DEPARTMENT OF AGRONOMY
COLLEGE OF AGRICULTURE, NAVSARI AGRICULTURAL UNIVERSITY
BHARUCH CAMPUS, BHARUCH

1. INTRODUCTION:

Department of Agronomy is one of the components of College of Agriculture. Agronomy discipline has major share with maximum credit load at U. G. level and Polytechnic levels as well as agronomist involved at one or the other stage of education, research and extension. This department is also associated with research activities wherein several field experiments on various mandate crops (cotton and pulse crops) are being conducted.

2. OBJECTIVES:

1. To upgrade the knowledge, skill and different principles in education and research in agronomic field.
2. To impart the education at Polytechnic in Agriculture, U.G. and P.G. level.
3. To conduct the various research projects given by ICAR, state government and other agencies.
4. To develop the agronomic technologies for farmers and scientific communities.
5. To transfer the developed technologies to farmers through literature distribution, popular articles in news paper and training etc.

3. MAJOR ACTIVITIES:

1. Teaching:

(a) Polytechnic in Agriculture:

Total 9 courses with 18 (10+8) credit loads are being taught from first to sight semesters Polytechnic in Agriculture

(b) Under graduate:

Total 14 courses with 35 (15+20) credit loads are being taught from first to eight semesters B.Sc. (Hons.) in Agriculture.

(c) Post graduate teaching: NIL

(d) Other academic activities:

Practical crop production programme : Considering the principles of "earn while you learn" all the students of III semester of Polytechnic in Agriculture as well as III and IV semester B. Sc. (Agri.) class are being allotted the land during *kharif* and *rabi*/ summer seasons, where in they have to grow greengram / pigeonpea (seed programme) crops and to carry out all the agricultural operations them selves right from sowing to harvesting with an objective to learn about the agronomic practices and economics of specific crop.

2. Research:

This department is also associated with research activities wherein several field experiments are being conducted year round under various research projects working under this department.

3. Extension:

- Department is imparting training to the extension workers / officers of department of agriculture Gujarat state, Sugar factories officers / field staff; Gujarat Land Development Corporation officers / field staff and farmers brings by various NGOs to develop their skill for improving crop production.

- Department staff is also actively participating in Krushi Mahotsav, Krushi Mela, Khedut Din, Khedut Shibir, Seminar, Radio and television programme time to time.
- Department is also imparting training to the students of various rural academic institutes.
- This department is also guiding farmers through publishing press notes in daily news paper on the agronomic aspects of major crops of this zone.

4. MAJOR ACHIVEMENTS

1. Teaching:

(a) Polytechnic in Agriculture

To teach following subjects to the students of Polytechnic in Agriculture from first to sixth semester.

Courses offered during odd semester:

S. No.	Semester	Course Number	Title of course	Credits
1	1st	Agron.1.1	Introductory Agriculture & Principles of Agronomy	1+1
2	1st	Agron.1.2	Field crops Production-I (*Kharif*)	2+1
3	3rd	Agron.3.4	Organic Farming and Sustainable Agriculture	1+1
4	3rd	Agron.3.5	Practical Crop Production I (*Kharif* Crops)	0+1
5	5th	Agron.5.8	Farming Systems and Farm Management	1+1

Courses offered during even semester:

S. No.	Semester	Course Number	Title of course	Credits
1	2nd	Agron.2.3	Field Crops Production- II (*Rabi*)	2+1
2	4th	Agron.4.6	Water management	2+1
3	4th	Agron.4.7	Weed management	1+1
4	6th	Agron.6.9	Vermicompost	0+4

(b) Under graduate [B.Sc. (Hons.) in Agriculture]

To make the theory and practical note books for U.G. courses are being taught from first to eight semesters B.Sc. (Hons.) in Agriculture.

Undergraduate courses offered during odd semester:

S. No.	Semester	Course Number	Title of course	Credits
1	1st	Agron.1.1	Introductory Agriculture & Principles of Agronomy	2+1
2	1st	Agron.1.2	Field crops I (*Kharif*)	2+1
3	3rd	Agron.3.4	Practical Crop Production I (*Kharif* Crops)	0+1
4	3rd	Agron.3.5	Weed Management	1+1

Undergraduate courses offered during even semester:

S. No.	Semester	Course Number	Title of course	Credits
1	2nd	Agron.2.3	Field Crops II (*Rabi*)	2+1
2	4th	Agron.4.6	Practical Crop Production II (*Rabi* Crops)	0+1

List of M.Sc. (Agri.) students who have completed their degree successfully.

