore, sowing operations started on 25<sup>th</sup> June. However, the heavy down pour of 812 mm in 3 days due to cloudburst between June 30 to July 2 resulted in heavy damage to loss of life, roads/buildings etc. disrupting all means of communications in the region. The total rainfall received during the first spell was as much as 1195.2 mm in 11 days during June 24 to July 4. June received 520.2 mm of rainfall, which was about five times higher than the normal rainfall (107.5 mm). In the second spell of rain, which started on 28<sup>th</sup> July and continued up to 4<sup>th</sup> August, total of 137.6 mm of rainfall was recorded. Between the two wet spells there were intermittent light rains also. The monthly rainfall during July was 734 mm in 9 days against the normal of 285 mm. In the month of August, there was very little rain after 4<sup>th</sup>. The total monthly rainfall was only 124.2 mm against the normal of 261 mm. The third spell of rainfall accounted for 309.6 mm in 14 days during September 8 to 24. The total rainfall received during the year was 1693.4 mm against the normal of 853 mm.

The weekly weather data are depicted in Figures 1 to 4 and also given in Table 1. The maximum temperature during late spring 2005 and summer 2005 fluctuated about the normal. During monsoon 2005 season, the maximum temperature was below normal during the period of rain spells. Minimum temperature did not vary much; however, it was below normal during November and December months. Maximum temperature and minimum temperature were found higher during winter season. Morning as well as afternoon relative humidity was above normal during monsoon season at the time of rain spell. The afternoon relative humidity was particularly quite high during these rain spell periods. The morning relative humidity was higher during winter season of the year 2006. Higher rainfall during the monsoon period resulted in higher relative humidity during the subsequent periods of the year. Bright sunshine hours during monsoon fluctuated below normal (Fig. 4). Higher sunshine during April 2005 and May 2005 resulted in higher rate of evaporation. During monsoon period there was large fluctuation in the rate of evaporation and sunshine hours both of which followed similar trend.

**Table 1: Weekly weather parameters during the year 2005-06**

Week	EP	BSS	RF	MAXT	MINT	RH1	RH2
14	8.9	10.9	0.0	39.9	18.0	54	14
15	9.3	10.1	0.0	37.3	18.1	60	22
16	8.8	10.6	0.0	40.1	21.0	72	26
17	8.8	10.4	0.0	39.3	25.4	81	31
18	9.4	10.7	0.0	38.0	24.1	64	29
19	9.3	11.1	0.0	38.2	23.8	67	29
20	10.0	11.6	0.0	39.9	23.8	72	30
21	10.4	11.4	0.0	41.2	25.7	68	28
22	10.4	11.2	0.0	40.1	26.9	71	36
23	10.7	10.6	0.0	39.6	27.4	80	48
24	10.7	11.0	0.0	39.6	28.5	73	42
25	7.9	9.4	38.2	37.8	27.7	79	60
26	2.3	0.9	903.0	28.6	24.7	96	98
27	3.5	2.3	254.0	30.0	25.5	93	76
28	5.8	4.5	11.6	33.9	26.3	88	66
29	6.5	8.4	10.4	33.8	26.3	58	62
30	5.5	5.6	33.8	32.9	25.9	88	69
31	2.3	1.8	103.8	28.7	24.7	98	86
32	3.1	1.9	17.0	30.2	25.3	94	78
33	4.9	6.4	0.6	31.9	24.9	90	65
34	5.5	6.9	6.0	32.1	24.2	91	60
35	5.1	8.0	0.0	32.7	24.8	88	61
36	5.3	5.6	7.4	34.0	25.8	88	68
37	3.3	4.4	82.6	31.1	24.9	97	78
38	3.5	3.6	175.8	30.7	24.6	97	85
39	3.8	6.6	43.8	30.2	23.4	95	65
40	5.1	8.8	5.4	33.5	23.2	89	49
41	6.1	10.2	0.0	36.0	21.1	82	34
42	5.6	9.8	0.0	35.7	20.9	80	35
43	5.6	9.7	0.0	34.3	18.7	80	34
44	4.9	9.3	0.0	34.9	16.7	86	36
45	4.7	9.4	0.0	32.7	15.3	83	32
46	4.5	9.6	0.0	32.9	14.3	86	41
47	4.2	9.8	0.0	32.9	13.9	84	31
48	4.0	7.8	0.0	30.2	14.7	81	37
49	4.6	8.8	0.0	29.3	14.1	76	45
50	3.5	9.1	0.0	28.8	10.5	88	45
51	3.1	8.5	0.0	26.5	10.1	87	36
52	3.1	9.1	0.0	26.9	9.1	85	32
1	3.4	7.3	0.0	26.3	12.2	82	57
2	3.4	9.3	0.0	28.2	10.7	87	35
3	3.5	9.4	0.0	29.4	13.1	90	38
4	3.7	9.8	0.0	26.6	8.5	80	31
5	3.8	9.6	0.0	32.3	12.5	80	32
6	4.6	9.9	0.0	31.9	11.6	89	24
7	4.7	9.9	0.0	32.6	14.1	87	31
8	5.1	10.1	0.0	35.2	15.3	88	29
9	6.4	9.5	0.0	34.8	15.8	69	25
10	5.2	8.5	0.0	32.1	15.5	70	34
11	6.6	9.6	0.0	32.3	17.3	71	28
12	7.7	9.9	0.0	36.0	19.5	72	23
13	8.3	10.4	0.0	36.2	18.0	55	19

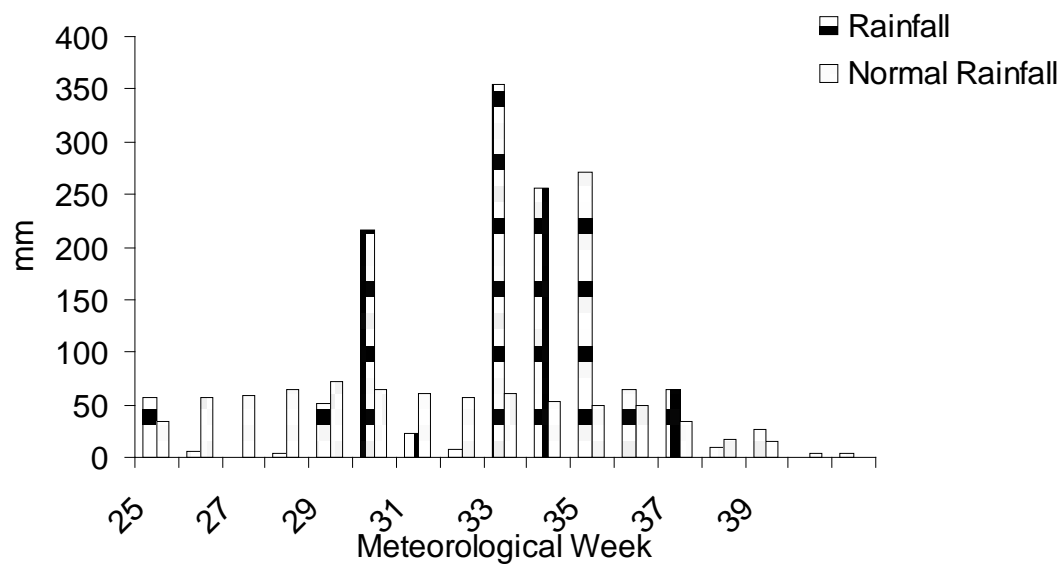


Fig.1 Weekly normal and actual rainfall during monsoon 2005

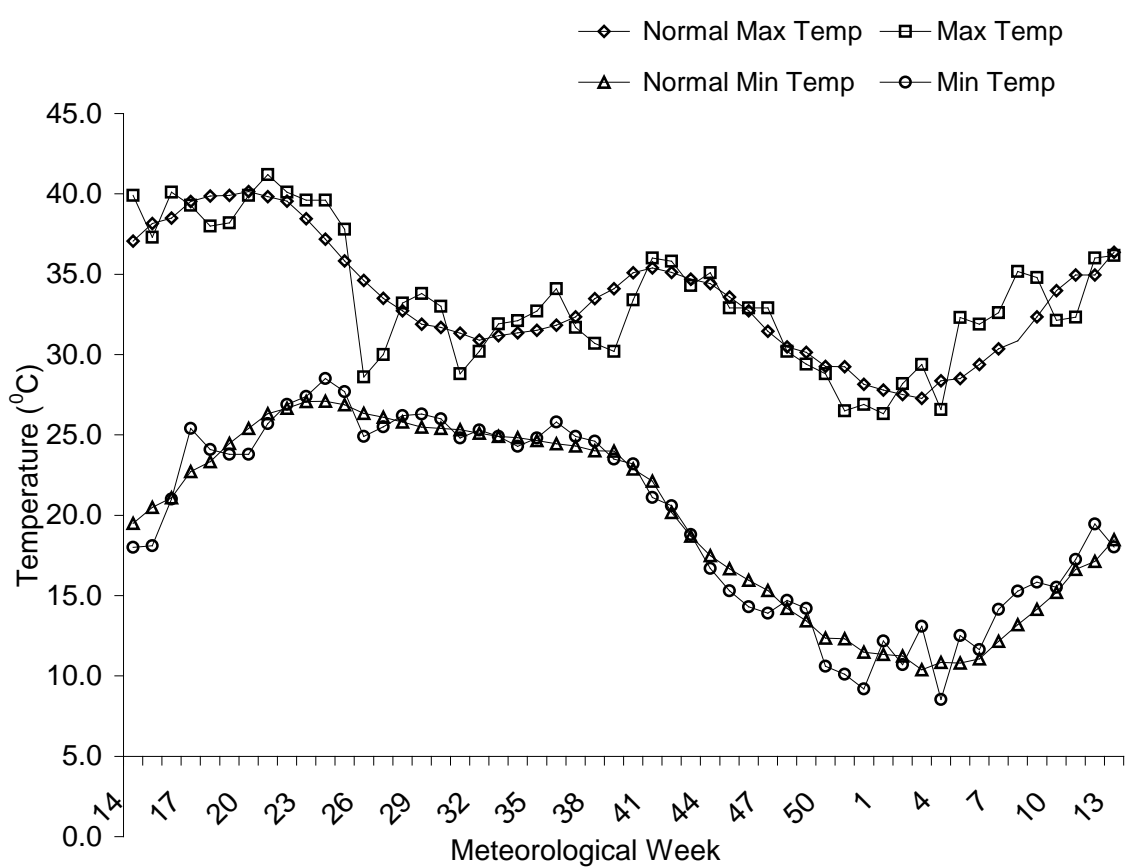
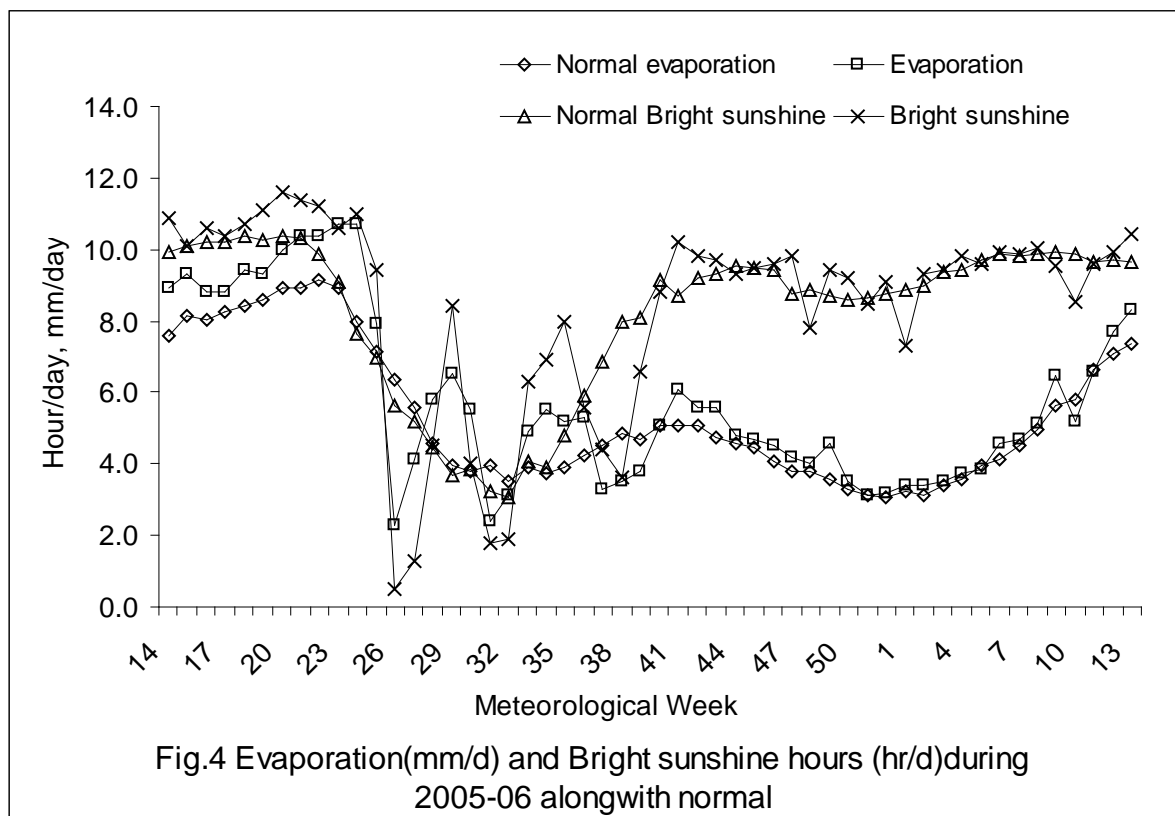
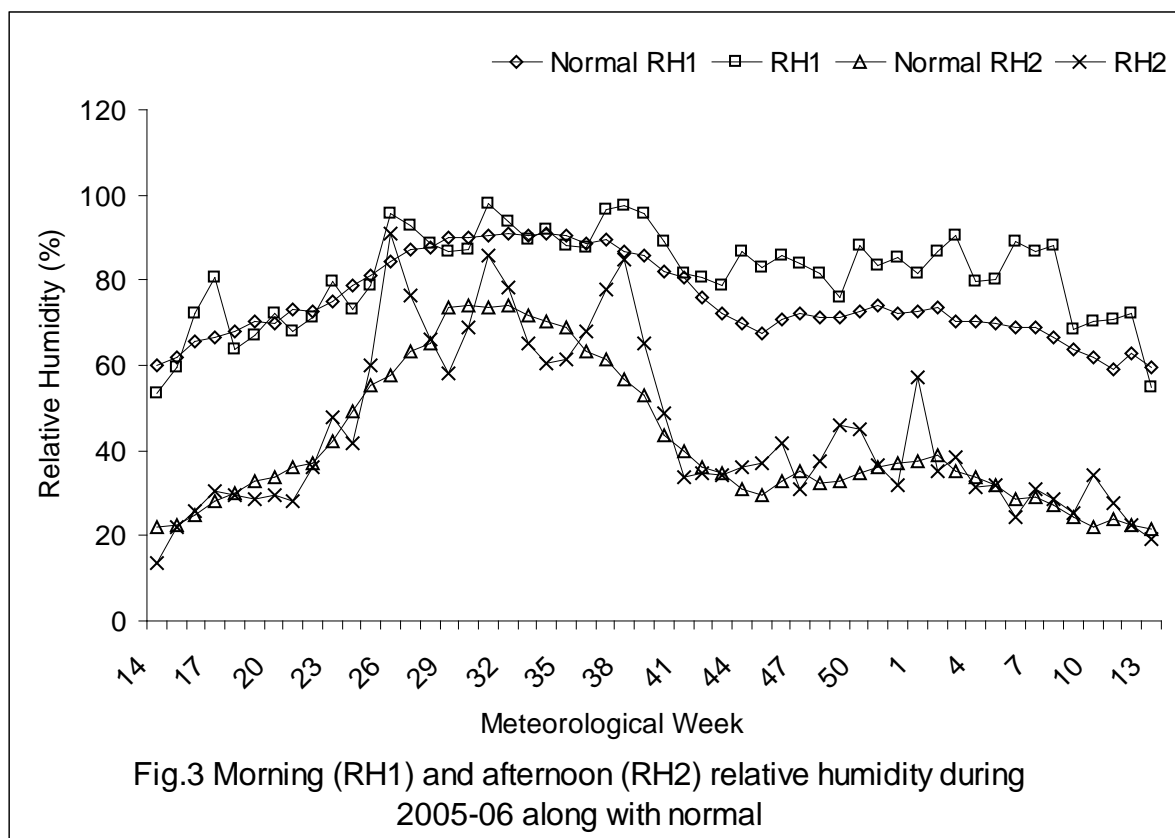


Fig.2 Maximum and Minimum Temperatures during 2005-06 along with normal



## District wise rainfall distribution during 2005

All districts of middle Gujarat region i.e. Ahmedabad, Anand, Dahod, Kheda, Panchmahal and Vadodara, received higher rainfall than normal (116 to 204 %) except Dahod district which received 82 % of the normal rainfall. In these districts, June contributed maximum rainfall. In Dahod, Kheda and Panchmahal, however, the July rainfall was higher than that of June rainfall. In the month of August rainfall was less than normal in all the districts. September month received exceptionally high rainfall in all these districts.

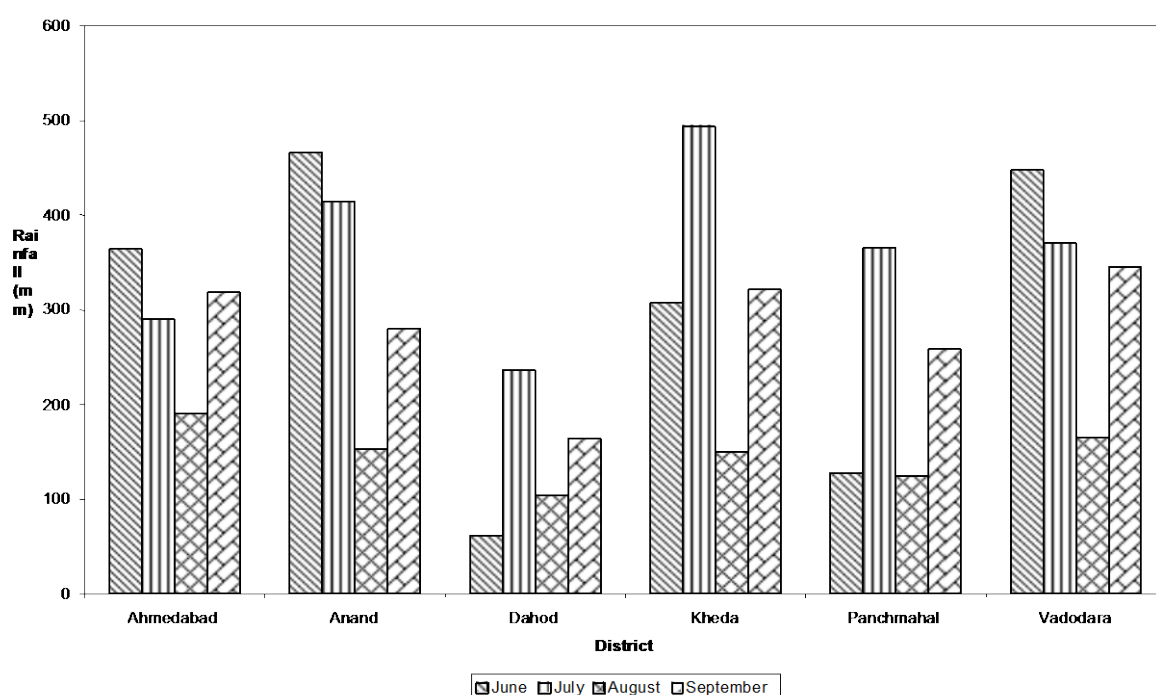


Fig. 5: Districtwise monthly rainfall during 2005 of Middle Gujarat

## RESEARCH SUB-COMMITTEES

Research is necessary for acquiring new knowledge and value addition for effective competition. Research will provide new applications, methods of production and technical support to products for satisfaction of user.

To carry out research work in particular direction, the research areas of different subject under Anand Agricultural University has been sub-grouped in 7 research sub-committees, as follows.

### FACULTY AGRICULTURE

- **Crop Improvement** (Plant Breeding & Genetics, Plant Biotechnology, Plant Physiology and Biochemistry)
- **Crop Production** (Agronomy, Soil Science, Horticulture, Meteorology and Bio-fertilizer)
- **Plant Protection** (Entomology, Plant Pathology and Nematology)
- **Social Science** (Agril. Statistics, Economics and Extension Education)

### FACULTY VETERINARY SCIENCE

- **Animal Production** (Animal Biotechnology, Animal Genetics and Breeding, Animal Physiology & Bio-chemistry, Livestock Production and Management, Animal Nutrition, Reproductive Biology and Poultry Sciences)
- **Animal Health** (Vet. Medicine, Vet. Microbiology, Vet. Pharmacology, Vet. Surgery, Vet. Pathology, Gynaecology & Obstratics Veterinary Public Health, Anatomy and Vet. Clinics)

### FACULTIES OF DAIRY SCIENCE, AGRICULTURAL ENGINEERING AND FOOD PROCESSING

- **Dairy Science, agricultural engineering & food processing**



## RESEARCH ACCOMPLISHMENT

Research Sub-Committees met and finalized different research programmes considering the requirement of farmers, burning problems and education needs of today's global requirement in agricultural sciences. As a result of sincere efforts of the scientists, research accomplishments made are given here.

### I. RESEARCH ACCOMPLISHMENTS AND RECOMMENDATIONS

Name of the sub-committee	Meeting held on	No. of recommendations finalized
Crop improvement	26-27 April, 2005	<b>04</b>
Crop production	20-21 April, 2005	<b>12</b>
• Cultural practices		03
• Nutrient management		02
• Organic farming (Bio-fertilizers)		02
• Water management		04
• Weed management		01
Plant Protection	15-16 April, 2005	<b>08</b>
• Pest Management		04
• Disease management		04
Dairy Science & Agril. Engineering	15-16 April, 2005	<b>07</b>
Animal Production	8-9 April, 2005	<b>05</b>
Animal Health	8-9 April, 2005	<b>01</b>
Social Science	5-6 April, 2005	<b>01</b>
Agresco	28 April, 2005	<b>38</b>
Joint AGRESCO of SAU's	2- 4 May, 2005	<b>38</b>

The details of recommendations approved in the Joint AGRESCO meeting of SAUs of Gujarat held at Dantiwada under different Research Sub-Committees of the Agriculture Research Committees are given here.



