



RESEARCH

4.1 Agricultural Research Council

The Agricultural Research Council was constituted according to the provision of the Gujarat Agricultural Universities Act 2004 in exercise of the power vested under Section 62 (1) in pursuance of

Section 17 (5). Dr. C. J. Dangaria monitored and guided the research activities during the reporting period. The members of Agricultural Research Council during 2014-15 were as under:

Table 4.1 The members of 12th Agricultural Research Council

No.	Name	Designation
1.	Dr. A. R. Pathak	Vice Chancellor (Chairman)
2.	Dr. C. J. Dangaria	Director of Research & Dean, P.G. Studies (Secretary)
3.	Dr. S. R. Chaudhari	Director of Agriculture, Government of Gujarat, Gandhinagar
4.	Dr. B. S. Patel	Director of Horticulture, Government of Gujarat, Gandhinagar
5.	Dr. A. J. Kachhia Patel	Director of Animal Husbandry, Government of Gujarat, Gandhinagar
6.	Dr. A. M. Parakhia	Director of Extension Education
7.	Dr. I. U. Dhruj	Associate Director of Research
8.	Dr. A. V. Barad	Dean, Agricultural Faculty
9.	Dr. N. K. Gontia	Dean Agril. Engineering & Technology Faculty
10.	Dr. A. Y. Desai	Dean, Fisheries Science Faculty
11.	Dr. P. H. Tank	Dean, Veterinary Science & A. H., Faculty
12.	Dr. K. A. Khunt	Dean, PG Institute of Agri. Business Management
13.	Dr. M. S. Pithia	Research Scientist and Convener of Crop Improvement AGRESKO sub-committee
14.	Dr. B. K. Sagarka	Professor & Head and Convener of Crop Production AGRESKO sub-committee
15.	Dr. K. L. Raghvani	Professor & Head and Convener of Plant Protection AGRESKO sub-committee
16.	Dr. D. V. Delvadia	Professor and Convener of Horticulture & Agro-forestry AGRESKO sub-committee
17.	Dr. P. M. Chauhan	Professor & Head and Convener of Agril. Engineering AGRESKO sub-committee
18.	Dr. A. S. Joshi	Professor & Head and Convener of Basic Science AGRESKO sub-committee
19.	Dr. P. R. Kanani	Professor & Head and Convener of Social Science AGRESKO sub-committee
20.	Dr. P. H. Vataliya	Professor & Head and Convener of Animal Science & Fisheries AGRESKO sub-committee



21.	Dr. K. L. Dobaria	Research Scientist (Groundnut)
22.	Dr. B. A. Golakia	Professor & Head, (Biochemistry)
23.	Dr. R. Subbaiah	Professor & Head (Soil & Water)
24.	Dr. K. L. Mathew	Professor & Head (Fisheries)
25.	Dr. J. S. Patel	Professor & Head, (Medicine)
26.	Dr. P. S. Bharodia	Rtd. Research Scientist (Plant Breeder)
27.	Prof. J. B. Savani	Rtd. Research Scientist (Agril. Engineering)
28.	Shri Sandipbhai Shantilal Thumar	Progressive farmer, At: Vadad, District: Junagadh

The University has also arranged 12th Research Council meeting on October 13, 2014 and 3rd circulation Research Council meeting on March 04, 2015 for approval of new research projects and research activities during the year.

12th Research Council Meeting



12th Research Council Meeting of JAU organized under chairmanship of Dr. A. R. Pathak, Hon'ble Vice Chancellor, on October 13, 2014.

4.2 Planning and Monitoring

Monitoring

The monthly and quarterly progress reports were collected from the concerned heads of the schemes which were compiled and submitted to the Government quarterly. The problems of the schemes were solved satisfactorily by discussions between scientists and the Director of Research in two meetings held during the month of December-2014 and February -2015 for evaluation of expenditure of planned schemes and reallocation of the funds, *etc.*

State Programmes

Monitoring of research works is done through a set system in the University. The University jurisdiction is comprises of four Agro-climatic Zones *viz.*, North Saurashtra, South Saurashtra Agro-climatic Zones and partially North West and Bhal & Coastal Agro-climatic Zones. The authorities of Directorate of Research at Junagadh and Dry Farming Research Station, Targhadia coordinate, monitor and supervise the implementation of research programmes of various schemes in the

respective zones. The monitoring is carried out directly on field as well as through presentation of findings in various committees viz., 1) Zonal Research and Extension Advisory Committee (two Zones), 2) Agricultural Research Sub Committees (Eight discipline wise), 3), Joint Agricultural Research Sub Committee (One for all disciplines) and 4) Combined Joint Agricultural Research Sub Committee (One for four State Agricultural universities). All the committee meetings are held

regularly in every year to evaluate the progress of research works, research findings of each experiment, examination and scrutiny of new research programmes, examination and refining of findings to be delivered in the form of recommendations. The presentation of research results as well as reports for all research stations is mandatory. The reports are prepared separately for various committees. The functions and activities of various committees are given below.