Sr. No.	Name of student	Title of Thesis	Name of Advisor	Subject	Degree Year
1	Tekale Chaitanya Devram	Comparative performance of summer greengram (*Vigna radiate* L.) cultivars under different dates of sowing and plant densities in south Gujarat conditions.	Dr. D. D. Patel	Agronomy	2010
2	Deshmukh Swapnil Prasadrao	Response of summer Pearlmiled (pennsetum glaucoma L.) varieh'es to land configuration and dated of sowing under south Gujarat condition.	Dr. J. G. Patel	Agronomy	2011
3	Dongare Rajesh Sarangdhar	Response of different cultivars of gram (*Cicer arietinum* L.) to integrated nutrient management under south Gujarat condition	Dr. D. D. Patel	Agronomy	2011
4	Patel Rinkuben Devchandbhai	Response of different cultivars of greengram (*Vigna radiate* L.) to integrated nutrient management under south Gujarat condition.	Dr. D. D. Patel	Agronomy	2012
5	Chaudhari Mukeshbhai Purabhai	Effect of spacing and nutrient management on dhaincha (*Sesbania aculeate* L.) under south Gujarat condition.	Dr. D. D. Patel	Agronomy	2012
6	Mansuri Rameez Noormohmad	Weed management in sugarcane under south Gujarat condition.	Dr. D. D. Patel	Agronomy	2013
7	Patel Sureshbhai Gomanbhai	Study of critical period of crop-weed competition in rabi castor (*Ricinus communis* L.) under south Gujarat condition.	Dr. D. D. Patel	Agronomy	2013
8	Parmar Valjibhai Tejabhai	Weed Management in sunflower (helianthus annuals L.) under south Gujarat condition.	Dr. J. G. Patel	Agronomy	2013
9	Sandhi Sahil Jalalahemadkhan	Effect of spacing and nutrient management in sunflower(helianthus annulus L) under south Gujarat condition.	Dr. J. G. Patel	Agronomy	2013
10	Patel Sagarkumar Bipinbhai	Response of greengram (*vingna radiata* L.) to spacing levels of fertilizer with and without – fym under south Gujarat condition	Dr. J. G. Patel	Agronomy	2014

6. FACILITIES:

Following facilities are to be developed-

i) Laboratory
ii) Crop museum
iii) Store room
iv) Agricultural implements
v) Departmental library

7. RESEARCH ACTIVITY:

(i) Projects

Sr. No.	Title of experiment	Year	Funding agency
1	Bio-efficacy and phyto-toxicity study of Clethodim 25 % w/w EC on cotton	2014	M/S Arysta Life Science, Mumbai

(ii) Ongoing experiments

Sr. No.	Title of experiment	Agresco No. & Year
1	Effect of pre-and post-emergence herbicides on weed infestation and productivity of pigeonpea under rainfed condition of south Gujarat.	9th Agresco-2013
2	Study of critical period of crop-weed competition in cotton under rainfed condition of South Gujarat.	9th Agresco-2013

8. RESEARCH RECOMMENDATION:

Sr. No.	Title and Recommendation	AGRESCO No. & Year
Within NAU		
	-NIL-	
Other then NAU		
	-NIL-	

9. PUBLICATION

(i) Research Paper Published in International Journal:

1. V.S. Patel and D. D. Patel (2010). Bio-organic nutrient management in sugarcane (*Saccharum officinarum* L.). *Green Farming*, 3(2). 85-87.
2. V. S. Patel and D. D. Patel (2010). Sustenance of soil health and productivity of sugarcane through different levels and source of organics. *Green Farming*, Vol. 1(3): 266-269.
3. V. C. Raj, M. K. Arvadia and D. D. Patel (2010). Effect of integrated weed management on rabi green gram (*Vigna radiata*). *Green Farming*, Vol. 1(4): 377-379.
4. Patel, J. G., Patel, D. D., Patel, D. K. and Kumar, V. (2012). Response Of Bt Cotton Hybrid (Rch-2) To Varied Crop Geometry And Fertilizer Regimes In Vertisols Of South Gujarat. *AGRES – An International e-Journal* , 1(4) :414-422

5. Gami, M.R., Patel D. D., Arvadia M. K., Patel T. U., Patel H. M. and Patel A. J. (2013).Evaluation of different tillage depths and FYM levels on onion (Allium cepa Linn) bulb crop. *AGRES-An International e-Journal*, Vol.2(1):20-27.

6. Patel J. G., Patel D. D. and Patel D. K. (2013). Influence of depth of tillage and land configuration on growth, yield and economics of cotton (G. Cot. Hy.12). *AGRES-An International e-Journal*, Vol.2(1):28-33.