## **AGRICULTURE**



### **1. CROP IMPROVEMENT (Plant Breeding and Genetics, Plant Physiology & Biochemistry)**

#### **a. PLANT BREEDING AND GENETICS**

The crop improvement programmes have resulted in release of three improved varieties of different crops (Table-5.2) for Gujarat State. Besides, one variety of Groundnut AG-1 developed at Anand has been identified by AICRP on Groundnut for Zone-IV (Bihar, Orrisa, West Bengal).

**Table-5.2 : Varieties recommended for farmers**

Crop & Name of Variety	Average Yield (kg/ha)	Salient features
<p data-bbox="411 349 539 383"><b>Lucerne</b></p>  <p data-bbox="280 913 670 974"><b>Anand Agril. Uni. Lucerne-3 (AAUL-3)</b></p>	<p data-bbox="783 349 888 383">110300</p>	<ul data-bbox="916 349 1388 651" style="list-style-type: none"> <li>• Perennial type</li> <li>• Yielding 31.6 and 44.0 % higher over RL-88 and Anand-2</li> <li>• Solid and erect stem with dark green foliage</li> <li>• Recommended for Middle Gujarat area</li> </ul>
<p data-bbox="411 987 539 1021"><b>Tobacco</b></p>  <p data-bbox="280 1574 670 1680"><b>Mosaic Resistant Gujarat Tobacco Hybrid-1 (MR GTH-1)</b></p>	<p data-bbox="815 987 888 1021">3793</p>	<ul data-bbox="916 987 1353 1290" style="list-style-type: none"> <li>• Resistant to mosaic (TMV)</li> <li>• Tolerant to root knot nematodes</li> <li>• Matures 8 – 10 days earlier than GTH-1</li> <li>• Recommended for bidi tobacco growing areas of Gujarat</li> </ul>

<p><b>Bottle Gourd</b></p>  <p><b>Anand Bottle Gourd-1 (ABG-1)</b></p>	<p>22397</p>	<ul style="list-style-type: none"> <li>• Fruits are tender, attractive and light green in colour</li> <li>• Yielding 100.52 &amp; 47.33 percent higher over Pusa Navin and PSPL</li> <li>• Low incidence of leaf miner</li> <li>• Recommended for Middle Gujarat Agro-climatic Zone for Kharif season</li> </ul>
<p><b>Groundnut</b></p>  <p><b>AG-1</b></p>	<p>2538</p>	<ul style="list-style-type: none"> <li>• Genotype ANDG-50 was identified by variety identification committee Annual Rabi/Summer Groundnut Group Meeting held at ICRISAT during Oct.2-4 2005 for its release in Zone IV (Bihar, Orissa, West Bengal and N.E. region of Indian states).</li> <li>• Shelling percent – 71%</li> <li>• Oil content - 53 %.</li> <li>• Kernels test weight : 35.3 g.</li> </ul>

## **b. PLANT PHYSIOLOGY**

### **Chilli**

For seed production of chilli, the farmers are advised to harvest chilli fruits as and when they ripe. The red ripened fruits produce higher seed yield and germination percentage in comparison to mature wrinkled or dried fruits.

## **2. CROP PRODUCTION**

### **a. CULTURAL PRACTICES**

#### **Tobacco**

The farmers of Middle Gujarat Zone III (AES II) growing Bidi Tobacco GTH-1 are advised to do two times tractor cultivation with cultivator in summer and eight times interculturing at eight days interval for getting higher yield and economic return.

#### **Paddy**

The farmers of Middle Gujarat Agro-climatic Zone-III comprising of Agro Eco-situation II & IV (Thasra and Nawagam) growing rice varieties GR-7, GR-11 and Narmada are advised to transplant the crop during 20<sup>th</sup> June to 10<sup>th</sup> July for lower spikelet sterility percentage and thereby obtaining higher grain yield.

## **Safed Musali**

Farmers of Middle Gujarat Agro-climatic Zone III (AES II) are recommended to cultivate Safed musli using the planting material of approximately 5 g bunches (2-3 tubers) per hill, with a spacing of 30 x 15 cm, applying 5 ton poultry manure or 10 ton FYM/ha to obtain the highest fasciculate root yield and net profit.

### **b. NUTRIENT MANAGEMENT**

#### ***Bajra and Wheat***

Farmers of Middle Gujarat Zone III (AES-II) following bajra-wheat sequence are advised to apply Zn @ 2.5 kg ha<sup>-1</sup> in the form of enriched FYM along with recommended dose of NPK application to both the crops in a sequence to obtain higher crop yields in soils having marginal Zn availability [ 200 kg FYM composted with 2.5 kg of Zn or 12 kg ZnSO<sub>4</sub> and mixing with Biogas slurry @ 1% (2 kg) for 40-45 days is to applied in one hectare land].

#### **Banana**

The Banana growers of Middle Gujarat (AES-II) are advised to give recommended dose of fertilizers (200-100-200 NPK + FYM 10t/ha) which is applied in three equal splits on 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> month after planting. Application of extra N and K each @ 50 g/plant as adopted by some farmers at post shooting was not found better.

### **c. BIOFERTILIZER**

#### **Gram**

The farmers of Middle Gujarat Agro-climatic Zone-III cultivating gram crop (GG-2) are advised to add an application of 75 per cent recommended phosphorus fertilizer @ 30 kg/ha and phosphobacterin culture with adequate organic manure as a basal treatment in conjunction with irrigation at two stages (i.e. branching and pod formation) for getting higher yield as well as higher net profit.

#### **Mungbean**

Recommended dose of fertilizers (20-40 N-P kg/ha) may be applied to mungbean for getting higher yield and net return (CBR 3.46). The biofertilizers (*Rhizobium* and *PSB*) were not better than the chemical fertilizer but gave significantly higher yield than the control.

#### **d. WATER MANAGEMENT**

##### **Mustard**

The farmers of Agro-climatic Zone-III (AES-II) of Middle Gujarat growing mustard in Narmada command areas are advised to irrigate crop at node elongation, flowering and pod development stages with 6 cm depth to get more net return (Rs. 17031/ha). Mulching with black plastic was not found better in improving the yield or economics.

##### **Gram**

The farmers of Agro-climatic Zone-III (AES-II) of Middle Gujarat growing gram in Narmada command areas are advised to give single irrigation to crop at branching stage with 6 cm depth. When the soil is medium in available phosphorus, the crop may be fertilized with 37.5 kg of  $P_2O_5$  per ha and adequately manured at the time of sowing to get more net return (Rs. 32181/ha).

##### **Brinjal**

Brinjal (GBH-1) growers of Middle Gujarat Agro-climatic Zone-III (AES-II) are advised to use drip irrigation to irrigate the crop at alternate day for 35 minutes in October and for 25 minutes in November to January (with 60% water saving) and apply liquid fertilizer @ 50 kg N and 25 kg  $P_2O_5$ /ha, (with a saving of 50% fertilizer) in 10 equal splits at 6 days interval after 21 days of TP (with 20 t/ha FYM). This practice gave 31.13% higher yield with higher CBR (1:2.06) as compared to flood irrigation system. If liquid fertilizer is not available in the market, urea can be added to the fertilizer tank and SSP can be given as soil application.

The drip may be laid out at lateral pipe at 90 cm and two dripper having 4 lit/hr capacity at 60 cm with a crop spacing of 90 x 60 cm and operated at 1.25 kg/cm<sup>2</sup>.

##### **Banana**

The farmers of Middle Gujarat Agro-climatic Zone-III (AES-II), growing banana (cv. Basrai) are advised to apply 40% of recommended fertilizer (liquid fertilizers) in three equal splits during 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> month after planting of banana at 32 days interval through drip. This will result in 20% more yield and 20% saving in water over surface method of irrigation. If liquid fertilizer is not available in the market, urea can be added to the fertilizer tank and SSP can be given as soil application.

The drip system should be operated at 1.25 kg/cm<sup>2</sup> pressure for 2.5 h during Oct. to Feb. and 5 h during March to on-set of monsoon at alternate days. The

lateral should be placed at 180 cm distance with 2 drippers of 4 lit/h. The dripper should be placed 30 cm away on either side of the plant.

#### **e. WEED MANAGEMENT**

##### **Wheat**

Farmers of Bhal zone are advised to spray Glyphosate @ 0.4% + 1.5% Ammonium Sulphate for the effective control of 'camel thorn' (*Alhagi camelorum*, Fisch) locally called Jawasia. As this herbicide is nonselective in nature, it should be sprayed on the weed after harvest of the wheat crop.

### **3. PLANT PROTECTION**

#### **a. AGRICULTURAL ENTOMOLOGY**

##### **Chickpea**

From the view point of safety to environment and natural enemies, following eco-friendly IPM module is recommended for the control of pod borer (*Heliothis*), (*Helicoverpa armigera* (Hubner)). Hand pick in chickpea (var. ICC 4) cultivated in Middle Gujarat, it is found comparatively safer to natural enemies and also found cost effective (ICBR 1:13.03).

1. Installation of T-shaped perches @ 100/ha to attract the predatory birds at two weeks after germination.
2. Spray of neem based formulation 1% EC (Azadirachtin 10,000 ppm) @ 5 ml in 10 liter water (Azadirachtin 0.0005%) on appearance of first instar larvae.
3. Spray of endosulfan @ 0.07% (20 ml endosulfan 35 EC in 10 liter water) at the time of pod formation.

##### **Brinjal**

For effective and economical management of pest complex in brinjal, sprays of NSKE 4% at 45, 60, 75, 90 and 105 DATP (ICBR 1:8.11) or application of Neem cake @ 250 kg/ha at 30 DATP + Shoot clipping at weekly intervals + NSKE (4%) sprays at 60, 75, 90 and 105 DATP is recommended for farmers of Middle Gujarat growing brinjal.

##### **Rice**

For the management of leaf folder and for conservation of predatory spiders in rice the following IPM package is recommended for farmers of Middle Gujarat Agro-climatic Zone-III (ICBR 1:1.14).

1. Grow tolerant variety Gurjari with recommended dose of chemical fertilizers.
2. Transplant the crop during first fortnight of July.

3. Broadcast wheat/Lucerne straw (80 kg/ha) at 15-20 DAT in paddy field to encourage spiders population.
4. Spray endosulfan @ 0.07% as and when required.

### **Tobacco**

Considering the effectiveness and net return of different insecticidal treatments, two applications (20 and 30 days after germination) of any one of the following insecticides is recommended for the control of *Spodoptera litura* in tobacco nursery under Middle Gujarat conditions.

1. Chlorpyrifos 50%, Cypermethrin 5% (Nurelle D 55% EC) @ 0.11%
2. Alphamethrin 0.015%
3. Quinalphos 0.05%
4. Deltamethrin 0.8% + Endosulfan 32% (Civet 32.8% EC) @ 0.07%

## **b. PLANT PATHOLOGY**

### **Mungbean**

The farmers of Middle Gujarat are advised to spray carbendazim @ 0.05% at 40, 55 and 70 days after sowing (ICBR 1: 8.95) for the management of *Macrophomina* blight and *Cercospora* leaf spot diseases of mungbean.

## **c. NEMATOLOGY**

### **Ginger**

For effective management of root-knot nematodes in ginger, the farmers of Middle Gujarat are advised to follow soil solarization for 15 days in summer with 25  $\mu$  LLDPE clear plastic (ICBR 1 : 5.17) or rabbing with bajra husk @ 7 kg/m<sup>2</sup> (ICBR 1 : 3.38).

### **Tobacco**

For effective and economic management of root-knot disease and nematodes in bidi tobacco nursery and thereby increase number of healthy transplants, farmers of Middle Gujarat are advised to drench the nursery with carbosulfan @ 2.5 l/ha 1 DPS (Days prior to sowing) + 25 DAS using nematicidal solution @ 2 l/m<sup>2</sup>. (ICBR 1 : 5.50; Net realization Rs.2,07,728/ha).

Infection of reniform nematode delayed the growth and development of bidi tobacco seedlings by 38 days causing 22.1% avoidable loss at 1<sup>st</sup> pulling (38 days) and overall loss to the tune of 5.51% in production of transplants.

### **Maize**

Farmers of Middle Gujarat growing *rabi* maize are advised to treat the seeds with *Trichoderma harzianum* @ 4 g/kg seeds having 2 x 10<sup>8</sup> CFU/g carrier (ICBR 1:6.30) OR with benomyl @ 2.5 g/kg seeds before sowing and apply castor and



neem cake each @ 250 kg/ha in open furrows 15 days prior to seeding (ICBR 1:4.84) for effective and economic management of stalk rot and nematodes (stunt and lesion) and to achieve highest grain and fodder yields.

#### **4. SOCIAL SCIENCE**

Effort should be made by cold storage owners to minimize the spoilage of potato during cold storage. The concerned scientist should carry out the research with an objective to minimize the spoilage of potato kept in cold storage.

#### **5. ANIMAL PRODUCTION**

##### **Livestock Management**

The average Animal Housing Index on 28 point scale in middle and south Gujarat was 14.38 i.e. nearly 50% comfort. At present more than 75% farmers provide roof of animal houses at less height (5 – 6 feet) with no manger and uneven earthen floor. To improve the micro-climate of rural animal houses, the height of the roof should be 8 – 10 feet, provision of manger and even slope (earthen / brick).

##### **Poultry Nutrition**

Incorporation of Mango seed kernel @ 10% in broiler starter feed, improves feed efficiency by 11.52% with 25.68% more return over feed cost.

The broiler birds can be reared economically on rice husk litter material by feeding 2879 (BS)-2941 (BF) ME energy and 22.12% (BS) – 19.87% (BF) protein ration to harvest 207% return over feed cost.

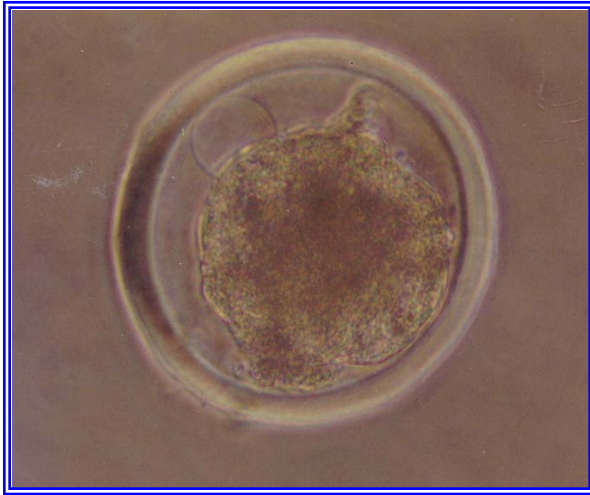
##### **Animal Nutrition**

The body condition score (BCS) of high milk producer cows and buffaloes ranged from 2.0 to 4.5 cm on 5 point scale. While the desirable BCS is 3.0 to 3.5. More than 85% of the farmers were not feeding mineral mixture and their animals showed energy deficit to high producers. Thus, balanced mineral mixtures daily @ 35 to 50 gram per cow / buffalo and one kilogram grain bharda or cake should be fed to improve both milk production and reproductive efficiency.

During the year, the availability of green sugarcane tops is for 5 months i.e. November to March. It contains 34.24% moisture, 5.97% CP, 1.55% EE, 34.49% CF, 52.29% Nitrogen free Extract (NFE) and 5.7% Ash. While dry sugarcane tops contains moisture 5.5%, CP 5.42%,; EE 1.5; CF 35.5; NFE 51.56 and Ash 6 %. The sugarcane tops can be fed safely 15 – 20 kg daily to medium to high producers for 5 months without any adverse effect on milk yield, BCS, Haemoglobin and Blood sugar.



## Embryo Transfer Technology



**Morula Staged Embryo**



**Jersey Calf born from HF Mother through ET**

In the project on Embryo Transfer Technology, 51 cows were flushed and 197 embryos were recovered with average of 3.86 embryos per flush. Out of 143 viable embryos 38 embryos were transferred in 24 cows with 50% pregnancy rate. Remaining embryos were frozen.

## Development of New Anand Commercial Layer



**Anand Commercial Layer**

A high-producing White Leghorn egg-type hybrid was developed by Department of Poultry Science. The egg-production performance, feed efficiency and return over feed cost were found competitive with commercial entries. The parent stocks as well as commercial chicks are being supplied to the Animal Husbandry Department of Gujarat State. Its economic traits are: Average age at sexual maturity: 148 days; Average annual egg production: 299; Peak production: 95%; Average egg weight at 28 weeks: 51g and at 72 weeks: 55 g; feed consumption/dozen eggs: 1.67 kg; and Laying house mortality per month: < 1%.

## **6. ANIMAL HEALTH**

Dairy farmers are advised to breed the bovines from by 7 weeks postpartum to optimize the intercalving period. Animals not observed in oestrus, by this time are required to be examined gynaeco-clinically by veterinarians for inducing estrus and the subsequent breeding.

## **7. DAIRY SCIENCE, AGRICULTURAL ENGINEERING & PROCESSING**

### **a. AGRICULTURAL ENGINEERING AND FOOD PROCESSING**

#### **1. Development of precision weight based grader for selected fruits**

The precision weight based grader for selected fruits developed at Agricultural Product Process Engineering Unit, Anand Agricultural University, Anand is recommended for the use of farmers and concerned entrepreneurs for grading of fruits. The developed machine has high capacity as compared to manual grading of fruits. The developed machine has high capacity as compared to manual grading and is efficient and economical in grading of the fruits especially irregular shaped fruits such as mango.



#### **2. Development of precooling protocol for banana for extension of shelf-life**

Growers and suppliers of banana cv. Robusta are advised to precool the bunches using the technology developed at Agricultural Product Process Engineering Unit, Anand Agricultural University, Anand for extension of its shelf life. The precooled banana can be stored up to 24 days under cold storage ( $13.5 \pm 0.5$  °C & 85-90 % RH) or up to 19 days under evaporative cooled storage conditions. However, precooling is not suggested for banana to be stored under ambient storage conditions.

### **3. To evolve simpler and cheaper biogas plant based on KVIC design**

The standard KVIC design biogas plant has been modified with replacing the masonry work of the digester by a HDPE film lining. The modified version developed at Agricultural Product Process Engineering Unit, Anand Agricultural University, Anand is cheaper by about 36 % as compared to the conventional KVIC biogas plant of the same size and also requires 22 % less time for its installation.

#### **b. DAIRY SCIENCE**

The ultra filter deproteinized and lactose hydrolyzed Cheddar Cheese Whey (unsalted) permeate-based beverage with acceptable quality can be prepared using mango pulp (15%), sugar (5%), stabilizer (guar gum 0.1%) and sodium benzoate (0.03%) and the pH maintained at 4.0 using citric acid solution. The pasteurized (72°C / 15 s) product, packaged in pre-formed polyethylene pouches can be stored safely upto 35 days at 7±2°C.

Packaging of khoa in multiplayer co-extruded film (PET 12 µ: white/opaque polyethylene, 45 µ adhesive GSM 2.5) pouches without any treatment but storing at 5±2°C give shelf life of 14 days. Packaging the same khoa under vacuum (730 mm) or incorporation of 0.1% potassium sorbate (if permitted) increases the shelf-life upto 21 days at 5 ± 2°C.

By vacuum packaging in PET:PE pouches, paneer can be stored for 4 weeks at refrigeration temperature (7 ± 2°C). The shelf-life can be further extended to 6 weeks by dipping in 20% brine for 10 minutes and vacuum (730 mm) packaging.

Chhash can be made from double toned milk supplemented with 20% mozzarella cheese whey and by fermentation using combination of *Str. thermophilus* MD2 : *Str. thermophilus* D16 : *Lb. acidophilus* V3 (0.80: 0.80: 0.40). Heat treatment of chhash at 60°C for 5 min extends the shelf-life of chhash upto 25 days at refrigerated storage 5±2°C.

## **II NUCLEUS, BREEDER AND OTHER STAGES SEED PRODUCTION**

Seed is the main key factor for raising the production and productivity of any crop and for wide adaptability of released variety. Anand Agricultural University is producing nucleus as well as breeder seeds in enough quantities to cater the needs of seed industry in public and private sectors. During the year 2005-06, Anand Agricultural University produced about 331.89 quintals of breeder seed of state as

well as national varieties of important crops. The major quantity of seeds was produced in paddy (177 q) and maize (52 q) followed by gram and oat.

. Nucleus seed of different crop varieties following standard methods to ensure 100% genetic purity was also produced keeping in view the spread of the variety and future needs. It is note-worthy that Anand Agricultural University is only maintaining the vegetable type clusterbean variety 'Pusa Navbahar' and producing breeder seed in the country. Looking to the demand of pure seeds, ICAR has sanctioned a MEGA SEED PROJECT worth rupees 4.32 crore.

Apart from the production of nucleus and breeder seed, the university has also managed to produce certified / truthful / general seed of the most adapted varieties in large quantity, which is being directly distributed to the farmers. The University also distributes seedlings of vegetable crops, tobacco and medicinal and aromatics plants for farmers.

The crop wise quantity of breeder as well as truthful seed produced during the year 2005-06 is given in Table 5.3.