Table 4.2 List of plan & non plan research project functioning in the university

(A) Plan Scheme (Sponsored by State Government of Gujarat):

Sr. No.	Budget Head	Scheme Name	Sanction Year	Location
1	12002-00	Strengthening of research in millet	1986	Pearl Millet Research Station, J.A.U., Jamnagar
2	12006-00	Strengthening of research in sorghum	1981	Cotton Research Station, J.A.U., Kukda
3	12007-00	Strengthening of research in pulses	1989	Pulse Research Station, J.A.U., Junagadh
4	12008-00	Strengthening of research in oilseed (Groundnut)	1986	Oilseed Res. Stat., JAU, Junagadh & Manavadar
5	12009-00	To establish a centre of excellence for cotton research	1986	Cotton Res. Stat. JAU, Junagadh; A.R.S., Amreli & Ratia
6	12013-00	Strengthening of scheme of vegetable research at Junagadh	1995	Vegetable Res. Station, J.A.U., Junagadh
7	12027-00	Scheme for management of salt affected soil & poor quality of under-ground water	1988	Dept. of Soil Sci. & Chemistry, JAU, Junagadh
8	12044-01	Research in bio-technology	1995	Dept. of Biochemistry, JAU, Junagadh
9	12078-00	Strengthening of research in dry-farming	1979	Dry Farming Res. Station, J.A.U., Targhadia & Ratia
10	12092-00	Strengthening of tissue culture research & development at all campuses	1990	Dept. of Pl. Breeding & Genetics, J.A.U., Junagadh
11	12094-00	Research for integrated pest management in fruit crops	1997	Dept. of Entomology, J.A.U., Junagadh
12	12095-00	Strengthening of horticultural research & development activities	1997	Dept. of Horticulture, J.A.U., Junagadh



Sr. No.	Budget Head	Scheme Name	Sanction Year	Location
13	12096-00	Research on micro irrigation system in Saurashtra region	1997	Dept. of Agronomy, J.A.U., Junagadh
14	12131-00	Research on eco-friendly biological fertilizer	1997	Dept. of Plant Pathology, J.A.U., Junagadh
15	12712-06	Creation of additional posts as per Supreme court orders	1991	Cattle Breeding Farm; COA, CAET, J.A.U., Junagadh & COF, J.A.U., Veraval
16	12712-5B	Campus development programme (on campus)	2004	Office of Director of Research, JAU, Junagadh
17	12903-00	Establishing organic farming cell at Junagadh	2000	Dept. of Agronomy, J.A.U., Junagadh
18	12905-00	Proposal for research on watershed management	2000	DFRS, J.A.U., Targhadia; GRS, J.A.U, Dhari & SWE, CAET, J.A.U., Junagadh
19	12907-00	Strengthening of agro-meteorology at JAU	2000	Dept. of Agronomy, J.A.U., Junagadh
20	12930-00	Establishment of new sub-center for research on cumin	1998	Agri. School, J.A.U, Halwad
21	12931-00	Establishment of new research centre on Onion crop	2003	Vegetable Res. Station, JAU, Junagadh & Fruit Res. Station, JAU, Mahuva
22	12573-00	Research on tillage technology	2006	Dept. of Agronomy, J.A.U., Junagadh
23	12574-00	Research on rejuvenation of degraded coastal agro-eco systems of Saurashtra	2006	Research Training & Testing Centre, J.A.U., Junagadh
24	12575-00	Strengthening Research in sesamum	2006	Agriculture Research Station, J.A.U., Amreli
25	12101-00	Centre of excellence on soil and water management	2006	Research Training and Testing Centre, J.A.U, Junagadh; DFRS, J.A.U., Targhadia; FRS, J.A.U., Mahuva & Mangrol
26	12576-00	Research on post harvest technology of important crops of Saurashtra	2006	Dept. of Food Processing & Engineering, CAET, J.A.U., Junagadh
27	12582-00	Strengthening of research on genetically modified cotton	2009	Cotton Research Station, J.A.U., Junagadh
28	12583-00	Strengthening of wheat research	2009	Wheat Research Station, J.A.U., Junagadh