7. Patel J. G., Patel D. D., Patel D. K. and Kumar V. (2013). Influence of depth of tillage and land configuration on yield and nutrient uptake by cotton *cv.* G.Cot. Hy.12 under south Gujarat condition. *AGRES-An International e-Journal*, Vol.2(1):97-100.

8. Patel J. G., Patel D. D., Patel D. K. and Kumar V. (2013). Effect of depth of tillage and land configuration on weed infestation and yield of cotton under south Gujarat condition. *AGRES-An International e-Journal*, Vol.2(1):108-111.

9. Miss Patel R. D., Patel D. D., Chaudhari M. P., Miss Surve Vaishali, Miss Patel K. G., Miss Patel K. G., and Miss Tandel B. B. (2013). Response of different cultivars of greengram (*Vigna radiate*(L) Wilczek) to integrated nutrient management under south Gujarat condition. *AGRES-An International e-Journal*, Vol.2(2):132-142.

10. Chaudhari M. P., Patel D. D., Miss Patel R. D., Patel D. K., Patel T. U. and Patel H. K. (2013). Effect of spacing and nutrient management on nutrient content and uptake of dhaincha (*Sesbania aculeate* L.) under south Gujarat condition. *AGRES-An International e-Journal*, Vol.2(2):173-182.

11. Chaudhari M. P., Patel D. D., Miss Patel R. D., Patel D. K., Patel T. U. and Patel H. K. (2013). Response of dhaincha (*Sesbania aculeate* L.) to spacing and nutrient management under south Gujarat condition. *AGRES-An International e-Journal*, Vol.2(2):217-224.

12. Chaudhari M. P., Patel D. D., Miss Patel R. D., Patel D. K., Patel H. H., Patil P. A. and Patel J. G. (2013). Effect of spacing and nutrient management on quality and yield of dhaincha (*Sesbania aculeate* L.) under south Gujarat condition.. *AGRES-An International e-Journal*, Vol.2(2):250-254.

13. Patel, D. D., Patel, T.U., Thanki, J. D. and Aravadia, M. K. (2013). Weed management strategy in organic farming. *AGRES – An International e-Journal ,* Vol. 2(3): 255-268.

14. Tandel, B. B., Patel, D. D., Thanki, J. D., Arvadia, M. K. and Jat, R. A. (2013). Response of bio fertilizers in conjunction with inorganic fertilizers in *kharif* paddy. *AGRES – An International e-Journal,* Vol. 2(3): 342-351

15. Patel T. U., Patel, D. D., Thanki J. D. and Arvadia M. K. (2013). Evaluation of weed management practices on performance of onion (*Allium cepa* L.) bulb crop under different fertilizer levels. *Research on crops*, Vol. 14 (3) : 890-896.

16. Patel T. U., Arvadia M. K., Patel D. D., Thanki J. D. and Patel H. M. (2013). Response of oat (Avena sativa L.) to cutting management and times of N application. *Research on crops*, Vol. 14 (3) : 902-906.

17. Leva R. L., Thanki J. D., Patel D. D. and Patel T. U. (2013). Growth and yield of turmeric (Curcuma longa L.) as influenced by planting methods and fertigation under vertisols of south Gujarat condition. *Research on crops*, Vol. 14 (3) : 964-967.

18. Patel, C. R., Damame H. S., Patel, D. D., Prajapati, D. R. and Nizama, J. R. (2013). Effect of sowing dates on performance of groundnut (*Arachis hypogaea* L.) cultivars in *rabi* season under south Gujarat conditions. *AGRES – An International e-Journal,* Vol. 2(4): 484-488.

19. Patel S. G., Paterl D. D. , Prajapati D. R. and Nizama J. R. (2014). Response of critical period of crop-weed competition on growth parameters, yield attributes, yield and quality of rabi castor (*Ricinus communis* L.) under South Gujarat condition. *AGRES – An International e-Journal,* Vol.

3(1): 87-96.

20. Mansuri R. N., patel D. D., Sandhi S. J. and Prajapati D. R. (2014). Effect of integrated weed management in sugarcane (Saccharum officinerum L.) on weed intensity and cane yield. *AGRES – An International e-Journal,* Vol. 3(1): 111-117.