**Table- 5.3 : Seed and Seedling production**

<b>Sr. No.</b>	<b>Crop</b>	<b>Breeder Seed (q.)</b>	<b>Other Stage Seed (q)</b>
1	Paddy	177	2260
2	Maize	52	155
3	Cotton ( <i>Herbacium</i> )	6	40
4	Tobacco	-	180
5	Wheat	-	50
6	Gram	35	50
7	Lucerne	10	9
8	Oats	28	5
9	Bajra (Fodder)	-	7
10	Sorghum (Fodder)	-	30
11	Guar (Fodder)	14	40
12	Guar	3.22	35
13	Cowpea	6.35	1.5
14	Brinjal	-	1
15	Okra	0.32	9
16	Chilli	-	10
	<b>TOTAL</b>	<b>331.89</b>	<b>2882.50</b>

### III RESEARCH PROJECTS

#### (i) ICAR COORDINATED PROJECTS

Sr. No	Name of Project	Location
1.	AICRP on Agro Meteorology	Anand
2.	AINP on Agril. Ornithology	Anand
3.	AICRP on Biological Control	Anand
4.	AICRP on Cropping System Research (OFR)	Baroda
5.	AICRP on Forge Crops	Anand
6.	AICRP on Groundnut	Anand
7.	AICRP on Improvement of Feed Resources and Nutrient Utilization in raising Animal product	Anand
8.	AICRP on Maize Improvement	Godhra
9.	AICRP on Medicinal and Aromatic Plant	Anand
10.	AICRP on Micro and Secondary Nutrient	Anand
11.	AICRP on Nematodes	Anand
12.	AINP on Pesticide Residue	Anand
13.	AICRP on Poultry For Eggs	Anand
14.	AICRP on Rice	Nawagam
15.	AICRP on Seed Technology Research (NSP)	Anand
16.	AICRP on Tobacco	Anand
17.	AICRP on Weed Control	Anand
18.	Network Project on Animal Genetics Resources ( Core Lab.)	Anand
19.	Research and Development Support for Process Upgradation of Indigenous and Western Dairy Products	Anand
20.	Seed Production in Agricultural Crops and Fisheries (MEGA SEED PROJECT)	Anand



**(ii) ICAR ADHOC PROJECTS**

Sr. No	Name of Project	Location
1.	FLD Promote Non-Hybrid Rice Technology	Nawagam
2.	Frontline Demonstration on Maize	Godhra
3.	Identification of differentially expressed genes during lactogenesis in buffaloes	Anand
4.	Root knot Nematodes and its management in citrus	Anand
5.	National Information system on Agril. Education Network in India (NISAGENET)	Anand
6.	Network Project on Ethno-Veterinary Medical under A.P.Cess Fund	Anand
7.	Economics of Dairy Enterprise in Middle Gujarat Agro-Climatic Zone	Anand
8.	Assessment and Characterization of heavy metal contamination in Agril. Soil & Plant in Pen Urban Area	Anand

**(iii) PLAN SCHEMES**

<b>I. EDUCATION</b>		
<b>[A] AGRICULTURE EDUCATION</b>		
1.	Modernisation of the departments of Agriculture College	Anand
2.	Scheme for the Award of GAU Fellowship for PG studies in various faculties	Anand
3.	Project for Library	Anand
4.	Land Scaping at different Campuses	Anand
5.	Creating of the Computer & Communication facilities at different Campuses	Anand
6.	Expansion of Planning & Evaluation Cell	Anand
7.	Establishment of Department of Plant Physiology, Tissue culture & Biotechnology of Agriculture College	Anand
8.	Library Facilities at all Campuses	Anand
9.	Modernisation of Department of Agriculture Colleges at all Campuses	Anand
10.	Establishment of Agro-meteorological Cell at Agriculture College	Anand
11.	Establishment of Microbiology cell at Department of Plant Pathology.	Anand
12.	Addition of facilities for organizing Rural Agricultural Work Experience (RAWE) programme	Anand
13.	Strengthening facilities for Sericulture, Apiculture and Mushroom cultivation	Anand
14.	Establishment of Modern Green-house facilities	Anand
15.	Establishment of Post Graduate Diploma Programme in the Faculty of Agricultural Information Technology	Anand

16.	Establishment of Faculty of Food Processing Technology and Bio-energy	Anand
<b>[B] STUDENT FACILITIES AND YOUTH AFFAIRS</b>		
17.	Upgrading of Student facilities at different Campuses.	Anand
18.	Modernising of Student facilities at different Campuses	Anand
19.	Scheme for Fellowship for UG Students of various faculties	Anand
<b>[C] COMMON FACILITIES ON CAMPUS</b>		
20.	Campus Development Programme	Anand
21.	Establishment of a Central Instrument Centre with heavy duty generator set	Anand
<b>[D] VETERINARY EDUCATION</b>		
22.	Modernisation of the departments of Veterinary Science College	Anand
23.	Opening of New Department at College of Vety. Science & Animal Husbandry <ul style="list-style-type: none"> <li>- Livestock Production Technology</li> <li>- Animal Nutrition</li> <li>- Veterinary Clinics</li> <li>- Animal Biotechnology</li> </ul>	Anand
24.	Modernisation of the Post-graduate Department at Veterinary College	Anand
25.	Establishment of New Departments at Veterinary Science College <ul style="list-style-type: none"> <li>- Vety. Epidemiology &amp; Preventive Medicine</li> <li>- Veterinary Extension</li> </ul>	Anand
<b>[E] DAIRY EDUCATION</b>		
26.	Modernisation of Departments of Dairy Science College	Anand
27.	Strengthening of Existing Department of Management Science in faculty of Dairy Science	Anand
28.	Strengthening of Dairy Science College	Anand
29.	Modernisation of Student Training Dairy (STD)	Anand
30.	Starting a PG Programme in Dairy & Food Quality Assurance	Anand
<b>II. EXTENSION EDUCATION</b>		
<b>[F] EXTENSION EDUCATION IN AGRICULTURE</b>		
31.	Up-grading of the existing Agricultural School	Anand, Vadodara
32.	Strengthening of the Directorate of Extension Education at University & Zonal level	Anand
33.	Upgrading of Existing Sardar Smruti Kendra	Anand
34.	Establishment of Mali Training Centre at all Campuses	Anand
35.	Establishment of Centre to Agricultural Extension Information System	Anand
36.	Centre for Communication Network	Anand
37.	Establishment of Transfer of Technology Centre	Anand ,Arnej
38.	Agricultural Technology Information Centre (ATIC)	Anand

<b>[G] EXTENSION EDUCATION IN VETERINARY SCIENCE</b>		
39.	Upgrading of Poultry Training Centre	Anand
<b>[H] EXTENSION EDUCATION IN AGRICULTURE SCHOOL</b>		
40.	Strengthening of Agricultural School	Dahod
<b>III. RESEARCH</b>		
<b>[I] RESEARCH IN AGRICULTURE</b>		
41.	Minor & Original Works at Campuses/Zones	Anand
42.	Strengthening of Research in Millet	Anand
43.	Strengthening of Research in Rice	Nawagam Dabhoi
44.	Strengthening of Research in Wheat	Anand, Dhandhuka
45.	Strengthening of Research in Sorghum	Viramgam
46.	Strengthening of Research in Pulses	Vadodara
47.	Strengthening of Research in Oilseed (Groundnut)	Anand
48.	To establish a Centre of Excellence for Cotton Research	Anand Viramgam Dhandhuka
49.	Strengthening of Research in Tobacco	Anand Sanand
50.	Strengthening of Research in Forage crops	Anand
51.	Research in Vegetable crops	Anand
52.	Strengthening of Research in Medicinal & Aromatic Plants	Anand
53.	Expansion of Research in Agril Economic	Anand
54.	Scheme for Management of Salt Affected Soil & Poor Quality of underground water	Thasra
55.	Application of Remote Sensing Technique	Anand Nawagam
56.	Statistical evaluation of experimental variability for improving efficiency of field experimentation	Anand
57.	Development of various Bio-gas Plants to use vegetative wastes	Anand
58.	Strengthening of Research in Dry-farming	Dhandhuka
59.	Strengthening of Tissue culture Research & Development at all campuses	Anand
60.	Project on Fertigation in Horticultural crops	Anand
61.	Scheme on Insect Pest Management in Fruit crops	Anand
62.	Strengthening of Horticultural Research & Development activities	Anand
63.	Research on Eco-friendly Biological Fertilizer	Anand
64.	Classified works at Campuses Zones	Anand
65.	Campus Development Programme (On campuses)	Anand
66.	Farm Development Programme	Anand
67.	Creation of Infrastructural facility & Manpower for Research in Agricultural Statistics at all campuses	Anand
68.	Establishing Organic farming Cell at all campuses	Anand
69.	Centre of Excellence for Soil & Water Management Technology	Anand

70.	Strengthening of Agro-meteorology at AAU	Vadodara
71.	Establishment of New Department of Genetic Engineering and Biotechnology	Anand
72.	Epidemiology & Management of Yellow Mosaic Virus of Pulses	Anand
73.	Centre of Excellence on Agril. Biotechnology	Anand
74.	Research on Hybrid Development in paddy	Nawagam
75.	Research on Hybrid Development in Chilli, Okra & Tomatto	Anand
76.	Strengthening Resaearch in G.herbaceum cotton	Viramgam
77.	Strengthening Adaptive Resaearch in all Agro-climatic Zones of the State	Anand
78.	Development of Mathodologies for detection of Heavy Metal contamination	Anand
<b>[J] RESEARCH IN VETERINARY SCIENCE</b>		
79.	Initiating Research in Embryo Transfer in Cattle & Buffaloes	Anand
80.	Scheme for Import & Establishment of Exotic Cattle	Anand
81.	Central Sperm Station	Anand
82.	Strengthening of R.B.R. Unit	Anand
83.	Study on applied Reproduction in Surti & Marwadi Goats of Gujart State.	Anand
84.	Strengthening of Livestock Research Station	Anand
85.	Random Breed Control Population on Poultry	Anand
86.	Cytogenetics and Cell culture studies in Cattle and Buffaloes	Anand
87.	Etiopathological studies on mortality of Broilers	Anand
88.	Strengthening of Livestock and Veterinary component	Anand
89.	Diagnosis and Epidomology of important diseases in Animal	Anand
90.	Enhancing Feed Efficiency through use of Enzymes and Altering Rumen Fermentation in Bovines and Poultry	Anand
91.	Diseases Management in Livestock	Anand
<b>[K] RESEARCH IN DAIRY SCIENCE</b>		
92.	To standardize a method for Commercial Manufacture of Dahi with enhanced acceptability and stability	Anand
93.	Development of Technology for utilization of Soyabean & Groundnut and their meals as protein rich materials for fabrication of foods for human consumption	Anand
94.	Application of Memberance Processing Technology in Manufacture of selected Indegenious and Western Dairy Products	Anand
95.	Enhancing Self life of Indigeneous Milk product	Anand
96.	Standardization of Process for Manufacture of Annato Butter Colour	Anand
97.	Plasmid profile of lactic acid bacteria and their use as Bio-medical agents	Anand
98.	Manufacture of Dairy/Non Dairy Processed Cheese and Mozzararella Cheese Analogues	Anand

<b>[L] RESEARCH IN AGRICULTURE [ TRIBAL]</b>		
99.	Improving Research facilities for Maize	Dahod
100.	Strengthening of Research in Pulse	Dahod
101.	Improving Research facilities for Cotton	Devgadharia
102.	Research on Paddy in Tribal Area	Dahod
103.	Research and Demonstrations of Bio-fertilizers in Tribal areas of Gujarat.	Anand, Godhra

**(iv) NON PLAN SCHEMES**

1.	Scheme for Design of Experiment	Anand
2.	Scheme for Research in Bajara, RRS, Unit-5	Anand
3.	Scheme for Research on Rice	Nawagam Derol Dabhoi
4.	Scheme for Research in Wheat	Dhandhuka
5.	Scheme for Research in Jowar	Viramgam
6.	Scheme for Strengthening of Research in Pluses	Baroda, Dahod Arnej
7.	Research on Pulses	Vadodara
8.	Scheme for Oilseed Research	Derol
9.	Scheme for strengthening Research in Cotton	Anand Thasara Dhandhuka Viramgam
10.	Scheme for Research in Tobacco	Anand Sanand Dharmaj
11.	Scheme for Research in Sugarcane	Thasara
12.	Scheme for Research in Grasses	Anand
13.	Scheme for Research in Vegetable	Anand
14.	Scheme for Research and Improvement in Fruit Crops	Anand
15.	Scheme for Research Studies in Agricultural Economics	Anand
16.	Scheme for Research in Agriculture Chemistry & Soil Science	Anand
17.	Scheme for Expansion Mechanical Commercial Farm, ECFP	Anand
18.	Scheme for Research in Pest Control & Plant Disease, BACA	Anand
19.	Project for Research in Pest Control & Plant Disease, Vegetable Research Station	Anand
20.	Western Regional Animal Nutrition Station, Vety. College	Anand
21.	Strengthening of Dry Farming Research Station	Dhandhuka
22.	Project for Expansion of Plant Pathology Research, BACA	Anand
23.	Scheme for Establishment of Product Process Engineering	Anand
24.	Establishment of Seed Technology Cell	Anand
25.	Research in Azola & Bio-fertilizer, NARP	Anand

26.	National Agricultural Research Project	Arnej
27.	National Agricultural Research Project	Anand Godhara Derol Chharodi
28.	North Coat Cattle Breeding Farm	Chharodi
29.	Veterinary College, Unit-3	Anand
30.	Dairy Science College, Unit-4	Anand
31.	Scheme for publication of literature	Anand
32.	I.D.C. Project, Unit-7	Anand
33.	B.A. College of Agriculture	Anand
34.	Establishment of Extension Wing	Anand
35.	Strengthening of Under Graduate Teaching	Anand
36.	Establishment of Vice Chancellor Office, AAU	Anand
37.	Award of Fellowship	Anand
38.	Inter College/University Sports & Quize Tournament	Anand
39.	Inter Agril. School's Sports Scheme	Anand
40.	Sports of Agril.School School,	Anand Vadodara Dahod Chharodi
41.	Training of Student, DSW, Unit No.1	Anand
42.	Strengthening of Department by providing additional equipment in view of Semester System	Anand
43.	Establishment of Sardar Smruti Kendra Museum Information Centre,	Anand
44.	Project for Agricultural School	Anand Chharodi Baroda Dahod
45.	School of Baking, Unit - 10	Anand
46.	Home Science School, Unit-10	Anand
47.	Establishment of Library, BACA	Anand
48.	Project for Health Centre	Anand
49.	Strengthening of P.G. Teaching	Anand
50.	Scheme for Instructional Farm, BACA	Anand
51.	Establishment of Farm Advisory Service, Unit-10	Anand
52.	Upgrading of School of Baking	Anand
53.	Department of Agricultural Product Process Engineering	Anand
54.	Department of Namatology, BACA	Anand
55.	Department of Horticulture, BACA	Anand
56.	Department of Bio-chemistry, BACA	Anand
57.	Establishment of Meteorology Dept, BACA	Anand
58.	Strengthening of VC Office (Zonal Acct)	Anand
59.	Strengthening of Existing School of Baking	Anand
60.	Project for Livestock Research Station, Vety Science College	Anand
61.	Poultry Feed Manufacturing Unit	Anand

62.	Strengthening of Poultry Training Centre	Anand
63.	Project for Investigation & Research, Veterinary & Animal Husbandry	Anand
64.	Project for Veterinary Science & Animal Husbandry	Anand
65.	Project for Reproductive Biological Research Unit	Anand
66.	Scheme for increasing the admission capacity in Degree Course, Vety. Science College.	Anand
67.	Study of Correlation response to selection Patanwadi Cross Breed Sheep	Anand
68.	Import & Establishment of Exotic Cattle, HF Project, IDC Unit	Anand
69.	Project for the Dept. of Dairy Science College	Anand
70.	Strengthening Research in Maize	Devgadhb aria Godhara
71.	Strengthening Research in Budded Cotton	Devgadhb aria
72.	Strengthening of Research in Hill Millet	Dahod
73.	Training of Tribal Farmer Women & Farm Youth	Dahod
74.	Strengthening of Research in Pulse	Dahod
75.	Tribal Research-cum-Training Centre	Devgadhb aria

**(v) OTHER AGENCY SCHEMES SANCTIONED DURING YEAR**

Sr. No	Name of Project	Location
<b>A. GOVERNMENT OF GUJARAT</b>		
1	Purchase of instruments /equipments for veterinary clinic/bio-technology laboratory/ Modernization of laboratory	Anand
2	Errection of Green House for training and demonstration purpose of the students	Anand
3	Predicting inter & intra seasonal climate variations in Gujarat & their impacts	Anand
4	Cluster Development for Pulse Milling	Anand
5	Establishment of Pilot Plant for Production of Bio-diesel	Anand
6	Establishment of Plant Tissue culture facilities for scaling up of date palm tissue culture protocol	Anand
<b>B. NATIONAL HORTICULTURE MISSION</b>		
7	Model Nursery at Anand	Anand
8	Small Scale Nursery at Anand under GHM	Anand
9	Small Scale Nursery at Vadodra under GHM	Vadodra
10	Small Scale Nursery at Devataj under GHM	Devataj

<b>C. PRIVATE ORGANIZATION</b>		
11	Supervised field trials for the persistence and dissipation of Targa super 5% EC (quzalafof ethyl) on cotton & groundnut	Anand
12	Effect of Celrich and Phoscel the Excell products on crop yield and soil properties	Anand
13	Bio-efficacy of E2Y45 for the control of bollworm complex in cotton	Anand
14	Testing of Quizalafop-p-ethyl 10% EC against weeds in kharif groundnut and soybean	Anand
15	Evaluation of efficacy of Gromor Sulphur Pastilles (S-90) for enhancing the productivity of different crops in Sulphur deficient soils of India	Anand
16	Bio-efficacy Phytotoxicity and effect on natural enemies of Endosulfan 40% SC against pest of Okra & brinjal crops	Anand
17	Large scale demonstration of PB Rope LTT (Mating disruption) against Pink bollworm infesting cotton in Gujarat	Anand
18	Bio-efficacy Phytotoxicity & natural enemies of NNI-0001 480 SC against Diamond black moth in cabbage and Larvin 75 WP against Lipidopterous insect pests in Black gram	Anand
19	Testing of Bio-efficacy of eco -friendly bio-pesticides NEEMAZAL-G in paddy against stem borer and leaf folder	Nawagam
20	Bio-efficacy of Paushak (PGR) on growth and yield of chilli as well as tomato crops	Anand
21	Response of Chicory varieties to different spacing under middle Gujarat conditions	Anand
22	Bioassay of Biosoft ( <i>Beauveria bassiana</i> ), Vanguard (Azadirachtin 1500 PPM) and Quinalphos 25 EC against Diamond backMoth under laboratory condition	Anand
<b>D. INTERNATIONAL</b>		
23	Influence of water quality on Livestock Health and productivity	Anand
<b>E. GOVERNMENT OF INDIA</b>		
24	Use of FTP Bio-waste in Agriculture	Anand
25	Establishment of plant tissue culture facilities for scaling up of Datepalm tissue culture protocol for its commercial cultivation	Anand

#### **IV RESEARCH PUBLICATIONS**

##### **a. Research Papers Published**

<b>A.</b>	<b>FACULTY OF AGRICULTURE</b>	<b>:</b>	<b>50</b>
<b>B.</b>	<b>FACULTY OF DAIRY SCIENCE</b>	<b>:</b>	<b>12</b>
<b>C.</b>	<b>FACULTY OF VETERINARY SCIENCE</b>	<b>:</b>	<b>69</b>
<b>D.</b>	<b>FACULTY OF FPT &amp; BE</b>	<b>:</b>	<b>02</b>



Research papers published are given in Appendix-II

**b. Research Papers Presented**

<b>A.</b>	<b>FACULTY OF AGRICULTURE</b>	<b>:</b>	<b>130</b>
<b>B.</b>	<b>FACULTY OF DAIRY SCIENCE</b>	<b>:</b>	<b>046</b>
<b>C.</b>	<b>FACULTY OF VETERINARY SCIENCE</b>	<b>:</b>	<b>068</b>

The details of Research Paper presented in different international and national Conference/seminar/symposium etc. are given in Appendix-III.

**V DISTINGUISHED AWARDS**

**a. Best Research Award**

- Patel D.R. and Subhash N., were awarded “Vikram Sarabhai Award” for their outstanding meritorious breakthrough scientific research on, “Development of micrpropagation technology in Date palm” by Gujarat Council of Science and Technology, Govt. of Gujarat.
- Yadav D. N. has been awarded “R. L. Srivastava memorial National Award” at National conference during September 26-29, 2005 at Mahrana Pratap University of Agriculture and Technology, Udaipur.

**b. Best Research Papers**

- Varshneya M. C. was awarded for best paper by Journal of Maharashtra Agril. Universities in 2006, for the paper entitled, “Studies on sunflower based inter cropping systems under rain fed conditions”.
- Jhala R.C. was awarded for Best Poster Presentation by Entomological Research Association September 26-28, 2005 Department of Entomology, Rajasthan College of Agriculture, MPUAT, Udaipur.
- Bharpoda T.M. was awarded for Best Oral Presentation by Entomological Research Association September 26-28, 2005 Department of Entomology, Rajasthan College of Agriculture, MPUAT, Udaipur.
- Patel J. J. awarded for Best Paper Presentation by Entomological Research Association September 26-28, 2005 for paper entitled, “Indoxacarb 15EC A newer insecticidal formulation for management of diamond back moth in cabbage” at Department of Entomology, Rajasthan College of Agriculture, MPUAT, Udaipur.
- Bhayani D.M., Pandya S. and Vyas Y.L. (2006) best paper award for "Gross Osteometrical study on the Skull of the Blue Bull" by Indian Association of Vet. Anatomist.

- Mandli, G.C., Dhami A.J., Patel P.R., Rawal S.K. and team received Best Paper Award by Indian Dairy Association, New Delhi for paper on "Epidemiological Surveillance on effect of housing, hygiene, and nutritional status on periparturient disorders in buffaloes." On November 2005.
- Parikh, P.V. received Appreciation Certificate from ISVS for research article "Surgical Management of equine sacroid in a foal – case study ( Co. authors Parikh P.V., Patil D.B., P.H. Tank, Gupta Poonam, Kelawala N.H.)
- Shukla, B.P. Patil D.B., Kelawala N.H., Parikh P.V. and Prajapati K.S. were awarded A.K. Bhargava Memorial Gold Medal for research article on "Evaluation of anti-adhesive agents for preventing intra abdominal adhesion in experimental cases. Ind. J. Vet. Sci. 25(1) 21-25.
- Tank, P.H. received Appreciation Certificate from ISVS for research article "Use of Cryo Surgery in Veterinary Practice". (Co-author Kasundra, J.K., Patil, D.B., Parikh P.V., Kelawala N.H.)
- Vyas, Y.L., Bhayani D.M., Panchal K.M., Dubal S.C. and Pandya Sweta. (2006) Best paper award "Effect of Levamisole hydrochloride and Pregnancy on the Thymus, Spleen and Iliac Lymph nodes of Goat".
- Bhayani, D.M., Pandya S. and Vyas Y.L. (2006) Best poster presentation award "Gross Anatomical study on various organs of the Female Blue Bull" by Indian Association of Vet. Anatomist.

## CHAPTER – 6

### *Technology Transfer at the Doorstep of Farmers*

#### **Extension Education**

The Directorate of Extension Education has to plan, coordinate, organize and guide the extension education programs in the University and to ensure efficient working of the extension education activities in close coordination with the Development Departments, voluntary and private organizations.