(ii) Research Paper Published in National Journal:

1. S. R. Patel, A. I. Patel, S. I. Tailor, C. L. Patel R. D. Vashi and D. D. Patel (2004). Improvement of CoC 671 for resistence with physical mutagenesis. *Indian J. Sugarcane Technology*, 19(1&2): 58-63.
2. D. D. Patel, C. L. Patel and G. B. Kalaria (2006). Effect of planting geometry and weed management on quality and yield of sugarcane. *Indian J. Sugarcane Technology*, 21(1&2): 39-42.
3. D. D. Patel, P. G. Patel and B. K. Patel (2006). Intercropping in cotton G. Cot. Hy-10 under irrigated condition. *Crop Protection and Production,* 2(2): 98-99.
4. C. L. Patel, D. D. Patel and M. N. Patel (2007). Critical period of crop weed competition in sugarcane (Var. CoLK 8001). *Indian Sugar*, Vol. LVI: 27-32.
5. D. D. Patel, C. L. Patel and B. K. Patel (2008). Effect of planting geometry and weed management on morphological characters of sugarcane Var. CoN 85134. *Indian Sugar*, Vol. September : 33-38.
6. V. S. Patel, A. M. Bafna, V. C. Raj, B. N. Colambe and D. D. Patel (2008). Effect of different levels and source of organics on sugarcane (Var. CoLK 8001). *Indian Sugar*, Vol. December : 65-70.
7. J. G. Patel, D. D. Patel, V. Kumar, B. K. Patel and V. M. Patel (2008). Response of protective irrigation at different critical growth stage of cotton. *J. Water Management*, 16(2):119-123.
8. J. G. Patel, D. D. Patel, V. Kumar, B. K. Patel and V. M. Patel (2008). Rain water management through different agro-techniques for improving quality and production of cotton. *J. Water Management*, 16(2):124-127.
9. C. L. Patel, D. D. Patel and M. N. Patel (2009). To ascertain optimum size of single eyebud and cane portion for three eye bud planting materials. *Indian Sugar*, Vol. August LIX (5) : 23-26.
10. V. S. Patel and D. D. Patel (2010). Effect of different sources and levels of organics on sugarcane *(Saccharum officinarum). Indian J. Agronomy,* Vol.55 (2) :152-156.
11. T.U. Patel, M.K. Arvadia, P.K. Malik, D.D. Patel and P.S. Patel (2011). Productivity of oat (*Avena sativa*) under different cutting management and split application of nitrogen. *Indian J. Agronomy,* Vol.56 (2) :164-168.
12. T.U. Patel, C.L. Patel, D.D. Patel, J.D. Thanki, P.S. Patel and Ram A.jat (2011). Effect of weed and fertilizer management on weed control and productivity of onion (*Allium cepa*). *Indian Journal of Agronomy*, Vol.56 (3):267-272.
13. C. D. Tekale, D. D. Patel, R. S. Dongare and R. R. Shewale (2011) Response of Green gram (*Vigna radiata* L.) to sowing dates and plant densities. *Bioinfolet*, 8(4):409-410.
14. C. D. Tekale, D. D. Patel, R. S. Dongare and S. D. Patil (2011). Performance of Green gram (*Vigna radiata* L.) cultivars under different dates of sowing. *Bioinfolet*, 8(4):415-416.
15. C. L. Patel, D. U. Patel, D. D. Patel and G. B. Kalariya (2011). Nutrient management for sugarcane seed crop. *Indian sugar*, Vol. March:47-50.
16. Raj, V.C., Patel D.D., Thanki J.D., and Arvadia,M.K.(2012). Effect of integrated weed management on weed control and productivity of green gram(*Vigna radiata*). *Bioinfolet.* 9(3):391-

395

17 Vidhate O.B., Thanki J.D and Patel D.D. (2012). Response of clusterbean [Cyamopsis tetragonaloba (L.) (Taub)] to integrated nutrient management. *Bioinfolet*. 9(3):388-390

18 Raj V. C., Patel D. D., Thanki. J. D., Arvadia M. K. (2012).Effect of weed management in mango seedling nursery. *Bioinfolet*, 9(4):594-595.

19 Gami M. R., Arvadia M. K., Patel D. D., Patel B. K., Patel H. H. (2012). Effect of tillage depth and fym levels on growth, yield and yield attributes of onion (*Allium cepa* Linn.). *Bioinfolet*, 9(4):605-607.

20 Patel H. M., patel T. U., Patel H. H., Patel P. S. and Patel D. D. (2012). Growth and yield influenced by INM in rabi castor grown on vertic ustochrepts of south Gujarat. *The Andhra Agricultural Journal*, 59 (1): 44-48.

21 Patel V. M., Patel C. L., Patel B. K., Patel A. M. and Patel D. D. (2012). Phosphorus management in rice (*Oryza sativa*) – autumn sugarcane (*Saccharum officinarum*) cropping system. *Indian J. Agronomy,* Vol.57 (4) :323-326.

22 Patel K. P., Thanki J. D., Patel D. D., Bafna A. M., Arvadia M. K. and Gami R. C. (2013). Integrated nutrient management in rice (*Oryza sativa*) – sugarcane (*Saccharum officinarum*) (plant) - sugarcane (ratoon)cropping sequence. *Indian J. Agronomy,* Vol.58 (4) :9-14.

23 Patel T. U., Thanki J. D., Patel D. D., Arvadiya L.K. and Italiya A. P. (2013). Weed management, fertilizer application and productivity of onion(*Allium cepa*) bulbs. *Bioinfolet*, 10(2A):379-381.

24 T. U. Patel, C. L. Patel, D. D. Patel, J. D. Thanki, M. K. Arvadia and H. B. Vaidya (2012). Performance of onion under weed and fertilizer management. Indian Journal of Weed Science, 44(3):151-158.

25 Leva R. L., Thanki J. D., Patel D. D. and Patel T. U. (2013). Effct of different planting methods and levels of Fertigation on termuric (*Curcuma longa*). Bioinfolet 10(3A):811-813.

26 R.N. Mansuri, D.D. Patel, S.J. Sandhi, K. G. Patel and D.R. Prajapati (2014). Response of weed and cane yield to integrated weed management in sugarcane (*Saccharum officinarum* L.). Trends in Biosciences 7(10):900-904.

List of published books:

Sr. No.	Name of Author	Name of Department	Name of Faculty	Title of Book	Name of Publisher	Year of Publication	ISBN
1	Dr. M.K. Arvadia, Dr. D. D. Patel, T. U. Patel, D. K. Patet, P. S. Patil and Dr. S. R. Patel	Agronomy	Agriculture	Akramak Nindano	Department of Agronomy, N.M.C.A., N.A.U., Navsari	2010	-
2	Dr. D. D. Patel, Dr. M. K. Arvadia, Shri. T. U. Patel, Dr. V. C. Raj, Shri. D. K. Patel and Shri. P. A. Patil	Agronomy	Agriculture	Nindan-Olakh ane Tenu Niyantan	Department of Agronomy, N.M.C.A., N.A.U., Navsari	2010	978-93-5156-332-7
3	Dr. J.D. Thanki, Dr. D.D. Patel and Prof. S.N. Gajjar	Agronomy	Agriculture	Kathol Pako-Kheti,Prashno ane	Department of Agronomy, N.M.C.A.,	2012	978-81-92382

				Nirakaran	N.A.U., Navsari		8-0-7
4	R. K. Patel S. N. Gajjar, D. D. Patel and S. I Tailar	Agronomy	Agriculture	Sheradi mapak Sanrakhhan	ATMA, Department of Agriculture, Gujarat	2012	-
5	S. N. Gajjar, R. K. Patel, D. D. Patel and S. K. Dhimmar	Agronomy	Agriculture	Dangar Kheti Padhdhati Ane Pak Sanrakhhan	ATMA, Department of Agriculture, Gujarat	2012	978-93-5137-181-6
6	J. R. Nizama, D. D. Patel, R.R. patel, R. K. Patel and D. R. Prajapati	Agronomy	Agriculture	Agatyana Kathol Pakoni Vaigyanik Kheti	College of Agriculture, N.A.U., Bharuch	2013	-
7	Dr. J. D. Thanki, Dr. T. U. Patel, Dr. D. D. Patel and Shri P. A. Patil	Agronomy	Agriculture	The Weed: Identification and Characteristics	Department of Agronomy, N.M.C.A., N.A.U., Navsari	2013	978-81-92382 8-1-4
8	S. N. Gajjar, R. K. Patel, D. D. Patel and S. K. Dhimmar	Agronomy	Agriculture	Dangar Kheti Padhdhati Ane Pak Sanrakhhan	ATMA, Department of Agriculture, Gujarat	2013	-

List of practical records prepared

Sr. No.	Semester	Course Number	Title of course
1	6th	Agron 6.9	Framing systems and sustainable agriculture
2	6th	Agron 6.8	Organic Farming
3	5th	Agron 5.7	Water Management including Micro Irrigation
4	3rd	Agron.3.5	Weed management

10. TRANSFER OF TECHNOLOGIES:

1. Department staff is also actively participating in Krushimahotsav, Krushi mela, Khedut Din, Khedut Shibir, Seminar, Radio and television programme time to time.
2. This department is also guiding farmers through publishing press notes in daily news paper and weekly/monthly periodicals on the agronomic aspects of major crops.