#### **EXTENSION EDUCATION COUNCIL**

The Extension Education Council has been constituted according to the provisions of the Gujarat Agricultural Universities Act-5 of 2004 to consider and recommend the extension education programmes/activities of the University. The Extension Education Council is as under

##### **The constitution of Extension Education Council is as under:**

1	The Vice-Chancellor	Chairman
2	The Director of Research	Member
3	The Director of Agriculture or concerned Joint Director	Member
4	The Director of Animal Husbandry or concerned Joint Director	Member
5	The Director of Horticulture or concerned Joint Director	Member
6	The Dean, Faculty of Agriculture	Member
7	The Dean, Faculty of Dairy Science	Member
8	The Dean, Faculty of Veterinary Science	Member
9	The Dean, Faculty of Food Processing Technology and Bio-Energy	Member
10	The Principal, Extension Education Institute	Member
11	The Professor of Extension Education	Member
12	The Extension Educationist, EEI	Member
13	The Training Organizer, Krushi Vigyan Kendra, Dahod	Member
14	The Research Scientist , Poultry Training Centre	Member
15	The Associate Extension Educationist,(Publication)	Member
16	The Assistant Extension Educationist, Sardar Smruti Kendra	Member
17	The Assistant Extension Educationist, Agricultural School, Anand	Member
18	The Assistant Extension Educationist, Home Science School, Anand	Member
19	The Training Associate, TTC, Dahod	Member
20	The Director of Extension Education	Member Secretary

During the year under report, the first meeting of the council was held on September 14, 2005.

## Zonal Research and Extension Advisory Committee (ZREAC):

The transfer of technology and future research programmes are based on the feed back received from development departments in ZREAC, which is held regularly two times in a year for *kharif* and *rabi* seasons. This committee is comprised of the Director of Extension Education, Director of Research, Deans of the faculties, crop and subject matter specialists, members of development departments, co-operatives sectors, industries and progressive farmers. The ZREAC *rabi* was held on 11-10-05 and *kharif* on 20-2-06.

## CENTERS OF EXTENSION EDUCATION

The Directorate of Extension Education supervises following centers/ activities :-

Sr. No.	Type	Name of Center	Location
1	Diploma/ Certificate Course	Agricultural Schools	Anand, Chharodi, Vadodara, Dahod
		Home Science School	Anand
		Bakery School	Anand
		Poultry Training Centre	Anand
		Mali Training Centre	Anand
2	Training Centers for Extension Workers	Extension Education Institute	Anand
		Training and Visit Training Centre	Anand, Vadodara
3	Training Centers for Farmers/ Farm women/ Rural Youth	Sardar Smruti Kendra	Anand
		Krushvi Vigyan Kendra	Devataj, Dahod, Arnej
		Tribal Training Centre	Dahod
		Tribal Research cum Training Centre	D'baria
		Dept. of Extension Education	Anand
4	Advisory Services	Farm Advisory Services	Anand
		Agricultural Technology Information Centre	Anand
		Transfer of Technology Centre	Anand, Arnej
		Centre for communication Network	Anand
		Agro-Advisory Services	Anand
		Publication Unit	Anand

## EXTENSION EDUCATION AND TRAINING PROGRAMS

### 1. Diploma/Certificate Courses for Farm Youths

Anand Agricultural University conducts various Diploma/Certificate courses as per the details given below

Sr. No	Name of Diploma/Certificate Course	Duration	Centre	No. of Students Completed the Course
1.	Agricultural Diploma	Two Years	Anand, Chharodi, Vadodara & Dahod	105
2.	Home Science Training	Two Years	Anand	023
3.	Bakery Training (Two batches in a year)	Twenty weeks	Anand	032
4.	Poultry Training (Three batches in a year)	Ten weeks	Anand	021
5.	Mali Training (One batch in a year)	Six months	Anand	004

## 2. Training Programmes for Extension Workers

### (a) Extension Education Institute

The Extension Education Institute, Anand caters to the extension training needs of middle level functionaries of various development departments of Western Zone States namely Gujarat, Rajasthan, Madhya Pradesh, Chhatisgarh, Maharashtra, Goa and UTs of Diu, Daman and Dadara Nagar Haveli. The aim is to improve upon their job performance whenever they are working in different capacities.

There is a Management Committee of EEI that approves action plan and review the progress of EEI activities. The constitution of the Management Committee is as under:

1.	The Vice-Chancellor, AAU, Anand	Chairman
2.	The Director of Extension (Trg.), Govt. of India, New Delhi.	Member
3.	The Director of Administration, Govt. of India, New Delhi.	Member
4.	The Additional Commissioner (Extn. Trg.), GOI, New Delhi.	Member
5.	The Director General, National Institute of Agril. Extension Management (MANAGE), Rajendranagar, Hyderabad.	Member
6.	The Director, Institute of Rural Management (IRMA), Anand.	Member
7.	The Director of Agriculture, Govt. of Gujarat, Gandhinagar.	Member
8.	The Director of Horticulture, Govt. of MP, Bhopal.	Member
9.	The Director of Fisheries, Govt. of Chhatisgarh, Raipur.	Member
10.	The Director of Agriculture, Govt. of Maharashtra Pune.	Member
11.	The Director of Extension Education, AAU, Anand.	Member
12.	The Principal, B.A.College of Agriculture, AAU, Anand	Member
13.	The Comptroller, AAU, Anand	Member
14.	Shri Kanubhai K. Patel, Progressive Farmer, Boria.	Member
15.	Shri Vishnubhai.Patel, MLA, Umreth,	Member
16.	Brother Galicya, Mogar Farm, Mogar, Anand.	Member
17.	The Principal, EEI, AAU, Anand	Member Secretary

The details of the training courses conducted by the EEI, AAU, Anand during the year 2005-2006 are as follows:

Sr. No.	Type of Training Course	No.of course	No.of participants
1	Scheduled Training courses		
	1. On campus	18	309
	2.Off campus (Peripetatic)	10	307
2	Additional Training Courses	08	190

Moreover, one follow up study was undertaken during the year 2005-06.

### (b) T&V Training Centre

The Anand Agricultural University has taken up the task of training for the extension personnel of the Department of Agriculture through the Training and Visit Training Centers at Anand and Vadodara. The details about bi-monthly workshops, pre-seasonal training workshops and short-term training programs organized for the extension personnel of the Department of Agriculture, and the number of SMSs/AEOs attended the programs are as under:

Sr No	Type of programmes	No.	No. of Participant
1	Bi-monthly workshops	9	078
2	Pre-seasonal training programmes	2	072
3	Special Trainings	7	193
4	Short-term training programme	1	017
5	One day orientation workshops for VLWs and AEOs	3	364
	Total	22	724

### 3. Training/Extension Education Programmes for Farmers/Farm Women/Farm Youths

#### (a) Training Programmes

Training is essential to increase the efficiency of the farmers, farm women and farm youths. On-campus as well as off-campus training programmes are organized based on the needs and interests of the stakeholders.

Through the Transfer of Technology (TOT) Centers, 109 on-campus and 75 off-campus training programmes were organized. The details are given in Table 1.

**Table – 1: Training programmes organized by the Transfer of Technology Centres for farmers/farm women during the year 2005-2006.**

Sr. No.	TOT Centre	No. of trg. programmes	No. of participants				
			Farmers	Farm women	Farm Youths	Extension workers /others	Total
i	KVK, Devataj	A 20	181	106	88	112	485
		B 10	147	0	28	0	175
ii	KVK, Dahod	A 06	143	17	0	0	160
		B 25	452	519	0	0	971
iii	KVK, Arnej	A 00	0	0	0	0	0
		B 01	32	0	0	0	32
iv	SSK, Anand	A 59	284	183	1126	141	1734
		B 00	0	0	0	0	0
v	TTC, Dahod	A 09	151	132	0	34	317
		B 24	830	548	0	42	1420
vi	TRTC, D'baria	A 15	330	178	230	27	865
		B 15	222	53	146	116	537
	Total (i to vi)	A 109	1089	616	1444	314	3561
		B 75	1683	1120	174	158	3135
	Grand Total (A+B)	184	2772	1736	1618	472	6696

A = On-campus      B = Off-campus

## (b) Extension Education Activities

The TOT centres have also planned and organized extension activities like, seminar/ workshop/ symposium, field / farmers' day, agriculture fair / exhibition, film/slide/video show, field visit, farmers group/demonstration meetings, etc. The details of the extension education activities organized and number of beneficiaries are given in Table-2,3 & 4.

**Table-2 Extension education activities carried out by TOT centers during the year 2005-06**

Sr No	Name of Activity	Name of TOT centre					
		KVKs			SSK	TRTC	TTC
		Devataj	Dahod	Arnej	Anand	D'baria	Dahod
1	Farmers / field days	7 (650)	5 (838)	5 (5)	-	37 (586)	4 (142)
2	Agril fairs /exhibitions	-	-	-	-	-	10 (9887)
3	Khedut / women shibir / meetings	39 (858)	8 (490)	20 (50)	-	14 (2796)	16 (6734)
4	Seminar/workshop/kisan gosthi	8 (1336)	-	-	2 (27)	-	1 (549)
5	Agirl.tour /field visits	64 (949)	17 (104)	-	59 (1734)	12 (686)	-
6	Film/slide/video cassette show/radio talk/TV programmes	10 (175)	-	-	61 (1734)	4 (152)	-
7	Celebration of women in Agril.day/world food day/van mahotsav	1 (48)	1 (64)	-	-	-	-
8	Guidance through letters/personal contact	69	-	-	86	-	-
9	Publication of farm literature	8 (400)	6 (349)	12 (160)	55 (7702)	34 (3452)	24 (7863)
10	Press Notes released	26	18	-	6	6	13
11	Krishi-Go-Vidya subscriber registered	19	11	-	1	-	-
12	Escorting the visitors	282	83	40	24737	1305	137
13	Telephone helpline services	54	120	-	86	421	-
14	Participated in other agencies programmes	-	-	2 (80)	-	-	7 (723)
15	Crop diagnostic services	-	34 (51)	-	-	32 (287)	-
16	Farmer-scientists interactions	11 (59)	3 (12)	-	1 (54)	-	-

Note : 1. Figures in brackets indicates numbers of participants

**Table-3: Extension Education activities carried out by the centres of Diploma and Certificate courses**

Sr No	Name of Activity	Name of the centres						
		Agricultural Schools				School of Baking	Home Science	Poultry
		Anand	Baroda	Chharodi	Dahod	Anand	Anand	Anand
1	Farmers / field days	1 (60)	-	2 (151)	-	2 (29)	-	-
2	Agril fair /exhibition	-	-	-	-	-	-	(328058)
3	Khedut / women shibir / meetings	-	-	1 (63)	1 (36)	-	-	-
4	Seminar/ workshop / kisan goshi	-	1 (9)	-	1 (34)	1 (27)	1 (40)	-
5	Cattle camps	-	-	2 (575)	-	-	-	-
6	Agirl.tour / field visits	6 (184)	2 (97)	2 (62)	2 (68)	2 (27)	6 (126)	-
7	Film/slide/video cassette show /radio talk / TV programme	-	2 (65)	1+2 (62+64)	1 (16)	1 (29)	-	-
8	Celebration of women in Agril.day/world food day/van mahotsav	1 (60)	1 (65)	3 (62)	1 (36)	1 (32)	2 (40)	-
9	Guidance through letters/personal contact	--	(50)	(2)	(75)	-	(154)	(517)
10	Publication of farm literature	2 (2)	2 (2)	1 (3)	1 (20)	1 (150)	-	1 (100)
11	Press Notes released	-	-	-	4	10	8	-
12	Krishi-Go-Vidya subscriber registered	60	-	37	-	-	-	-
13	Escorting the visitors	-	10	4	37	186	245	-
14	Telephone helpline services	-	-	3	13	-	-	-
15	Participated in other agencies programme	-	-	1 (11)	3 (3)	-	-	-
16	Crop diagnostic services	-	-	2 (361)	4 (4)	-	-	-

Note: \* Figure in parenthesis indicated the no.of beneficiaries

\* Figures in parenthesis in Sr.No.5 indicated the No.of animals treated.



**Table-4: Extension Education activities carried out by T&V Training centres**

Sr No	Activity	Centres	
		Anand	Baroda
1	Film/slide/video cassette show/radio talk/TV programmes	-	6
2	Guidance through letters/personal contact	-	55
3	Publication of farm literature/ Distribution	-	1 (1000)
4	Press Notes released / Articles Published	50	14
5	Krishi-Go-Vidya subscriber registered	-	1119
6	Escorting the visitors	21	1498
7	Crop diagnostic services	-	98
8	Field Visits	-	5 (107)
9	Lectures in Crop Seminar	-	2 (467)
10	Technical Guidance Provided in Farmers meet / Shibir / Field Day	21 (3308)	32 (2007)
11	Farm Visits	2	57
12	Training Programme for farmers in coordination with other institution	3	88
13	Guidance through special talk in different training programmes	6	-
14	Guidance to farmers during Krushi Mahotsav	-	(91500)
15	Celebration of World Food Day / Forest Day	-	3 (310)
16	Intractive Demonstrations	-	8 (74)
17	Prerana Pravash	-	3 (74)
18	Farmers problems solved by the scientists	2	63

*Note: Figures in paranthesis indicate no. of beneficiaries.*

**(c) Agriculture Fair**

To transmit the agricultural technology to many farmers at a time, AAU has actively involved itself in different agricultural fairs.

The profile of AAU and the latest technologies developed by the Institution were displayed. Interactions between scientists and the farmers were also organized. Literature on the latest technology was distributed during such fairs.

Sr. No.	Agril. Fair/ Exhibition	Place	Period	Approximate beneficiaries
1	Mahila Krushi Mela	Sadguru Foundation, Dahod	8-11, April, 05	1,75,000
2	Shabri Kumbh Mela	Pampa sarover(Shubir), Ahwa , Dang	10-13, Feb 06	3,50,000
3	Agril.Exhibition	AAU, Godhra	16 Feb., 06	1000
4	Fruit, flower, Veg. Exhibition	AAU, vadodara	18-20 Feb 06	14000
5	Agril.Exhibition	AAU, Dabhoi	26 Feb 06	400
6	Agril.Exhibition	AAU, Khandha	28 Feb. 06	600
7	Sarvodaya Mela	Bochasan	10 -11 Feb 06	2450

**(d) Celebration of *Krushih Mahotsav* – 2005**

The Government of Gujarat has successfully launched and celebrated the *Krushih Mahotsav* - 2005 programme during the month of May – June, 2005. The programme planned in view of following objectives.

- (i) Creating awareness amongst the rural masses regarding scientific innovations in crop production practices, farm implements, water conservation, irrigation methods, animal husbandry, etc. and bringing these innovations to the farming community through the concept of people's participation.
- (ii) Bringing agricultural and rural development programmes at village level for the betterment of peasants implemented by various State Government Organizations and thereby to create an atmosphere to motivate the farmers for their participation in such programmes.
- (iii) Thus, the ultimate objective of the whole programme is to make the farmer's income double during the span of five years.

The programme started from May 11, 2005, on *Akhatrij* and ended on June 10, 2005. The Government has assigned an important responsibility to the state Agricultural Universities to have a *Kisan Rath* along with a team of scientists for the purpose of guidance and demonstration of the latest agricultural technologies based on agro-climatic conditions in the villages.

In all, the Government has prepared a total of 228 *Kisan Rath*, which were a mobile exhibition demonstrating technology for different agro-climatic areas along with TV / Audio Video Systems.

➤ **ROLE OF ANAND AGRICULTURAL UNIVERSITY IN THE CELEBRATION OF *KRUSHI MAHOTSAV* – 2005**

The Anand Agricultural University, has territory in six districts namely, Ahmedabad, Anand, Dahod, Kheda, Panchmahals and Vadodara having 59 talukas. The Nodal Scientists at District and Taluka levels and other scientist, in total 118 scientists and similar number of supporting staff have been assigned the duties to move with *Kisan Rath* in the villages. Two group of scientists were formed to escort the *Kisan Rath* for 15 days each. During the visits in the villages, the scientists have delivered talk and interacted with farmers. They have guided them to prepare a crop production plan at village as well as individual levels, plant protection measures, farm implements, water conservation, irrigation methods, bio-fertilizers, bio-pesticides, bio-control of insects / pests, animal husbandry, cultivation practices of major field crops, fruit crops, vegetable crops and medicinal plants of the area. Further, the soil health cards and manuals of model action plan of crop production were distributed amongst the farmers.

The scientists of AAU have also participated in the *Khedut Shibirs* organized at Taluka levels by the Agricultural Produce Market Committees (APMCs) of respective talukas. In addition to this, the AAU has organized three training programmes for AOs, AEOs and STL Officers of Deptt. of Agriculture on Soil Health Card Programme.

The AAU has played a vital role in preparing Soil Health Cards, Model Action Plan and literature in the form of folders, leaflets, booklets C.D. etc.

➤ **FEEDBACK OF THE PROGRAMME**

1. The farmers got chance to make face to face interactions with the scientists of AAU and with the personnel of various Line Departments.
2. They have been well acquainted with the technical Know-how of the latest scientific agricultural technology and various development programmes /schemes run by the State Government for betterment of the rural masses.
3. The scientists of AAU have also got the unique experience to exchange their ideas and knowledge with the farmers. They have also learnt many things from the farmers, which will be useful in future research programmes.

Thus, The Krushi Mahotsav- 2005 was a grand success.

**( e ) Front Line Demonstrations (FLDs)**

The FLDs aim to demonstrate the production potentialities of newly released and pre-released production technologies on farmers' fields.

The KVKs have organized 145 FLDs on various crops such as castor, sesamum, gram, groundnut, maize and wheat in 62.60 ha during kharif, rabi and summer seasons. The details of these FLDs are as under:

## FLDs conducted

Sr. No.	Crop/Variety	No. of FLDs	Area (ha)	Yield (kg/ha)		Increase in yield (per cent)
				Demonstration	Local	
I	KVK, Devataj					
1	Castor GCH-5	10	5.00	2897	2440	19.00
2	Mustard GM-2	20	10.00	2082	1742	20.00
3	Sesamum GT-2	20	10.00	3304	2933	13.00
II	KVK, Dahod					
1	Castor – GCH-4	07	5.00	1114	800	39.00
III	KVK – Arnej					
1	Castor – GCH-5	10	5.00	970	750	29.00
2	Mustard GM-1	05	2.50	740	700	06.00
3	Gram GG-2	07	3.50	775	630	23.00
4	Wheat GW-1	10	5.00	1195	950	26.00
5	Cumin GC-2	10	5.00	739	525	41.00
IV	TTC- Dahod					
1	Gram G -1	43	9.80	1250	1000	25.00
2	Gram G-2	02	1.60	1100	900	22.00
3	Gram G-3	01	0.20	800	700	14.00

### (f) Department of Agricultural Extension Education.

The Extension Wing is to provide theoretical and practical field trainings to undergraduate and postgraduate students for offering knowledge and experience of extension principles, techniques and education psychology.

The 20 weeks program of one semester (i.e., 7<sup>th</sup> Sem.) is being run by the department with a view to producing well trained graduates in the field of agriculture having broad-based knowledge and technical know-how to meet the emerging challenges in agriculture. The students are exposed to research stations, high-tech cells, farmers' fields in villages, NGOs, agro-based industries, cooperative sectors and agriculture related organizations/institutions of the state and the nation.

#### 4. Advisory Services:

##### (a) Farm Advisory Services (FAS)

The FAS, AAU, Anand provides guidance and information to farmers on scientific farming. The farmers are advised on their farm problems through correspondence and field visit. This center acts as a link among research scientists, extension workers and farmers. During the year under report, various extension activities carried out by the scientists of the scheme are as under:

Sr. No.	Activity	No of Activity	No of Participation				No of Beneficiaries
			Farmers	Farm women	Youth	Extension workers	
1	Farmer's Days	8	2500	560	75	105	3240
2	Farm Women Shibirs	2	-	250	50	15	325
3	Farm Women Meetings	1	-	157	25	12	194
4	Field Visits	10	250	-	-	50	300
5	Seminars	5	8040	250	-	30	8320
6	Krishi Goshthi	2	430	100	40	-	570
7	T.V.Programmes	6	550	150	50	40	790
8	Agricultural literature published	1	750	-	-	-	750
9	Escorting the visitors for guidance	15	800	200	125	-	1125
10	Night meetings	1	41	15	-	8	64
11	Guidance in Farmers Day /field day / Khedut Shibirs	5	3500	720	150	55	4425
12	Crop diagnostic services	12	12	-	-	-	12
13	Articles published for farming community	2	-	-	-	-	2
14	Lectures for transfer of technology delivered	40	-	-	-	-	40
15	Lectures in crop seminar delivered	5	-	-	-	-	5
16	Field visit of scientists	12	-	-	-	-	12
17	Farmers –scientist interaction	15	-	-	-	-	15
18	Telephone helpline	25	-	-	-	-	25

#### **(b) AGRICULTURE TECHNOLOGY INFORMATION CENTRE (ATIC) AT ANAND**

The Agriculture Technology Information Centre (ATIC) (a single window system) was established from August, 2005 in order to disseminate Agricultural information and Technology to the farmers and other Stakeholders with the following objectives.

- i) To provide direct access for information & knowledge to the needy farmers.
- ii) To bring together different research divisions/units and users of technology i.e farmers.
- iii) To develop, publish and supply latest technology via folders, booklets, C.D.'s, Video Films and other media.
- iv) To help farmers in devising effective solutions to their problems, and to increase their acute decision making competence.
- v) To supply seeds, planting materials, bio-fertilizers, bio-pesticides, earth worms and vermin composts etc.
- vi) To provide animal health service at ATIC.
- vii) To provide various analytical service of plants, soil & water for the nutrients contents etc.
- viii) To popularize the new technologies developed by the university & allied institutes in Agricultural Science.
- ix) To facilitate dynamic, enthusiastic feed-forward and feed-back.

**The following extension activities are carried out by the centre during the year under report.**

Sr. No.	Activity	No of Activity	No of Beneficiaries
1	Field Visit	19	1011
2	Film / Slide / V.C. Show	10	715
3	Escorting the visitors for guidance	06	215
4	Press note publish	02	Mass
5	Guidance through telephone/letter	25	25
6	Distribution of the farm literature	09	350

**(c) TRANSFER OF TECHNOLOGY CENTRE AT ANAND AND ARNEJ**

The New programme on Transfer of Technology Centre at Anand and Arnej has been sanctioned in the year 2004-05 by the Govt. of Gujarat. Since than many demonstrations, field days, trainings, advisory activities are under taken by the university in Anand and Ahmedabad districts.

**The following extension activities are carried out by the centre during 2005-2006.**

Sr No	Activity	Centres	
		Anand	Arnej
1	Farmers Day	3 (450)	1(150)
2	Guidance through letters/personal contact	55	15
3	Publication of farm literature/ Distribution	3(650)	2(150)
4	Press Note released / Article Published	3	1
5	Krishi-Go-Vidya subscriber registered	5	-
6	Escorting the visitors	2(70)	1(30)
7	Field Visit	8(250)	-
8	Lecture for transfer of technology	15(600)	8(325)
9	Lecture in crop seminar	1(200)	-
10	Technical Guidance Provided in Farmers meet / Shibir / Field Day	2(275)	1(75)
11	Telephone helpline	22	21
12	Guidance in farmers day, filed day / khedut shibir	3(1350)	1(650)
13	Interactive Demonstration	36(360)	-
14	Farmers scientist interaction and filed visit of scientist	8(260)	4(255)
15	Farm Women meeting	1(45)	-

**(d) CENTRE FOR COMMUNICATION NET WORK (CCN) AT ANAND**

Since there will be an immediate need to develop strong communication network for maintaining regular contacts with agricultural universities once WTO is implimanted, the Govt. of Gujarat has accorded the sanction for scheme "Centre for communication Network" under Tenth plan from the year 2005-2006 with following specific objectives:

- a. To establish the Gram Kishan Samities (GKS) in the rural areas.
- b. To train the members of Gram Kisan Samities in leadership communication and co-operation for transfer of technologies.
- c. To disseminate the latest agricultural and allied technologies through Gram Kisan Samities in rural areas.
- d. To carry out different extension activities through GKS in different villages
- e. To know the feedback from the farmers.

**During the year under report, various extension activities carried out by the scheme are as under:**

Sr. No.	Activity	No of Activity	No of Beneficiaries
1	Agricultural Tour	1	35
2	Film/slide/video cassette show	20	446
3	Farm literature / distribution	20	450
4	Field Visit	6	183
5	Seminar	8	2550
6	T.V.Programme	1	Mass
7	Agricultural literature publishes	5	475
8	Escorting the visitors for guidance	3	35
9	Group discussion	1	45
10	Guidance through telephone/letter	32	32
11	Lectures for transfer of technology	22	443
12	Lectures in crop seminar	1	450
13	Press note published	1	Mass
14	Establishment of Gram Kishan samiti	20	350

#### **(e) Agro-Advisory Services**

The weather based agro-advisory services unit at Anand received a total of 74 three day weather forecast on each Tuesday and Friday. Based on weather forecast Agro-Advisory Committee prepared a detailed Agro-Advisory Bulletin and sent it to mass media (Gujarat Samachar & Naya Padkar daily newspapers and ETV TV Channel). In all 55 weather based Agro-Advisory Bulletins were published in newspapers.

#### **(f) Mass Media**

##### **i) Radio Talks**

The scientists of the University delivered Radio talks on agriculture and allied topics from All India Radio, Vadodara. During the year, 09 scientists have delivered talks on different topics related to agriculture, horticulture, agricultural engineering, animal husbandry, etc. The details of radio talks are given in Appendix – IV.

## ii) TV Talks

In all, 18 television programmes on different aspects covering agriculture, animal science, agricultural engineering, horticulture, home science, etc. were telecast through DDK, Ahmedabad in *Gram Jagat* program for the benefit of farming community. The details are given in Appendix – V.

## iii) Press Meet

One press meet-cum-conference was organized during the year to convey the new technology evolved by the Anand Agricultural University.

## (g) Publication

### i) Publication of AAU News Letter

The university publishes quarterly news letter "**AAU News Letter**". It provides research highlights, technical events / news, extension activities, noteworthy work done by the academicians, research scientists, and extension educationists. Vol. 1, no. 3 and Vol. 2, nos. 1-4 were published during the year.

### ii) Research Recommendations for Farmers

The Director of Extension Education publishes research recommendations entitled ***Khedutopayogi Sansodhan Bhalamano*** in Gujarati for the use of extension functionaries and farmers of the State. Accordingly, "***Khedutopayogi Sansodhan Bhalamano - 2005***" has been published.

### iii) Farm Magazine

The Directorate of Extension Education publishes the monthly farm magazine "***Krush-Go-Vidya***" regularly, with circulation of 8818. In addition to this, special issues on different subjects namely Milk Products, Plant Protection, Floriculture, Animal Food and Nutrition, Vermi compost, Nematodes control, Micro Nutrients, and Weed Control have been published. A revolving fund account has been created to make this magazine self-reliant.

## IV) Publication of ***Krush Darshan Samachar***

The Directorate of Extension Education publishes a quarterly "***Krush Darshan Samachar***" in Gujarati covering recent development and key aspects of research, education and extension education activities of the University. Total 3 issues were published during the year.



## **V) Publication of Agricultural Literature:**

Different folders / books/ leaflets on various subjects were published by different extension education centers of AAU during year under report. The details are given in Appendix – VI.

### **5. Coordination with Development Departments**

- The Anand Agricultural University has planned and organized various extension education programs/activities in close coordination with line departments of the State. The structural linkages exist under Training and Visit system by way of constituting technical committees at district, zonal and state levels.
- The functional linkages also exist under T&V System through bi-monthly workshops, pre-seasonal trainings, fortnightly trainings, diagnostic team, and state level crop seminars/workshops etc. The coordination does exist in follow-up programs as well as planning of farm trials. In ZREAC & AGRESCO, the officers of the line departments are the members, and they generously contribute to the formulation of technical programs as well as in finalizing recommendations for the farmers.
- Interface of AAU scientists with functionaries of the departments of the State, NGOs and other agencies organized at state, District & taluka level.
- The agricultural programs of All India Radio as well as Doordarshan Kendra are finalized by such coordinated efforts.
- For transfer of technologies to the farmers at large, Farmers' Day, Krushi Mela, farmer-scientist interactions, group discussions etc. are organized by collaborative efforts.

### **6. Capacity Building of AAU Staff**

During the year under report, 03 scientists/teachers of Anand Agricultural University were deputed outside the Gujarat state for updating their knowledge and up gradation of skills in their respective disciplines. The details are given in Appendix-VII.







## **Chapter – 7**

### ***Beyond the Curriculum Confines***

#### **Students' Welfare**

The Directorate of Students' Welfare endeavours for the overall development of personality, character and high human values in under-graduate and post-graduate students of the University. The University provides facilities like hostels, health care, training, scholarship and placement guidance to the students. It organizes various extra curricular activities like sports, adventure, cultural programs etc.

During the year of report, Dr A. M. Thaker was holding the charge of Director of Students' Welfare and Program Coordinator (NSS).

#### **Students' Representative Council**

- (a) In the colleges of the University, the Students' Representative Council (SRC) is formed by nominating the staff advisory committee including the students' representative as per University rules. The Council is formed with a view that the students can represent their problems through their representatives, and can be helpful for their extracurricular activities. The Students' Representative Councils of all the colleges were very active during the year, and various extracurricular activities like planning forum, sports, debate and elocution, college magazine, cultural programs, NSS, NCC, etc. were organized.
- (b) Apart from this, Alumni Associations in all the three colleges were functional under which the conferences and workshops are being organized for development of professional unity, and to create an atmosphere of oneness.

#### **Student Amenities**

##### **(A) Hostels**

Hostel environment plays an important role in the development of personality and social behavior of a student. As a residential University, good hostel facilities are provided to all the under graduate and postgraduate students at all the colleges of the University. While the hostels have their own respective messes. In the campus student's messes, canteen for breakfast and snacks, store and other essential facilities are also available. In some of the hostels, self-managed messes are governed by the students themselves, while others are under contract basis under the supervision of the Rector/Assistant Rector. Library facility is available, and the other amenities for day-to-day requirements like laundry, tailor, cycle store, provisional store, bus for transportation, telephones in the hostels as well as STD

booths with ISD facility, Bank, ATM centers, etc. are also available in the premises of the University. The Rector and Assistant Rector are appointed in each college for maintenance of student facilities and solving the residential problems of the students. The facility for solar water heater and water coolers are also available in the hostels.

The Construction of one Ladies Hostel with 34 seats in Campus of Veterinary College has been started which will be completed soon. The renovation of U.G. Ladies Hostel of the B.A. College of Agriculture is also under way.

At Munshi Hostel two Street Lights have been installed with generous donation from Shri. K.J. Kinariwala and Shri. B.V. Patel. In addition to this a phone with outgoing call facility has been installed. Dr. J.M. Dave Library has been started to improve the general knowledge of students.

#### **(B) Health Facilities**

The DSW looks after the maintenance of the health of the students studying in various colleges. For this purpose, the University governs the Primary Health Centre with the appointment of the staff like doctors, nurses, compounders, laboratory technicians and other administrative staff. Free service of the Health Centre is available to all the employees, their families, and students residing in the campus. Ambulance is available for emergency services as well as shifting of the patients to other hospitals. This Health Centre provides allopathic and ayurvedic treatment, and also provides guidance for diagnosis and treatment. An ayurvedic doctor is available for the ayurvedic treatment. The facility for blood grouping and thelaseemia testing of newly admitted students has been introduced. Approximately, 8,968 cases of University employees, their family members and students have been given treatment in the current year.

#### **Activities:**

##### **(A) Student Counseling**

The student counseling cells are established at the colleges for guidance, solving the problems and to contact with various companies and organizations for job opportunities. It also provides coaching the students for various competitive examinations.

**(B) Placement:**

During the year of report there was a heavy demand from the different companies and organizations, offering employment to the students of the university. Facultywise details of the placement are given hereunder :

**Faculty of Agriculture**

Sr. No.	Name of Institute	No. of students selected
1.	Reliance Industries	8
2.	Vadilal Industries	2
3.	Guj. State Export Corporation Ltd	2
4.	NDDDB	2
5.	Monsanto Seeds	1
Total:		15

Eight students proceeded abroad for higher studies.

**Faculty of Veterinary Sciences**

Sr. No.	Name of Institute	No. of students selected
1	Sun Pharmaceuticals, Baroda	2
2	Amul Dairy, Anand	5
3	Panchamrut Dairy, Godhra	6
4	Alembic Pharmaceuticals	1
5	Dudh Sagar Dairy, Mehsana	5
6	Dena Bank	2
7	Rajkot Animal Health Insurance Services Pvt.Ltd., Rajkot	1
8	Dudhdhara Dairy, Bharuch	2
9	Glaxo India Pvt.Ltd., Mumbai	2
10	Gujarat Co-operative Milk Marketing Faderation, Anand	2
Total:		28

**Faculty of Dairy Science**

Sr. No.	Name of Institute	No. of students Selected
1.	Amul Dairy, Anand	5
2.	Dudhsagar Dairy, Mehsana	6
3.	Mother Dairy, Gandhinagar	3
4.	Sumul Dairy, Surat	6
5.	Vidya Dairy, Anand	3
6.	Gagar Foods, Wamaj	1
7.	Almarai Dairy Co., Riyadh, Saudi Arabia	9
8.	Sabar Dairy, Himatnagar	5
9.	Panchamrut Dairy, Godhra	4
Total:		42

### **(C) Physical Education Program**

The Physical Education and Sports play vital role for development and maintenance of personality, physical fitness, health and stamina, besides body-building of the students. Along with development of the academic career of the students, this University also puts in every effort to bring out the hidden qualities of the students by involving them in physical education, sports, cultural, adventurous activities etc. at college and university levels. Two Physical Instructors organize these activities at college level under the direct guidance and supervision of Director of Students' Welfare. The following activities were carried out under the programme:

#### **(1) Adventurous Activities**

Swami Vivekananda State Mountaineering Academy, Mount Abu was contacted for organizing basic workshop in rock climbing with the aim to develop adventurous virtues and prepare them to face adverse conditions. The university participated in basic and advance mountaineering workshops organized by Swami Vivekananda State Mountaineering Academy at Mount Abu as under.

Sr.No.	Type of workshop	Dates	No. of Participants
1	Basic	6 th to 15 <sup>th</sup> November, 2005	10-Girls
2	Basic	13 th to 22 <sup>th</sup> December ,2005	30-Boys
3	Advance	17 th to 31 <sup>th</sup> December, 2005	10-Boys

#### **(2) Sports Activities**

Along with the academic curriculum, the students are also trained for the development of skills and excellence in various sports activities. For this reason, Inter-Collegiate competitions for several games like chess, table-tennis, badminton, kabaddi, volley ball, basket ball, kho-kho, cricket, weight-lifting, athletics, cultural activities, essay, debate and elocution competitions etc. are regularly arranged at various colleges under the direct guidance of the DSW. The selected students from Inter-Collegiate competitions are nominated for Inter-University participation.

During the year under report, several inter-collegiate competitions were arranged at different colleges as under:

<b>Sr. No.</b>	<b>Game</b>	<b>Place</b>	<b>Winner</b>
1	Chess	College of Veterinary Science & A.H., Anand	B. A. College of Agriculture
2	Table Tennis	SMC College of Dairy Science, Anand	SMC College of Dairy Science
3	Badminton	B. A. College of Agriculture, Anand	SMC College of Dairy Science
4	Kabaddi	B. A. College of Agriculture, Anand	College of Veterinary Science & A.H.
5	Volley Ball	College of Veterinary Science & A.H., Anand	College of Veterinary Science & A.H.
6	Basket Ball	B. A. College of Agriculture, Anand	B. A. College of Agriculture
7	Cricket	SMC College of Dairy Science, Anand	SMC College of Dairy Science
8	Kho-Kho	College of Veterinary Science & A.H., Anand	B. A. College of Agriculture

Inter-college essay, debate, elocution competitions, and cultural programs and athletics tournaments could not be organized due to unavoidable circumstances.

During the year under report, the following university teams participated in inter-university competition in various games :

<b>Sr.No.</b>	<b>Competition/Tournament</b>	<b>Organizing Institute</b>	<b>Participation in the games</b>
1	7th All India Inter Agricultural Universities Sports & Games Meet-2005-06. 23.2.2006 to 27.2. 2006	Maharana Pratap University of Agriculture and Technology, Udaipur(Rajasthan)	Basket Ball Volley Ball Table Tennis Athletic
2	Sardar Parivar Colleges Organized –Shri Chimanbhai Patel Gujarat Inter University Cricket Tournament,-2005-2006 16.1.2006 to 24.1.2006	Sardar Parivar Colleges Organized – Shri Chimanbhai Patel Gujarat Inter University Cricket Tournament, Ahmedabad	Cricket

#### **(D) National Service Scheme (NSS)**

The National Service Scheme is operated in all the Colleges of Anand Agricultural University. During the year under report, two units of 50 students and one unit of 100 students were allotted to different colleges. Details of the college-wise registered volunteers are as under:



<b>Sr. No.</b>	<b>Name of College</b>	<b>No. of registered Volunteers</b>
1	B. A. College of Agriculture, Anand	100
2	College of Veterinary Science & A.H., Anand	50
3	SMC College of Dairy Science, Anand	50
	Total	200

During their spare time in their academic schedule, the students actively participate in the activities related to the problems and requirements of the society and its development and welfare through various fields of NSS activities, working in close coordination with Environment, Health, Family Welfare, Hospitals and other organizations during natural calamities. H.E. the Governor of Gujarat felicitated Hon'ble Vice Chancellor of the AAU for implementing the programme of the thalassemia testing of AAU students on October 15, 2005.

The social activities carried out by the NSS are divided into two categories:

**i) Regular Activities**

The regular activities carried out by the Colleges of AAU during the year includes tree plantation program, poster competitions, wasteland development, blood donation camp, literacy program, sanitation of colleges, hostels, campus etc., and other related social works.

**ii) Special Camp Activities**

Under special camp activities, all the three colleges of AAU have organized special camps in which student volunteers have participated. During these camps, various programs like modern agricultural techniques, scientific preservation of fruits and grains etc. were arranged. Besides these, during these days, blood donation camps as well as Blood Grouping and Thalassemia testing program and animal treatment camps were also organized.

**(E) National Cadet Corps (NCC)**

The NCC Unit of B.A. College of Agriculture of AAU organizes various training programs for the development of quality leadership, patriotism, brotherhood, sportsmanship and adventurous attitude and unity among the students joining this unit willingly. In the NCC parade, training was given with and without arms. Students of this University have also participated in Army Attachment camp, Basic Leadership camp, Tree Plantation and Blood Donation camps during this year.

In the current year, AAU has 2 platoons of 100 cadets. This year 30 cadets of AAU participated in CATC and ATC camps organized by IV Gujarat Battalion, Vallbh

Vidyanagar at various places. In addition, 18 cadets passed 'B' Certificate Examination, and 18 cadets had cleared 'C' Certificate Examination. SGT Sandip Umretiya was selected in Operation Milap Kargil at NIC, Leh Ladakh while CDT Nilesh Patel attended Ice-trekking Camp at Darjiling. 3 CDTs attended NIC at Tanga near Indo-China Border; 9 CDTs attended an Army Attachment Camp at Bhuj during May 2-16, 2005 and 8 CDTs attended NIC in Tamilnadu during June 20-30, 2005.

Lt. P.A.Gohil of AAU was selected as one out of nine officers from all over India for Direct Commission Refresher Course Part-1 and completed three months training from November 21, 2005 to February 18, 2006 at Officer Training Academy, Kamptee, Nagpur

#### **(F) College Magazine**

The college magazine is published by each college of AAU with the aim to bring out the potential of thinking in writing and expression of students. The teachers, staff members and Post-Graduate students of the College contribute for the overall development of the students through inspirational articles, poems, drama, agricultural information useful to farmers and scientific community and other columns. The Director of Student Welfare provides the needed financial assistance. Detail reports of sports and cultural activities are also included in the magazine.

#### **(G) Educational Tour**

Educational tour is considered as a part of the academic syllabus of the degree courses of Anand Agricultural University. The duration of educational tour is of three weeks in Agriculture/Dairy faculty and two weeks in Veterinary faculty, which comprises of visits to reputed Institutes of Gujarat and other states of India.

The basic purpose of this tour is to gain knowledge and information regarding their study by personal visit of the related institutes and research centers. From the educational tour during the year, various colleges of AAU have gained important and interesting information regarding the developments in agriculture, veterinary and industrial growth by visiting the research centers of AAU and other places.

During the year under report, all the colleges have arranged their educational tour by University vehicles, thereby reducing University expenditure to a large extent.

Sr. No.	Name of College	No. of Students	Duration of Tour
1	B.A.College of Agriculture	33	4.3.2005 to 24.3.2005
2	College of Veterinary Science	30	26.4.2005 to 10.5.2005
3	S.M.C.College of Dairy Science	72	24.11.2005 to 14.12.2005

#### **(H) Other Activities**

The students are encouraged to participate in the following :

- |                   |                         |
|-------------------|-------------------------|
| (i) Nature Club   | (ii) Rotary Club        |
| (iii) Eleve Forum | (iv) Extension Club     |
| (v) Quest         | (vi) Alumni Association |

#### **(I) Financial Assistance to the Students**

Anand Agricultural University provides scholarship and financial assistance on merit basis to the students admitted to various constituent colleges. Merit scholarship of Rs.75/- per month is awarded to the students of Veterinary Science and Rs.250/- per month to undergraduate girl students. The ICAR Merit cum Means scholarship of Rs.170/- per month, Merit scholarship Rs.60/- per month, and poor students scholarship of Rs.60/- per month and free scholarships of Rs.250/- per semester are awarded.

Gayatri Dairy, Ahmedabad has instituted eight fellowships for post graduate students of dairy, veterinary and agriculture faculty in order of availability of the students. The amount of fellowship is Rs. 1000/- per month and is awarded on merit basis for PG studies.

#### **Students' Discipline**

The discipline is being inculcated in students through sports, NCC and NSS activities creating a congenial atmosphere amongst teachers, students and staff members of the University.



## **Chapter – 8**

### ***Estate Management : Architecting dream monuments***

All the works related to construction and maintenance of Anand Agricultural university campus falls under the purview of the Executive Engineer, who supervises the work with the assistance of the Deputy Engineer and Junior Engineers.

In addition, the office of the Executive Engineer also looks after transport, communication and security services, the university guest houses and housing facilities. Presently, Er. B. N. Bhalia is acting as the Executive Engineer of the university.

#### **Construction Committee :**

The Construction Committee is constituted to frame regulations, planning and approval of major works & excess/extra items as per powers delegated in Statutes-28.

The construction committee consists of following members:

Sr. no.	Name member	Designation	
1	Prof. M.C. Varshneya	Vice Chancellor	Chairman
2	Dr. A.R. Pathak	Director of Research	Member
3	Dr. K.F. Patel	Director of Extension Education	Member
4	Dr. M.C. Desai Dr. F. S. Kavani	Principal, Vet. Sci. College	Member
5	Dr. A. M. Shekh	Principal BACA	Member
6	Shri V.P. Macwan	Registrar	Member
7	Shri P.S. Vyas	Account officer-cum- comptroller	Member
8	Dr. B.N.Patel	Research Scientist ( Tobacco )	Member
9	Dr. J.G.Sarvaiya	Director of Information Technology	Member
10	Dr. S. N. Goyal	Research Scientist (Maize)	Member
11	Er. B.N. Bhalia	Executive Engineer	Member Secretary

#### **Meetings of Committee :**

Sr. no.	Particulars	Date
1	2nd meeting	21-05-2005
2	3rd meeting	28-10-2005
3	4th meeting	23-11-2005

As per provision of grants, total number of 69 administrative approvals and 80 technical sanctions were accorded.

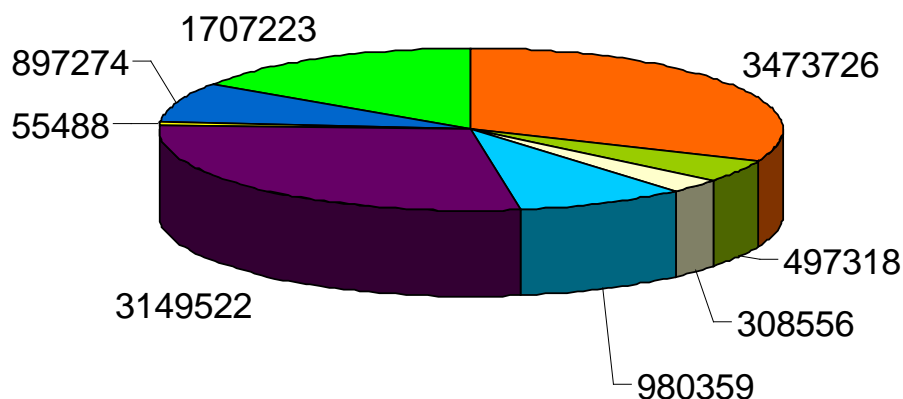
Following works are completed during the period of report:

- (1) Construction of Hybrid Rice laboratory at AAU Navagam.
- (2) Construction of Laboratory for diseases diagnosis and Epidemiology at Veterinary Science College AAU Anand.
- (3) Renovation and addition to different building at Poultry complex at AAU Anand.
- (4) Construction of compound wall at Agronomy farm at AAU Anand.
- (5) Construction of compound wall at Veterinary farm at AAU Anand.
- (6) Drilling of bore well at AAU Navagam.
- (7) Construction of compound wall at ECFP farm at AAU Anand.
- (8) Drilling of bore well with pump & pipe line for BACA at AAU Anand.
- (9) Modernization of Navneet Samiti Khand of Dairy Science College at AAU Anand.
- (10) Renovation of glass house, screen house at BTRS office AAU Anand.
- (11) Classified works - IDC compound wall, Veterinary compound wall, Residential Qtrs. compound wall, water proofing to ECFP office.
- (12) Providing Street light from NDDDB to Nemotology laboratory at AAU Anand.
- (13) Campus beautification work- Painting to 'E' type qtrs. and painting to curbing at AAU Anand.
- (14) Modernization of Zavery laboratory at Vet. Science college AAU Anand.
- (15) Renovation of godown at AAU Dharmej.

**Statement showing expenditure for works.**

Sr. No.	Plan/Scheme	Expenditure in Rs.
1	Major works	34,73,726=00
2	Minor original work	4,97,318=00
3	Classified works	3,08,556=00
4	Maintenance & Repairing work (M. & R.)	9,80,359=00
5	ICAR development works.	31,49,522=00
6	KVK works.	55,488=00
7	Other agency works.	8,97,274=00
8	Revolving fund development works.	17,07,223=00
	<b>TOTAL</b>	<b>1,10,69,466=00</b>

## Expenditure for works in Rs



Major work	Minor work	Clasified work
M & R works	ICAR works	KVK works
Other agency works	R. F. works	

Planning of following buildings was completed and works started as per the requirement of different departments of the university.

- (1) Vice Chancellor's office
- (2) Centre of Excellence on Bio-technology
- (3) Agricultural Technology Information Centre
- (4) Tissue culture laboratory
- (5) Girls' hostel for Veterinary Science College
- (6) Girls' hostel for B.A. College of Agriculture
- (7) Office cum laboratory building for KVK, Arnej
- (8) Residential quarters for KVK, Devataj.



## *Agricultural Technology Information Centre*



**Bhumi Pujan of the Agricultural Technology Information Centre by  
Dr. K.N. Shelat, Principal Secretary, Prof. M.C. Varshneya, Vice Chancellor  
and Shri D.G. Zalawadia, Collector, Anand on -----**



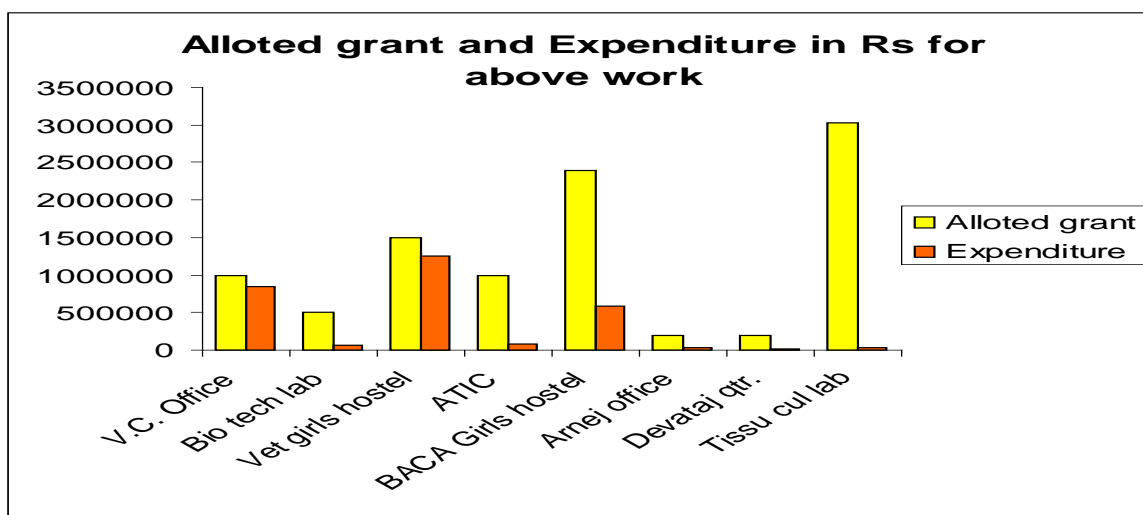


*VICE CHANCELLOR'S OFFICE*



*Bhumi Pujan of the Vice Chancellor's Office building by Hon.'ble Chief Minister of Gujarat, Shri Narendrabhai Modi in the presence of H.E. the Governor of Gujarat Shri Nawal Kishor Sharma*

## CENTRE OF EXCELLENCE ON BIO TECHNOLOGY



## HOUSING ALLOTMENT COMMITTEE:

Housing allotment committee is constituted for allotment of residential quarters to the university employees as per the Statute 42.A (GAU). The committee consists of following:

Sr.No	Name	Designation	
1	Dr.A. R. Pathak	Director of Research	Chairman
2	Dr. M.C.Desai	Principal, Vet. Sci. College	Member
3	Dr. K.F. Patel	Director of Extension Education	Member
4	Dr. A. A. Patel	Principal E.E.I.	Member
5	Dr. A.M. Shekh	Principal B.A.C.A.	
6	Dr. D.J. Koshiya Dr. M.M. Pathak	Asso. Director of Research	Member
7	Dr. B.N. Patel	Research Scientist ( Tobacco )	Member
8	Er. B.N. Bhalia	Executive Engineer	Member Secretary

## Meetings of the Committee:

Sr. no.	Particulars	Date
1	1 <sup>st</sup> meeting	08-04-2005
2	2 <sup>nd</sup> meeting	27-05-2005
3	3 <sup>rd</sup> meeting	05-09-2005
4	4 <sup>th</sup> meeting	24-11-2005
5	5 <sup>th</sup> meeting	05-01-2006
6	6 <sup>th</sup> meeting	23-02-2006

## CHAPTER – 9

### *Finance & Accounts: Navigating through fiscal flow*

#### **The Accounts Officer-cum-Comptroller**

Considering the responsibility and answerability that lie with the Accounts Officer-cum-Comptroller, Item-13 in Chapter-2 of the first Statutes of Anand Agricultural University is devoted to the office and duties of the Comptroller, as reiterated in the Gujarat Agricultural University Act, Section No.5, which ordains the Officer-in- Charge of this office to follow the directives mentioned there under.

Shri P.S. Vyas was appointed as the Accounts Officer-cum-Comptroller by the Government of Gujarat vide Office Order No.GKV/102004/1661/K.2, dated 11.5.2004.

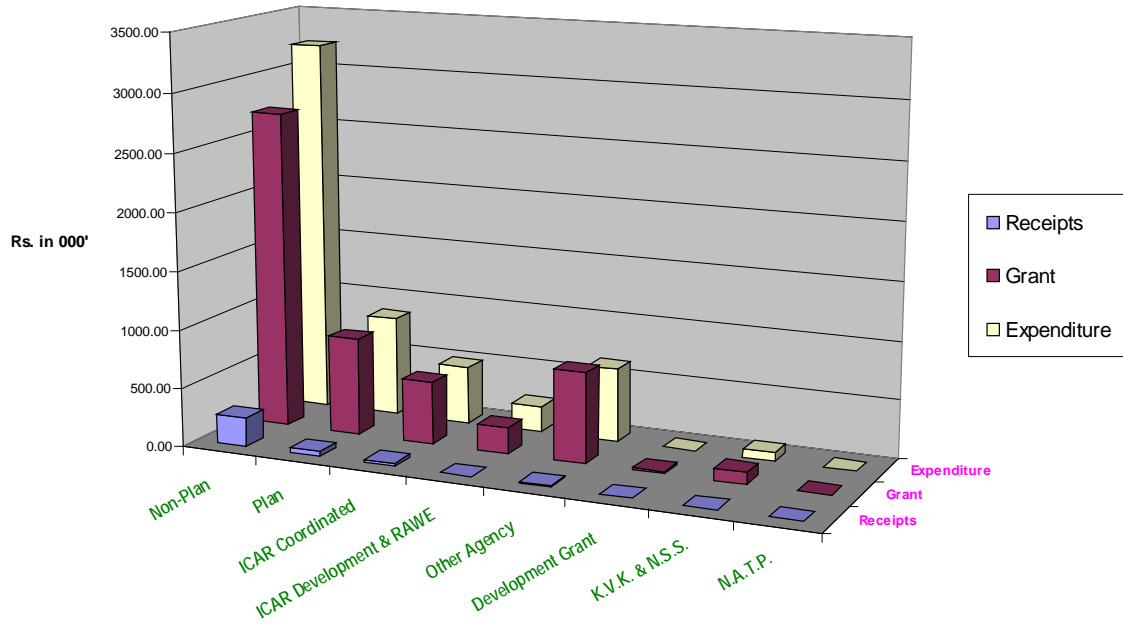
#### **Annual Income/Expenditure Grant Statement**

Anand Agricultural University has received State Plan & Non-Plan grants from Government of Gujarat. The research, extension & development grants were received from I.C.A.R., New Delhi, whereas for Plan and Non-Plan grants for Extension Education Institute were received from Government of India. The University also received grants from other related departments of State & Central Government including private industries and NGOs.

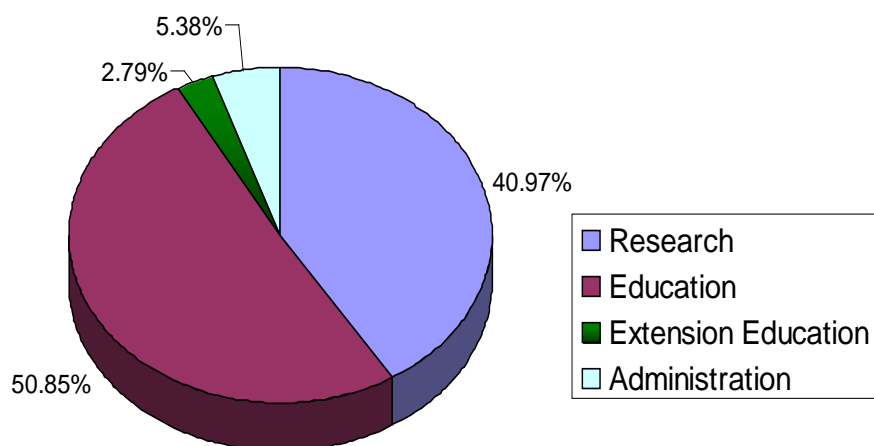
#### **Grant Received / Expenditure Incurred / Income Generated**

Sr. No.	Particulars	Grant received		Expenditure incurred		Income generated	
		Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
1	2	3		4		5	
(A)	<b>GOVT.GRANT</b>						
1	Plan Scheme	8,35,00,000.00		8,59,26,019.27		41,08,845.53	
2	Non Plan Scheme	27,29,20,000.00		32,26,17,900.08		2,45,62,080.22	
	<b>TOTAL (A)</b>	<b>35,64,20,000.00</b>		<b>40,85,43,919.35</b>		<b>2,86,70,925.75</b>	
(B)	<b>REVENUE ACCOUNT</b>						
1	I.C.A.R Co-ord. Scheme	5,31,85,956.00		4,93,99,146.52		23,00,547.59	
2	I.C.A.R. Adhoc Development	2,22,00,000.00		2,22,96,800.24		0.00	
3	RAWE	2,00,000.00		1,92,727.00		0.00	
4	Other Agencies Scheme	7,72,39,045.30		6,31,04,251.77		10,58,445.46	
5	N.S.S. (18273)	62,000.00		8,000.00		0.00	
6	K.V.K. Centre in AAU	1,00,19,000.00		69,19,090.00		90.00	
7	Development Grant (9599)	17,76,448.38		1,22,200.00		0.00	
8	N.A.T.P. Project in AAU	1,64,950.00		2,84,340.20		0.00	
	<b>TOTAL:(B)</b>	<b>16,48,47,399.68</b>		<b>14,23,26,555.73</b>		<b>33,59,083.05</b>	
	<b>TOTAL REVENUE A/C.</b>	<b>52,12,67,399.68</b>		<b>55,08,70,475.08</b>		<b>3,20,30,008.80</b>	

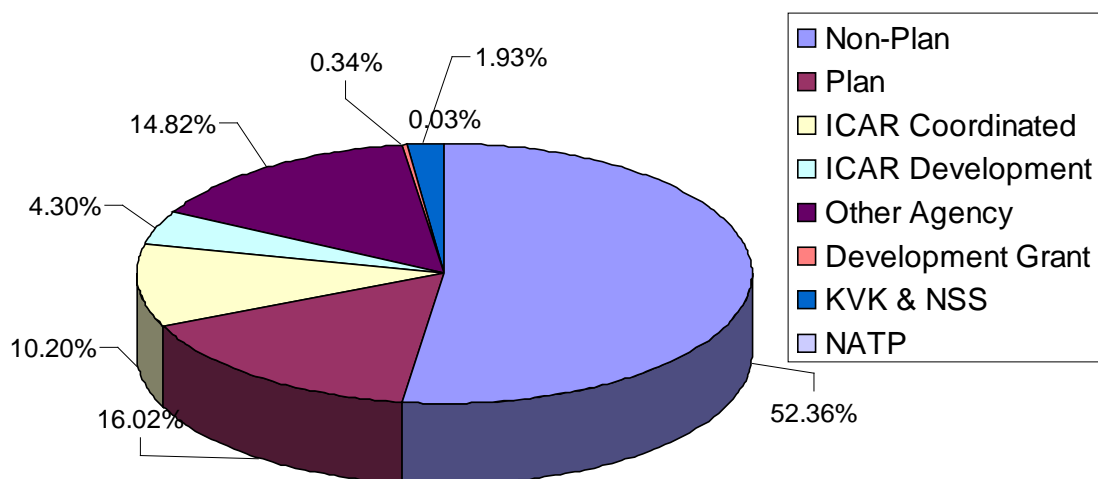
Receipts, Grant & Expenditure for the year 2005-06



### Functional Expenditure for the year 2005-06



### Funding Agency wise Grants for the year 2005-06



### Audit

The University Accounts are audited as per the following arrangements.

#### (i) Internal Audit

The pay admission cases of pay fixation under CAS scheme were scrutinized & finalized and two special audits were taken up. The compliance / justification were collected, compiled and submitted to SDAU, Sardarkrushinagar for onward transmission to Accountant General, Gujarat (Rajkot).

#### (ii) The Examiner, Local Fund Audit

The Examiner, Local Fund, audited accounts for the year 2002-03 and report is awaited. Action taken for Audit Report for the year 2001-02 was made.

### (iii) The Accountant General's Audit

The inspection/audit for the year 2003-04 was carried out from 1.10.2005 to 18.10.2005. The report is awaited.

### Resources of Income and Financial Estimates

The Revenue generated by the University during 2005-06 is mainly through sale of farm produces, milk & milk products, animal, bakery products, transport & guest house services, examination fee, tuition fee, hostel revenue, tender fee, house rent deductions, library fee, etc.

### Financial Estimates

The Plan and Non-Plan Budget estimates for 2005-06, as approved by the State Government are as follow:

Sr. No.	Details of Head	Estimates for 2005-2006 (In Rs. lakhs)	
		Original	Revised
1	2	3	4
<b>1.</b>	<b>Non Plan</b>		
	Non-Plan (Normal)	2522.70	2687.40
	Non-Plan (Tribal)	41.65	41.80
	<b>TOTAL (NON-PLAN)</b>	<b>2564.35</b>	<b>2729.20</b>
<b>2.</b>	<b>Plan</b>		
	Education	231.78	181.78
	Extension Education	50.06	45.06
	Research	693.16	608.16
	I.T.	5.00	5.00
	<b>TOTAL (PLAN)</b>	<b>980.00</b>	<b>840.00</b>

### Pension

Details of Pension cases	No. of cases finalized
(1) Final pension cases	61
(2) Revised pension cases	06
(3) Restoration pension cases	02

### Provident Fund (PF)

The details of PF cases disposed during the year.

(1) Final withdrawal cases	74
(2) Part-final withdrawal cases	281

Further, monthly PF accounts subscription, withdrawals and balancing for university employees in form of broad sheet and ledger were maintained. Initial P.L. accounts with Anand Treasury is opened and maintained. The reconciliation work with SDAU, Sardarkrushinagar is in progress.

The work of computerization of the office has been taken up and trial runs are being conducted.

## CHAPTER - 10

### ***Information Technology: Hi-Tech Savvy***

The Information Technology Center at Anand Agricultural University caters the demand for the use of Information Technology in the field of agriculture for the State Agricultural Universities of Gujarat and also for the Dept. of Agri. & Co-operation of State Government.

#### **Network Services**

Internet, E-mail, CAB Database and File/Printer sharing services at Anand Agricultural University have been provided and maintained through Local Area Network (LAN) having GSWAN and ERNET connectivity.

#### **Beneficiaries**

More than 2700 persons including the university staff, Undergraduate, Post-graduate students and the officials from various departments of the State have taken benefit of ITC facilities like network services, internet, E-mail, scanning of photographs, CAB abstract service, printing, CD writing etc. these services are very useful to the students in their educational and research activities.

#### **Training**

Following short-term training courses were conducted for the officers of the Agricultural Universities and State Government at ITC, Anand.

1. Soil Health Card program
2. Website Updating
3. Database Management
4. Windows 2003
5. IIS Server
6. Microsoft Office Front Page 2003
7. MS Office

#### **Network Installation & Mainatnce**

ITC looks after installation and maintenance services of the Network at the University level. A sizeable amount of money has been saved by using a free Network Operation System i.e. Linux. The network is continuously monitored and the problem, if any, is attended and rectified. The Network Operating System is up-graded regularly adding the useful features.



## **Presentations/ Models**

ITC has following Multimedia presentations covering various areas of University activities, which are updated from time to time. These presentations have been shown or displayed during the visits of the Guests, Board of Management Meetings, Krushi Fairs or at Government level Meeting.

1. University activity (in English & Gujarati)
2. Information Technology at AAU
3. Soil Health Card System
4. IT Action Plan
5. Krushi Mahotsav- 2006.
6. Krushi Calendar

## **Reference Services**

CAB Abstract Service has been installed which has been put on LAN. This enables the end users to get quick information through computer on any reference related to Agricultural research published from 1972 to 2006 through Network. This is unique kind of service not found anywhere in India which is provided free of cost to the scientists and the student of the University. This has made the reference services very fast and has saved a lot of time of the scientists and the students.

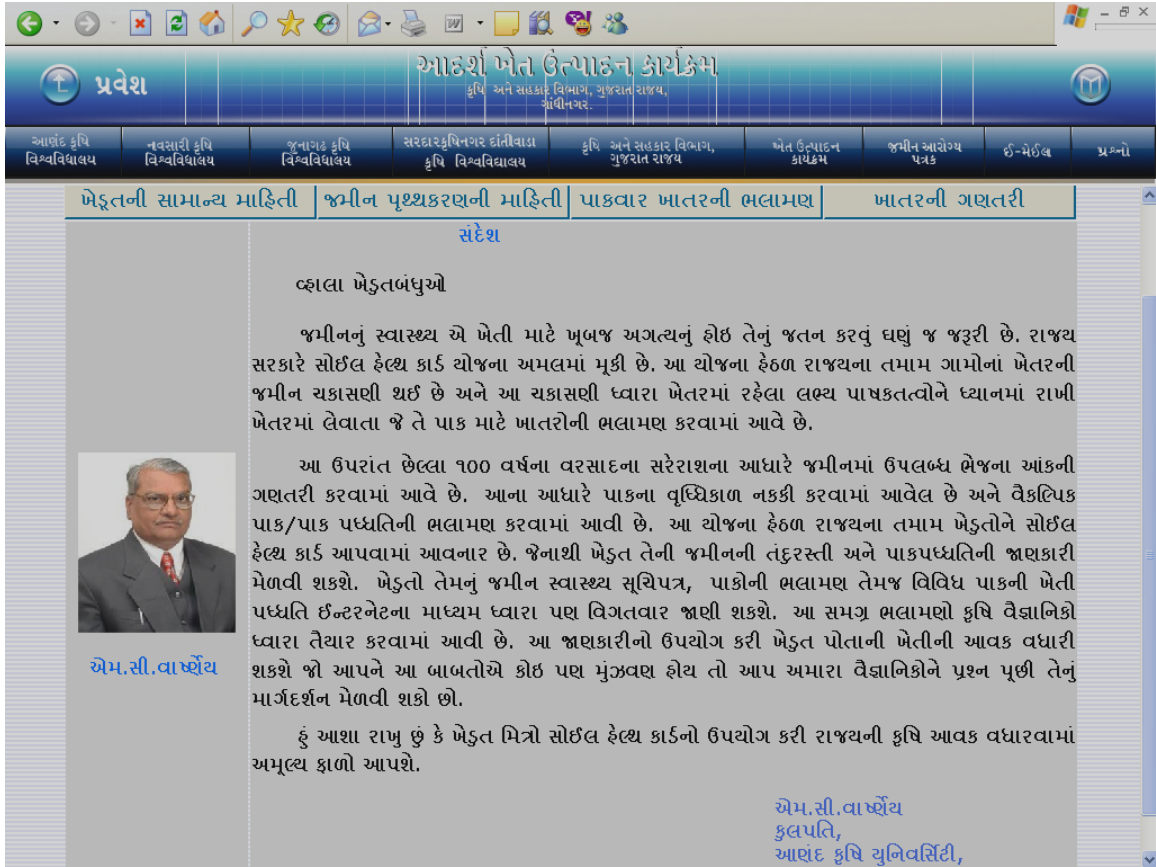
## **Special Contribution/Achievements**

### ***Web Site For AAU***

ITC has prepared a Web Site for Anand Agricultural University; the domain name is [www.aau.in](http://www.aau.in). This web site includes various aspects and activities of Anand Agricultural University like administration, faculties, colleges, education, and extension, e-library, tender, Right to Information Act etc. Further, a web mail service has been incorporated in the Web Site enabling the users to read and reply their e-mail from any computer of LAN. There are more than 4000 e-mail users. The web site has been maintained and updated regularly.

### ***Web-Base Application for Soil Health Card Program***

Government of Gujarat has selected the Anand Agricultural University to establish and implement the state wide programme on Soil Health Card. Under this programme, centre has developed the web-base application software, which generates and provides the fertilizer recommendations on the basis of soil analysis and the nutrient requirements of the crop for each field. This will increase the efficiency of the fertilizer and saving in consumption of the fertilizer.



On the basis of Moisture Availability Index and other soil and meteorological parameters, Soil Health Card programme also advises the individual farmer for the selection of crop and cropping system for his field with economic benefit. It also provides cultivation practices for all the crops.

The action plan for the agricultural production at taluka and village level is available under this programme to coordinate the efforts of all the functionaries.

The web-sites for agricultural universities, Department of Agril, Department of Animal Husbandry, Department of Horticulture and other Boards / Corporations engaged in agriculture has been established under this program, which provide information regarding different schemes, statistics, working system etc.

### Meetings of the Soil Health Card Programme committee

Sr. No.	Particulars	Date
1.	1 <sup>st</sup> Meeting	04-04-2005
2.	2 <sup>nd</sup> Meeting	14-04-2005
-	-	-
-	-	-
27	27 <sup>th</sup> Meeting	16-03-2006

## **Technical Help**

On inclusion in various committees of the university, the Director, IT took the measures to carry forward the IT activities at various levels. During the year, substantive work was done not only in the technical or administrative matters of ITC, but also pertaining Network problems at all the four universities.

Because of the on-hand training given to various employees on computer applications, administrative and account activities have been improved. Further, theoretical and practical knowledge about IT and its related equipments are made available to other line department of the state, which help the other organization also to strengthen their IT activities.

Most importantly the Director, IT was given state level responsibilities regarding IT work of Krushi Mahotsav and Soil Health Card by Agriculture and Co-operation Department, Government of Gujarat. The required activities were carried out effectively.

## **Visitors**

The Center has been visited by a number of eminent persons such as Member, Planning Commission, who has remarked AAU a front-runner in IT activities out of all the Agricultural Universities of the Country.

## CHAPTER -11

### ***DR M.D. PATEL REGIONAL E-LIBRARY: sanctum sanctorum of Wisdom***

#### **Emergence of Dr M.D. Patel Regional e-Library :**

The launching of National Agriculture Technology Project by ICAR, New Delhi, on Library Improvement and Networking (LIS O&M) drastically altered not only the fiscal statistics, but also the Library's status as well, as the Library became an inextricable part of a nation-wide consortium, utilizing a total sum of Rs. 230 lakhs towards digitization, automation and establishment of modern Cyberary with 100 mbps LAN connectivity and 2 mbps Internet and 27 work-stations, thereby obtaining the esteemed position of **Regional e-Library**. With the establishment of Anand Agricultural University (AAU), on 1<sup>st</sup> May 2004 as a separate SAU in Gujarat, Dr M.D. Patel regional e- Library is now recognized as the **Central University Library of AAU**.

#### **The Library Council:**

The Library Council is formulated as the policy making body for the library, with a view to review and amend the library and cyberary regulations as per time and requirement.

The council has following members:

Sl.	Members	Status
1.	Vice-Chancellor, AAU, Anand	Chairman
2.	Director of Research & Dean P.G. Studies	Member
3.	Dean (Agriculture), AAU, Anand	Member
4.	Dean (Dairy Science), AAU, Anand	Member
5.	Dean (Veterinary Science), AAU, Anand	Member
6.	Dean (Agril. Information Technology), AAU, Anand.	Member
7.	Dean (Food Processing Technology) AAU, Anand.	Member
8.	Registrar, AAU, Anand.	Member
9.	Director of Extension Education.	Member
10.	Director of Student Welfare, AAU, Anand.	Member
11.	Dr. M.J. Solanki, Prof. & Head, Dept. of Dairy Tech., S.M.C. College of Dairy Sciecne, AAU, Anand.	Member
12.	Dr. N.B. Chauhan, Prof. & Head, Dept. of Extension Education, B.A.C.A.,AAU, Anand.	Member
13.	Dr. M.S. Vora, Res. Scientist, Dept. of Biofertilizers, AAU, Anand.	Member
14.	Rajshekhar Palobatti, (Ph.D.), Dairy Engineering Dept., S.M.C. College of Dairy Science, AAU, Anand.	Member
15.	Hadiya, K.K.(Ph.D.) Vet. Microbiology Dept., Veterinary College, AAU, Anand.	Member
16.	Dr. Ushabala, University Librarian, Dr.M.D.Patel Regional e-Library, AAU, Anand.	Member Secretary

The first meeting of Library Council was held on 25<sup>th</sup> March 2006.

## **The e-Domain of Dr M.D. Patel Regional e-Library :**

Presently, the Library is in possession of 260 Foreign and Indian Journals, and Eleven CD Rom database (AGRIS, AGRICOLA, J-GATE, J-CCC, BIOSIS, CURRENT CONTENTS, INDIAN HARVEST, AgECON, PROVIS, WINSPIRES/WEBSPIRES, CAB).

With the Installation of the LibSys Software, the old manual process of circulation through library cards is totally replaced by e-cards and e-circulation, which enables the users to preview the entire information of circulatory material as well as their own e-account status.

Altogether, 68,283 entries consisting of books, back volumes and reports are electronically catalogued. 2170 PG and Ph.D. theses abstracts, and 132 rare books are digitized and installed along with the online services of Database on the LINUX Server, and monitored by the Director, Information Technology Centre, AAU, Anand. A **Union Catalogue** of 173 journals was prepared and deposited with NATP, ICAR, New Delhi.

The Cyberary with its 27 work-stations was inaugurated by the National Director, Dr S.L. Mehta, NATP, New Delhi on April 21, 2003. Altogether, 11 CD ROM Database are being monitored online on LINUX Server with the help of 512 kbps/100 mbps connectivity in the Cyberary, whereas Science Citation Index is available to the users on the ICAR web. This facility is being extensively utilized by both faculty and students on an average of daily 100-125 users for 14 hours per day (approx. 3000 users per month). Online database access is available to other Agricultural Universities of Gujarat State through [www.aau.in](http://www.aau.in) web page.

During the year under report **(2005-2006)** 267 books were purchased. 66 foreign journals were subscribed. The First Library Council Meeting under the auspices of the newly established Anand Agricultural University was held on 25-3-2006. Library regulations from approximately eight agricultural and traditional libraries and Cyberary rules from five foreign university libraries were reviewed and finalized by the Committee for Review of Library Rules and Regulations, appointed by Honorable Vice Chancellor, AAU, Anand, consisting of Dr. A. M. Thaker, DSW, AAU, Anand, Dr. M. J. Solanki, Professor & Head, Deptt. of Dairy Technology, SMC College of Dairy Science and Dr. Ushabala, University Librarian.

## **Impact Assessment:**

The Internet access through ERNET and GSWAN and existing Database facilities and other IT enabled services have helped aspirant students to update their General Knowledge along with the latest information in their respective disciplines, besides providing the much-needed

impetus to the on-going research programs of the University as well as in formulating and executing newer projects. It also boosted the competitive spirit in the scientist community, alerting them to day to day technological progress, while the e-mail has almost zeroed the global distances, making rapid and effective interaction possible. In the Education field, several course curricula are being restructured, due to which it would be possible to transmit the latest knowledge to the students, making them via media to reach grass root levels.

## Appendix-I

### List of Gold Medals and the Name of their Recipients:

Sr. No.	Name of Gold Medals	Degree	Particulars	Name of Recipient Student	College Name
<b>FIRST CONVOCATION : 12-04-2005</b>					
1.	Chancellor's Gold Medal	M.V.Sc.	Being adjudged the best Post-graduate student of Master degree in the field of studies of Veterinary Science during the year 2003-04.	Makadiya Nirajkumar Ratilal	College of Veterinary Science & A.H., Anand
2.	Chancellor's Gold Medal	Ph.D.	Being adjudged the best Post-graduate student of Ph.D. degree in the field of studies of Veterinary Science during the year 2003-04.	Manoj Kumar Awasthi	College of Veterinary Science & A.H. , Anand
3.	Vice-Chancellor's Gold Medal	B.Sc.(Agri.)	Being adjudged the best Under-graduate student of Faculty of Agriculture for the year 2003-04.	Chitra Mishra	B. A. College of Agriculture, Anand
4.	Dr. B. V. Mehta Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest C.G.P.A. in the subject of Agricultural Chemistry and Soil Science upto 7 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Vivek Shankar	B. A. College of Agriculture, Anand
5.	Dr. Ravjibhai Chhotabhai Patel Gold Plated Silver Medal	B.Sc. (Agri.)	For securing highest O.G.P.A. in the subject of Agricultural Entomology at the end of 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Brajesh Kumar	B. A. College of Agriculture, Anand
6.	Dr. Ranchhodbhai M. Patel Gold Medal	B.Sc.(Agri.)	For securing highest C.G.P.A. in the related courses of Plant Breeding and Genetics at the end of the 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Brajesh Kumar	B. A. College of Agriculture, Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
7.	Dr. Purachand D. Mistry Gold Plated Silver Medal	B.Sc.(Agri.)	For securing highest C.G.P.A. in the subject of Agricultural Meteorology and related courses at the end of 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Brajesh Kumar	B. A. College of Agriculture, Anand
8.	Dr. J. B. Patel Gold Plated Silver Medal	B.Sc.(Agri)	For securing highest C.G.P.A. in the subject of Horticulture upto 7 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Brajesh Kumar	B. A. College of Agriculture, Anand
9.	Dr. M.V. Desai Gold Plated Silver Medal	B.Sc.(Agri)	For securing highest C.G.P.A. in the subject of Plant Pathology and related courses at the end of 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Brajesh Kumar	B. A. College of Agriculture, Anand
10.	Prof. H.N. Patel Memorial Gold Plated Silver Medal	B.Sc.(Agri)	For securing highest O.G.P.A. in the subject of Extension Education upto the end of 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Sweety Antol	B. A. College of Agriculture, Anand
11.	Dr. Ramjibhai M. Patel Gold Plated Silver Medal	B.Sc.(Agri)	For securing highest C.G.P.A. in the subject of Agricultural Statistics and related courses at the end of 8 <sup>th</sup> Semester of B.Sc.(Agri.) degree course examination held in June-July, 2004.	Chitra Mishra	B. A. College of Agriculture, Anand
12.	Vice-Chancellor's Gold Medal	B.Tech.(D.T.)	Being adjudged the best Under-graduate student of Faculty of Dairy Science for the year 2003-04.	Deepak Ameta	Sheth M. C. College of Dairy Science, Anand



Sr. No.	Name of Gold Medals	Degree	Particulars	Name of Student	College Name
13.	Late Shri R.J. Patel Memorial Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in the subject of Dairy Economics upto 4 <sup>th</sup> Semester at the 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand
14.	Shrimati Taraben Maganlal Khatri Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in the subject of Dairy Technology upto the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand
15.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in all the subjects offered by the Dairy Technology Department upto the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand
16.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in all the subjects offered by the Dairy Microbiology Department upto the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand
17.	Late Bhogilal V. Patel Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest O.G.P.A. in the all the courses of 7 <sup>th</sup> Semester and 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand
18.	Late Dr. Jashbhai Ranchhodbhai Patel Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest O.G.P.A. in at the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Mallik Jarita	Sheth M. C. College of Dairy Science, Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
19.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in all the subjects offered by Dairy Engineering Department upto the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Purohit Darshan Hemantkumar	Sheth M. C. College of Dairy Science, Anand
20.	Late Smt. Kapilaben Babubhai Patel Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in the subject of Dairy Engineering at the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Purohit Darshan Hemantkumar	Sheth M. C. College of Dairy Science, Anand
21.	Late Shri Shankarlal Ratilal Shah Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in the subject of Dairy Engineering at the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Purohit Darshan Hemantkumar	Sheth M. C. College of Dairy Science, Anand
22.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech.(D.T.)	For securing highest C.G.P.A. in all the subjects offered by the Dairy Chemistry Department upto the end of 8 <sup>th</sup> Semester of B.Tech.(D.T.) degree course examination held in September, 2004.	Purohit Darshan Hemantkumar	Sheth M. C. College of Dairy Science, Anand

Sr. No.	Name of Gold Medals	Degree	Particulars	Name of Student	College Name
<b>SPECIAL CONVOCATION : 11-01-2006</b>					
1.	Hexamar A. R. & D. Foundation Gold Plated Silver Medal.	M.Sc. (Agri.)	For securing highest Grade Point Average in the major subject of Agricultural Entomology in M.Sc. (Agri.) examination held during the year 2002-2003.	Shri Chirumamilla Anitha	B. A. College of Agriculture, Anand
2.	Late V. J. Vora Gold Plated Silver Medal	M.Sc. (Agri.)	For securing the highest Grade Point Average in the major subject of Agricultural Entomology in M.Sc. (Agri.) examination held during the year 2002-2003.	Shri Chirumamilla Anitha	B. A. College of Agriculture, Anand
3.	Dr. Ramjibhai M. Patel Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest cumulative Grade Point Average in the subject of Agricultural Statistics and related courses at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Shri Akhillesh Kumar	B. A. College of Agriculture, Anand
4.	Dr. Purachand D. Mistry Gold Plated Silver Medal	B.Sc.(Agri.)	For securing highest cumulative Grade Point Average in the end subject of Agricultural Meteorology and related courses at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
5.	Dr. B. V. Mehta Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest cumulate Grade Point Average in the subject of Agricultural Chemistry & Soil Science up to Seventh Semester at the end of the Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
6.	Dr. M. V. Desai Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest cumulative Grade Point Average in the subject of Plant Pathology and related courses at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
7.	Prof. H. N. Patel Memorial Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest Overall Grade Point Average in the subject of Extension Education up to the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Shri Akhillesh Kumar	B. A. College of Agriculture, Anand
8.	Late Indrajitsinh jaysinh Chauhan Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest Overall Grade Point Average at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
9.	American Spring and Pressing Works Pvt. Ltd., Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest Combined Overall Grade Point Average in the end subject of Plant Pathology and Agricultural Entomology at the end of Seventh Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
10.	Shri C. M. Patel Memorial Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest Overall Grade Point Average in the end subject of Agricultural Engineering at the end of Seventh Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
11.	Shri Babubhai Jashbhai Patel Shasthipurti Smruti Gold Plated Silver Medal	B.Sc.(Agri.)	For securing highest O.G.P.A. at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
12.	Adarsh Chemicals and Fertilizers Limited, Udhana Gold Plated Silver Medal.	B.Sc.(Agri.)	For securing highest Overall Grade Point Average at the end of Eighth Semester of B.Sc. (Agri.) degree course examination held in July-August-2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
13.	Vice-Chancellor's Gold Medal	B.Sc.(Agri.)	Being adjudged the best Under-graduate student for the field of studies of Agriculture.	Pareshkumar Kalyanbhai Patel	B. A. College of Agriculture, Anand
14.	Patel Bhogilal Chunilal Damodardas Shroff Trust, Ahmedabad Cash Prize.	B.Sc.(Agri.)	For securing highest O.G.P.A. at the end of the end of the 8 <sup>th</sup> Semester examination of B.Sc. (Agri.) degree course held in July-August, 2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
15.	Late Dr. N. C. Patel Cash Prize	B.Sc.(Agri.)	For securing highest O.G.P.A. in the subject of Extension Education at the end of the 8 <sup>th</sup> Semester examination of B.Sc.(Agri.) degree course held in July-August, 2003.	Akhillesh Kumar	B. A. College of Agriculture, Anand
16.	Late Prof. J. P. Trivedi Cash Prize	B.Sc.(Agri.)	For securing highest O.G.P.A. in the subject of Agricultural Engineering at the end of the 8 <sup>th</sup> Semester examination of B.Sc. (Agri.) degree course held in July-August, 2003.	Roshni R. Samarth	B. A. College of Agriculture, Anand
17.	Dr. R. K. Shukla Gold Plated Silver Medal	B.V.Sc. & A.H.	For securing highest Overall Grade Point Average in all the subjects of B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
18.	Prof. M. R. Varia Gold Plated Silver Medal.	B.V.Sc. & A.H.	For securing highest cumulative Grade Point Average in the subject of Veterinary Pathology, Microbiology, Bacteriology, Parasitology & LTD at the end of Final Year B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
19.	Silver Jubilee Celebration (S.J.C.) Veterinary College Anand Gold Plated Silver Medals (Clinical Subjects)	B.V.Sc. & A.H.	For securing highest Overall Grade Point Average in Clinical subjects viz. Surgery, Medicine, Gynaecology, Vety. Public Health at the end of Tenth Semester B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
20.	Silver Jubilee Celebration (S.J.C.) Veterinary College Anand Gold Plated Silver Medals. (Basic Subjects)	B.V.Sc. & A.H.	For securing highest Overall Grade Point Average in the Basic subjects viz. Anatomy, Biochemistry, Physiology & Pharmacology at the end of the Tenth Semester B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
21.	Shri V. C. Desai Cherity Gold Plated Silver Medal.	B.V.Sc. & A.H.	For securing highest Overall Grade Point Average at the end of the Tenth Semester B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
22.	Bombay Gow Rakshak Mandli Gold Plated Silver Medal	B.V.Sc. & A.H.	For securing highest Overall Grade Point Average in Animal Husbandry subjects viz. Animal Genetics & Breeding, Livestock Production & Management, Animal Nutrition, Animal Hygiene and Dairy Science at the end of B.V.Sc. & A.H. degree course examination held in September-2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
23.	Dr. M. D. Patel Cash Prize	B.V.Sc. & A.H.	For securing highest O.G.P.A. in the subject of Animal Genetics & Breeding at the final examination of B.V.Sc. & A.H. degree course held in September, 2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
24.	Late Prof. V. A. J. Pinto Cash Prize	B.V.Sc. & A.H.	For securing highest O.G.P.A. in the subject of Veterinary Medicine at the final examination of B.V.Sc. & A.H. degree course held in September, 2003.	Shri Ashok Kumar Nagpal	College of Veterinary Science & A.H., Anand
25.	Vice-Chancellor's Gold Medal	B.V.Sc. & A.H.	Being adjudged the best Under-graduate student for the field of studies of Veterinary Science.	Ashok Kumar Nagpal	College of Veterinary Science & A.H. Anand
26.	Late Bhogibhai V. Patel Gold Plated Silver Medal.	B.Tech. (D.T.)	For securing highest G.P.A. in all the course of 7 <sup>th</sup> Semester and 8 <sup>th</sup> Semester of B.Tech. (D.T.) degree course examination held August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
27.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest C.G.P.A. in all the subject offered by the Dairy Technology Department up the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
28.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest C.G.P.A. in all the subject offered by the Dairy Microbiology Department up the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand

<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
29.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest C.G.P.A. in all the subject offered by the Dairy Engineering Department up to the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
30.	Sheth Mansukhlal C. Desai Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest C.G.P.A. in all the subject offered by the Dairy Chemistry Department up the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
31.	Late Smt. Taraben Maganlal Khatri Gold Plated Silver Medal.	B.Tech. (D.T.)	For securing highest C.G.P.A. in Dairy Technology subject up the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
32.	Late Shri R. J. Patel Memorial Gold Plated Silver Medal.	B.Tech. (D.T.)	For securing highest cumulative Grade Point Average in the subject of Dairy Economics up to 4 <sup>th</sup> Semester at the end of 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
33.	Late Smt. Kapilaben Babubhai Patel Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest cumulative Grade Point Average in the subject of Dairy Engineering at the end of 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand



<b>Sr. No.</b>	<b>Name of Gold Medals</b>	<b>Degree</b>	<b>Particulars</b>	<b>Name of Student</b>	<b>College Name</b>
34.	Late Shri Shankarlal Ratilal Shah Gold Plated Silver Medal	B.Tech. (D.T.)	For securing highest C.G.P.A. in the Dairy Engineering subjects up to 4 <sup>th</sup> Semester at the end of the 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
35.	Late Dr. Jashbhai Ranchhodbhai Patel Gold Plated Silver Medal.	B.Tech. (D.T.)	For securing highest O.G.P.A. at the end of 8 <sup>th</sup> Semester examination of B.Tech. (D.T.) degree course held in August-September, 2003.	Nidhi Bansal	Sheth M. C. College of Dairy Science, Anand
36.	Vice-Chancellor's Gold Medal	B.Tech. (D.T.)	Being adjudged the best Under-graduate student for the field of studies of Dairy Science.	Miss Pandya Medha Kunj	Sheth M. C. College of Dairy Science, Anand

## Append - II

### A. FACULTY OF AGRICULTURE

#### 4.1.1 Research Publications

##### AGRONOMY

- Patel, R. H.; Judith Oliver and Usadadia, V.P. (2005). Influence of irrigation scheduled and weed management practices on growth and yield of fenugreek. *Indian J. of Weed Sci.*, 37(3&4): 323-324.
- Tank, D. A. and Usadadia, V. P (2006). Nitrogen management in rabi maize. *Crop res.*, 31(3) 49-50.
- Tank, D. A., Meisheri, T. G. and Usadadia, V. P (2006). Integrated nutrient management in summer groundnut. *Crop res.*, 31(1) 61-62.
- Patel, R. H. Shroff Jagruti, Dutta S. and Meisheri, T. G. (2005). Weed dynamics as influenced by soil solarization- A Review. *Agril. Review*, 26 (4):295-300.
- Patel, R. A. and Patel, R. H. (2005). Response of chickpea to irrigation, FYM and S on sandy clay loam soil. *Int. Chickpea & Pigeon pea news Lett.*, 12 : 22-24.
- Patel, V.J.; Upadhyay, P.N.; Patel, J.B. and Patel, B.D.,(2006). Evaluation of herbicide mixtures for weed control in maize (*Zea mays L.*) under middle Gujarat conditions. *J. of Agril. Sci.*, Shri Lanka, 2(1) : 81-86.
- Patel, J.B.; Patel, V.J. and Patel, J.R. (2006). Influence of different methods of Irrigation and nitrogen levels on crop growth rate and yield of maize (*Zea mays L.*) under middle Gujarat conditions. *Ind. J. of Crop Sci.*, 1(1-2) :175-177.
- Patel, B.D.; Patel, V. J.; Patel, J.B. and Patel, R.B. (2006). Effect of fertilizers and weed management practices on weed control in chickpea under middle Gujarat conditions. *Ind. J. of Crop Sci.*, 1 (1-2) : 178-180.
- Patel, V.J.; Upadhyay P.N.; Patel, J.B. and Meisuriya, M.I. (2006). Effect of herebicide mixtures on weeds in kharif maize (Kharif under middle Gujarat conditions. *Ind. J. Weed Sci.*, 38(1&2):54-57.
- Patel, P.C. and Kotecha, A.V. (2006). Forage yield and quality of lucerne as affected by phosphorus and potassium application. *Forage Res.*, (31) 4 : 289-270.
- Gour, V.; Patel, P.C.; Patel, M. R. and Patel, N.N. (2006). Effect of sowing date and harvesting stage on forage yield and quality of maize. *Forage Res.*, (31) 4 : 267-268.

## **AGRICULTURAL CHEMISTRY AND SOIL SCIENCE**

- Patel, K.P., Singh M. V., Ramani V. P., Patel, K.C., George V. and Zizala V. J (2006). Impact and effect of sewage water on soils and crops in *peri* urban area of Gujarat. *Pollution Res.*, 25 (1) : 25-30.
- Patel, K.P., Patel, K.C., Swati J. Solanki and Patel N. N (2005). Optimization of conditions for effective removal of heavy metals by *Pseudomonas* sp. and *fungi* sp. to purify mix industrial effluents. *Pollution Res.*, 24 (4) : 1 – 5.
- Ghelani, L.M., Patel, N.B. and Patel, B.K. (2005). Studies on Quality Aspects of Tendu Leaf ( *Diospyrus Melanoxylon* Roxb.) *Tob. Res.* , 31(1 & 2) : 66-73

## **AGRICULTURAL METEOROLOGY**

- Akula, B.; Shekh, A. M. and Parmar, R. S. (2005). Estimation of evapotranspiration by WTGROWS model. *J. of Agrometeorology*, 7(1): 64-68
- Chaudhari, G. B.; Vyas Pandey and Shekh, A. M. (2005). Validation of SPAW model for soil moisture and evapotranspiration under wheat crop at Anand. *J. of Agrometeorology*, 7(2): 182-189.
- Akula, B. and Shekh, A. M. (2005). Field calibration and evaluation of crop simulation model, InfoCrop to estimate wheat yields. *J. of Agrometeorology*, 7(2): 19-207.
- Akula, Baby; Shekh, A. M. and Parmar, R. S. (2005). Estimation of variability in wheat production levels in middle Gujarat using simulation model. *J. of Agrometeorology*, 7(2): 208-213.
- Parmar, R. S.: Akula, Baby ; Shekh, A. M. and Jhala, A. J. (2005). Climatic variability in Gujarat state (India). *J. of Agrometeorology*, 7(2): 214-219.
- Lunagaria, M. M. and shekh, A. M. (2005). Leaf orientation and direct beam radiation interception in wheat crop as influenced by row direction. *J. of Agrometeorology*, 7(2): 225-230.

## **PLANT BREEDING**

- Varkey, J ; Saiyed, M.P.; Patel, J.S. and Patel, D.B. (2005). Genetic variability and heritability in chilli. *J. of Maharashtra Agril. Uni.*, 30(3)346.
- Patil, H. E.; Mahatma, M.K. ; Patel, N.J.; Bhatnagar, R. and Jadeja, G.C. (2005). Differential response of pearl millet hybrids to water stress in relation to antioxidant enzymes and proline. *Ind. J. Pl. Physio.*, 10(4) 344-348.
- Patil, H.E. and Jadeja, G.C. (2005). Correlation and path analysis under terminal water stress condition in Pearl millet (*Pennisetum glaucum* (L.) R-Br.). *Ind. J. Dry land Agric. Res.*, 20(1) 31-34.
- Kher, H.R., Pathak, H.C., Patel, J.S., Makwana, M.G. and Patel, J.N. (2005) Heterosis for Yield and Quality Components In Bidi Tobacco (*Nicotiana Tabacum* L.) over Diverse Cytoplasm. *Tob. Res.*, 31(1 & 2) : 61-65

Makwana, S.; Yadvenra, J. P.; Dixit, S. K.; Patel, J. S. and Parmar, R. S. (2005). Clustering of genotypes based on genotype x environment interaction mean square in forage maize (*Zea mays* L.). *Forage Res.*, **31**(2): 88-90.

Makwana, S.; Yadvendra, J. P. and Patel, J. S. (2005) Correlation and Path Analysis in Forage Maize. *Forage Res.*, **31**(2):140-141.

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#### **D. FACULTY OF FOOD PROCESSING TECHNOLOGIES & BIO-ENERGY**

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## Appendix - III

### A. FACULTY OF AGRICULTURE

#### 4.1.2 Research Publications (Presented)

##### AGRONOMY

- Patel, R. H. ; Patel, P. B. and Gediya, K. M. (2005). Influence of spacing and nitrogen on growth and yield ajowan. Paper presented in national Seminar on current Trends in onion, garlic and seed spices production, held at Rajgurunagar during 25-27 November, 2005. pp. 54
- Padhiyar, G. M.; Patel, R, H, and Usadadia, V. P. (2005). Influence of bio-fertilizer, phosphorus and sulphur on growth and yield of fenugreek (*T. foenum-graecum* L). A paper presented in national symposium on current trends in onion, garlic, chillies and seed spices- production, marketing and utilization, held at Rajgurunagar, Pune during 25-27 November, 2005.
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Patel, J. A. and Patel, K. C. Adsorption behavior of boron in different soils of Gujarat

Patel, K. C.; Kandoria, H. K.; Jetani, K. L. and Chanda, D. N. Effect of seaweed liquid fertilizer on yield and uptake of micronutrients by Groundnut

Ramani, V.P.; George, V. and Patel, B. K. Effect of Ni on its content, uptake and yield of spinach in contaminated soil of industrial area

Ramani, V.P.; Patel, K.P. and Patel, J.A. Direct and Residual Effect of Boron Application on Yield and Uptake of Micronutrients in Groundnut – Wheat Sequence

**Paper presented in International Conference on Soil water and environment quality- issues and strategies" held at IARI, New Delhi, Jan. 28 to Feb. 1, 2005:**

Patel, K. P.; Patel, K. C.; Patel, Nimesh and Solanki. Swati. Management of sewage water as a source of irrigation and nutrients under cabbage/cauliflower-okra-sweet corn cropping systems in *peri* urban area of Vadodara (Gujarat)

Patel, K. C.; Patel, K. P.; Patel, Nimesh and Solanki, Swati. Efficacy of different aquatic weeds in removal of heavy metals from mix industrial effluents

Ramani V. P.; Patel, K. P.; Patel, K. C. and George, V. Efficacy of micronutrients application through enrichment in *bajri*-wheat sequence on *Typic Ustochrepts* soils of Anand

**Paper presented in 92<sup>nd</sup> Indian Science Congress, held at Nirma University & Technology, Ahmedabad during January 3-7, 2005**

Patel, K. P.; Patel, J.. A. and Patel, K. C. Crop yields and quality as influenced by long term application of FYM and fertility levels under intensive cropping

Patel, K.C., Patel, K.P., Ramani, V.P. and George, V. Efficacy of Multi-micronutrient Mixture on Yield of Okra (*Abelmoschus esculents* L.) on Loamy Sand soil of Anand

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**Paper presented in National seminar on "Role of PROM and organic sources of plant nutrients in sustainable agriculture" organized by Udaipur chapter of ISA, held RAU, Udaipur on December 27, 2005**

Ramani, V. P.; Patel B. K.; Patel K. P. and Patel, K. C., Direct and residual effects of FYM on crop growth and yield under spinach-maize(F) crop sequence in Nickel contaminated *Fluventic Ustochrepts* soils

Rathod D. D.; Patel K. P.; Patel K. C. and Meena M. C. Use of Zinc enriched organics in enhancing crop yields under wheat – maize (F) cropping sequence in sandy loam soils at Anand

## **PLANT PHYSIOLOGY**

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Chavda, J. C.; Parmar, D. J. and Patel. B. K. (2005). Chemical desuckering in bidi tobacco (*N. tabacum* L.) hybrid GTH 1 Presented in National Symposium on plant physiology during November 23-25, 2005 at NAU, Navsari.

Patel, A. D.; Datta, A. K. and Patel, J. N. (2005). Effect of different soil moisture retimes on yield and quality in bidi tobacco (*N. tabacum* L.) pp. 63 presented in National Symposium on stress management in Arid and semi arid ecosystems for productivity enhancement in Agriculture on sustainable basis. S.D.A.U., Sardarkrushinagar.

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**Appendix - IV****Radio Talk**

<b>Sr. No</b>	<b>Scientist</b>	<b>Topic</b>	<b>Date (Time of broadcast 7.20 to 7.50 p.m. )</b>
1	Dr. I. R. Rathod	KHARIF PAKNU AYOJAN	13/5/05 & 24/5/05 (Discussion)
2	Dr. V. R. Bhatt	SANKALIT KHATAR VYAVASTHA	17/5/05 & 27/5/05 (Discussion)
3	Dr. D. C. Joshi	JAIVIK BALTAN	31/5/05 & 10/6/05 (Discussion)
4	Dr. M. V. Patel	CHOMASU PAKOMA NINDAN NIYANTRAN	21/6/05 & 1/7/05 (Discussion)
5	Shri K. D. Mevada	SENDRIYA KHETI UTPADANMA VIVIDH KHOLNO UPYOG	10/2/06
6	Dr. V. V. Sonani	UNALU MANG NI KHETI	10/2/06
7	Dr. Subhash Patel	UNALU VELAVALA SHAKBHAJIMA PAK SAVRAKSHAN	17/2/06 & 28/2/06 (Discussion)
8	Dr. Subhash Parnekar	PASHU AHARMA SUKSHMA KHANIJ TATVONI AGATYATA	3/3/06 & 14/3/06 (Discussion)
9	Dr. J. G. Patel	KRUSHI VISTARANNI ADHUNIK SEVAO	28/3/06

**Appendix - V**  
**Television Talk**

<b>Sr. No</b>	<b>Scientist</b>	<b>Topic</b>	<b>Date (Time of broadcast 6.00 to 6.30 p.m.)</b>
1	Shri M. S. Patel	JAIVIK KHATARONA LAXANO	16/6/05
2	Dr. J. C. Patel	SOIL HEALTH CARD ADHARIT KHATAR VYAVASTHA	23/6/05
3	Dr. D. M. Korat	JANTUNASHAK DAVANO SAMAJPURVAK UPYOG	29/8/05
4	Shri V. I. Joshi	KAPANI PACHHINI PRAKRIYA ANE ANAJ SANGRAH	26/9/05
5	Dr. K. B. Kathiriya	SHIYALU SHAKBHAJINI KHETINU AYOJAN	27/9/05
6	Dr. Subhash Parnekar	PASHU AHARMA SUKSHMA KHANIJ TATVONU MAHATVA	5/10/05
7	Dr. A. J. Patel	BINPIYAT GHAUNI KHETI	7/10/05
8	Dr. S. M. Patel	PIYAT ANE BINPIYAT CHANAMA VADHU UTPADAN KEM MELAVASHO	10/10/05
9	Dr. K. F. Patel	JAMINNI TANDURASTI ADHARIT RAVI PAK AYOJAN	24/10/05
10	Dr. K. B. Kathiriya	SHIYALU SHAKBHAJIMA MAHATVANI BHALAMNO	1/11/05
11	Dr. S. N. Goyal	MAKAINI KHETI	3/11/05
12	Dr. R. C. Zala	BOR-JAMPHALMA FALMAKHINU NIYANTRAN	22/11/05
13	Dr. R. C. Zala	AADHUNIK SINCHAI PADDHATINO SAFAL UPYOG – KHEDUTNI MULAKAT	9/12/05
14	Dr. Subhash J. Patel	MASHROOMNI KHETI	19/12/05
15	Dr. J. G. Patel	KAPAS-SHERADINI KHETI - KHEDUTNI YASHGATHA	2/12/05
16	Dr. A. M. Mehta	UNALU DANGARNI BHALAMNO	23/1/06
17	Dr. Kuldeep Khanna	ADIVASHI ANE NANA KHEDUTO MATE BACKYARD POULTRY FARMING MATE THAYEL SANSHODHANO	8/3/06
18	Dr. K. F. Patel	ATMA – VISTARANNI NAVI TARAH	13/3/06

## APPENDIX - VI

### PUBLICATION OF AGRICULTURAL LITERATURE

Sr. No.	Name of Publication
1.	SENDRIYA KHETI
2.	KHEDUTOPYOGI SANSODHAN BHALAMANO
3.	KRUSHI MAHOTSAV-2005
4.	SHAKBHAJI VISHESANK
5.	CHAROTAR KRUSHI
6.	ROKADIYA PAKONI KHETI
7.	DHANYA PAKONI KHETI
8.	GHASCHARANA PAKONI KHETI
9.	TELIBIYA PAKONI KHETI
10.	KRUSHI MARGDARSHIKA
11.	RAINFALL CALANDER OF 2005-06
12.	JAIVIK KHATRO DHWARA JAMINNU JATAN
13.	MADHYA GUJARATMA DVELA ANE RAINI KHETI PADDHATI
14.	SANKLIT JIVAT NIYANTRAN
15.	SUKSHMA TATVONU MAHATVA
16.	MADHYA GUJARATMA MUKHYA MASALANA PAKONI KHETI (HALDER ANE ADU)
17.	KHEDUTONA MITRA KITAKO
18.	VIVIDH PAKONA NINDAN NIYANTRANNI BHALAMANO
19.	VERMICOMPOSTNE JANO ANE JATE BANAO
20.	HYBRID KAPASNI KHETI
21.	SHAKBHAJINI KHETI
22.	PRAKRUTI PRATI PRAYAN
23.	PASHU AHAR ANE TENU MAHATVA
24.	PASHU AROGYA ANE MAVJAT
25.	GAY ANE GORAS
26.	AMALA NI VAIGYANIK KHETI PADHATI
27.	SARAGAVA NI VAIGYANIK KHETI PADHATI
28.	BIJ MAVAJAT NI PADHATIO
29.	DANGARMA SANKALIT PAK SANRAKSHAN
30.	ADHUNIK KHETIMA MULYAVRUDHINU MAHATVA
31.	KHETIMA PLASTIC NO UPAYOG
32.	TAPAK PIYAT PADHATI-ODAKH ANE FAYADA

## APPENDIX - VII

### CAPACITY BUILDING OF AAU STAFF

Sr. No.	Scientist	Topic	Duration	Institution
1.	Dr. J. G. Patel Asstt. Ext. Educationist	Winter School on Appropriate Extension Strategies for promotion of organic farming	8/11/05 to 28/11/05 (21 days)	College of Agriculture, UAS, Dharwad (Karnataka)
2.	Dr. P. M. Bhatt Asstt. Ext. Educationist	Winter School on advanced communication media and extension techniques	1/12/05 to 21/12/05 (21 days)	Maharana Pratap University of Agriculture & Technology, Udaipur (Rajasthan)
3.	Shri N. C. Dodia Asstt. Ext. Educationist	Winter School on advanced communication media and extension techniques	1/12/05 to 21/12/05 (21 days)	Maharana Pratap University of Agriculture & Technology, Udaipur (Rajasthan)







# કૃષિદર્શન

આણંદ કૃષિ યુનિવર્સિટીનું પ્રકાશન

## સમાચાર

વર્ષ: ૨ અંક : ૩-૪ ઓક્ટોબર-૦૫ થી માર્ચ-૦૬

**પેટ્રન**  
પ્રો. એમ. સી. વાણેશ  
કુલપતિ

**તંત્રી મંડળ**  
**ચેરમેન**  
ડૉ. એ. સાર. પાઠક

**સભ્ય**  
ડૉ. પી. પી. પટેલ  
ડૉ. એ. એમ. શેખ  
ડૉ. જે. વી. સોલંકી  
ડૉ. બી. પી. શાહ  
શ્રી વી. પી. મેકવાન  
ડૉ. એમ. ઠાકર  
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**પ્રકાશન વિભાગ**  
વિસ્તરણ વિશાલ નિયામક  
આણંદ કૃષિ યુનિવર્સિટી  
ખેડીવાડી, આણંદ, જિ. આણંદ  
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**જાણ પદવીદાન સમારંભ**

આણંદ કૃષિ યુનિવર્સિટી, આણંદ ના ઉપન્યાસ મેદાન ખાતે તા. ૧૧ જાન્યુઆરી ૨૦૦૬ના રોજ ભૂતપૂર્વ ગુજરાત કૃષિ યુનિવર્સિટીના વિદ્યાર્થીઓ માટે ખાસ પદવીદાન સમારંભ યોજાયેલ. તેમાં ગુજરાતના રાજ્યપાલ મહામંડીમશ્રી નવલકિશોર શર્માના અધ્યક્ષતાને તથા મુખ્યમંત્રીશ્રી નરેન્દ્રભાઈ મોદીએ મુખ્ય મહેમાન તરીકે ઉપસ્થિત રહી દિશાંત પ્રવચન આપેલ. આ પ્રસંગે કૃષિમંત્રીશ્રી ભૂપેન્દ્રસિંહ ચુડાસમા અતિથિ વિરોધ તરીકે ઉપસ્થિત રહેલ.

આ પદવીદાન સમારંભમાં ભૂતપૂર્વ ગુજરાત કૃષિ યુનિવર્સિટીના સ્નાતક અનુસ્નાતક કક્ષાના ૨૧૭ વિદ્યાર્થીઓને પદવીઓ એનાયત કરવામાં આવેલ જેમાં બી.એસસી. (એગ્રિકલ્ચર)ના ૩૫ વિદ્યાર્થીઓ, બી.એસસી. એસ એ.એ.ના ૧૮ વિદ્યાર્થીઓ, બી.એસસી. (ડીટી)ના ૬ વિદ્યાર્થીઓ, બી.ટેક. (ડીટી)ના ૭૩ વિદ્યાર્થીઓ, એમ.એસસી. ના ૧ વિદ્યાર્થી, એમ.વી.એસસી.ના ૬ વિદ્યાર્થીઓ, એમ.એસસી. (ડીટી)ના ૩ વિદ્યાર્થીઓ અને પીએચ.ડી.ના ૨૨ વિદ્યાર્થીઓનો સમાવેશ થાય છે.

આ પ્રસંગે ગુજરાત રાજ્યના માનનીય મુખ્યમંત્રીશ્રી શ્રી નરેન્દ્રભાઈ મોદીએ એના વક્તવ્યમાં ગુજરાત રાજ્યને ઔદ્યોગિક વિકાસ ફોર એક અગ્રેસર રાજ્ય તરીકે ઓળખાવ્યું હતું તેમજ કૃષિ ફોર વિકાસ ગુજરાત રાજ્ય અગ્રેસર બનશે તેવી આશા વ્યક્ત કરી હતી. ખેતીમાં આધુનિક સાધનોનો ઉપયોગ કરવા અને વૈજ્ઞાનિક અભિગમ અપનાવવા ઉપર ખાસ ધ્યાન મૂકવું હતું.

**યુનિવર્સિટીભવનનું ભૂમિપૂજન**

નવરચિત આણંદ કૃષિ યુનિવર્સિટી, આણંદના યુનિવર્સિટી ભવનનું ભૂમિપૂજન શાસ્ત્રીય વિધિ દ્વારા તા. ૧૧ જાન્યુઆરી ૨૦૦૬ ના રોજ સવારે ૧૦ વાગે કુલાધિપતિ અને રાજ્યપાલ મહામંડીમશ્રી નવલકિશોર શર્મા, મુખ્યમંત્રીશ્રી નરેન્દ્રભાઈ મોદી, કૃષિમંત્રીશ્રી ભૂપેન્દ્રસિંહ ચુડાસમા, આણંદ કૃષિ યુનિવર્સિટી, આણંદના કુલપતિશ્રી પ્રો. એમ. સી. વાણેશ તથા અન્ય મહાનુભાવોની ઉપસ્થિતિમાં યોજાયેલ.

શ્રી. ગણ કરોડના ખર્ચે નવનિર્મિત પાનખર તથા યુનિવર્સિટી ભવનમાં કુલપતિ ઓફિસ, રજીસ્ટ્રાર ઓફિસ, સંચોદન નિયામક, વિસ્તરણ વિશાલ નિયામક, ફિસલ નિયામક, વિદ્યાર્થી પ્રવૃત્તિ નિયામક, ઈન્ફર્મેશન ટેકનોલોજી નિયામક વગેરે દસ જેટલી આધુનિક ઓફિસોનું નિર્માણ કરવામાં આવેલ.

આ કુલપતિ મહાનની પાછળના ભાગમાં ૧૫૦૦ માણસ એકી રાત્રે તેમજ એક સીમેન્ટર બનાવવામાં આવશે. આ ઉપરાંત માનનીય મંદીર, મોટીંગ હોલ, કોન્ફરન્સ હોલ વગેરે પણ બનાવવામાં આવશે.

આ નવું કુલપતિ ભવન તેમજ અન્ય યુનિવર્સિટી કક્ષાની તમામ ઓફિસો એક જ સ્થળે કાર્યરત થશે પરિણામે સમાજના બચાવ સાથે તાંત્રિક તેમજ વહીવટી કાર્યક્ષમતા સરળ બનશે.

# AAU

## NEWSLETTER

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**FIRST ANNUAL CONVOCATION OF AAU ON APRIL 12, 2005**

April 12, 2005 was a historic day for Anand Agricultural University as its first convocation was held in the presence of His Excellency the Governor of Gujarat and Chancellor of University, Shri Nawal Kishoreji Sharma, the Guest of Honour Shri Bhupendrasinhji Chudasama, Hon'ble Minister of Agriculture, Gujarat state, the Chief Guest Dr. Mangala Rai, Secretary (DARE) & Director General of ICAR, New Delhi, Prof. M. C. Varshneya, Honourable Vice-Chancellor, AAU, Members of Board of Management, Academic Council, distinguished guests and our beloved students.

His Excellency the Governor of Gujarat and Chancellor, AAU, Dr. Naval Kishor Sharma conferred the degrees and medals. The Chief Guest Dr. Mangala Rai delivered Convocation address. During his speech he urged the university to revitalize the agricultural and academic programs keeping in mind food security, sustainability, profitability, environmental and resource protection and WTO regime to make them relevant to the present scenario. In Toto 183 graduate and post graduate candidates received the degrees at this occasion.

**DISTINGUISHED VISITORS**

(1) Dr. John Stonehouse, Project Manager, Imperial college, U. K. visited Department of Entomology, BACA, AAU, Anand and discussed the website southasiafruitfly.net and south Asia Fruit Fly Newsletter with Dr. R. C. Jhala, Convener & Editor of South Asia Fruit fly Network Newsletter, Mr. R. S. Parmar Website Administrator and Mr. D. B. Sisodia, Network Administrator.