Sr. No.	Budget Head	Scheme Name	Sanction Year	Location
29	12584-00	Strengthening research on castor	2009	Oilseed Research Station, J.A.U., Junagadh
30	12585-00	Strengthening research in sugarcane	2009	Sugarcane Research Station, J.A.U., Kodinar
31	12586-00	Strengthening of research in plantation and fruit crops at A.R.S.(Fruit Crops)	2009	Fruit Research Station, J.A.U., Mahuva
32	12587-00	Conservation of plant biodiversity	2009	Dept. of Pl. Breeding & Genetics, J.A.U., Junagadh
33	12588-00	Development of arid and semi-arid fruit crops	2009	Dept. of Horticulture, J.A.U., Junagadh
34	12590-00	Establishment of Bt cotton research centre at Surendranagar district	2011	Cotton Research Station, J.A.U., Kukda
35	12014-00	Establishment of spices research centre at Junagadh	2011	Vegetable Res. Station, J.A.U., Junagadh
36	12015-00	Establishment of biofertilizer unit at Junagadh	2011	Dept. of Plant Pathology, J.A.U., Junagadh
37	12018-00	Establishment of research centre on onion at Talaja Dist.: Bhavnagar	2011	Agriculture Research Station, J.A.U., Talaja
38	12019-00	Strengthening of dry farming research at Jam Khambhaliya	2012	DFRS, J.A.U., Jam Khambhaliya
39	12020-00	Strengthening of dry farming research at Vallbhipur	2012	DFRS, J.A.U., Jam Vallbhipur
40	12021-00	Establishment of mango research project at Talala	2012	Dept. of Horticulture, J.A.U., Junagadh
41	12022-00	Project on mega seed for quality seed production & distribution	2012	Dept. of Seed Science & Tech., JAU, Junagadh
42	12023-00	Micronutrients and sulphur research in soils and plants in Saurashtra region	2012	Dept. of Soil Science & Chemistry, J.A.U., Junagadh
43	12024-00	Centre of remote sensing and geoinformatics in agriculture	2012	Dept. of SWE, CAET, J.A.U., Junagadh
44	12025-00	Recycling of organic waste for sustainable soil productivity under dry land agriculture at Targhadia	2012	DFRS, J.A.U., Targhadia
45	12026-00	Project for research on forage crop production at Dhari	2012	Grassland Research Station, J.A.U., Dhari
46	12028-00	Aflatoxin and its management in groundnut at Saurashtra region of Gujarat	2013	Oilseed Research Station, J.A.U., Junagadh



Sr. No.	Budget Head	Scheme Name	Sanction Year	Location
47	12029-00	Molecular mapping of important traits and their transfer through marker assisted selection(MAS)in Groundnut and Cotton	2013	Dept. of Biochemistry, J.A.U., Junagadh
48	12030-00	Studies on effect of climate change on fruit crops of Saurashtra region	2013	Dept. of Horticulture, J.A.U., Junagadh
49	12303-05	Establishment of Gir cattle & Jaffrabadi buffaloes	1996	Cattle Breeding Farm, J.A.U., Junagadh
50	12953-00	Strengthening of livestock & veterinary component	2002	Cattle Breeding Farm, J.A.U., Junagadh
51	12303-14	Integrated farming system (Integrated farming combining crop livestock bio resources)	2009	Cattle Breeding Farm, J.A.U., Junagadh
52	12303-15	Establishment of bull mother farm of Gir cattle & Jaffrabadi buffaloes	2011	Cattle Breeding Farm, J.A.U., Junagadh
53	12950-00	Establishment and development of research in fisheries	2000	Fisheries Research Station, J.A.U., Okha
54	12577-00	Value added products from fish / shellfish	2006	College of Fisheries, J.A.U., Veraval
55	12578-00	Establishment of inland fishery research centre	2006	Inland Fisheries Research Station, J.A.U., Junagadh
56	12579-00	Establishment of pearl oyster hatchery	2009	Fisheries Research Centre, J.A.U., Sikka
57	12581-00	Feasibility of mass culture of marine red algae Kappaphycus alvarezii (Schimitz) on the Saurashtra region at west coast of India	2009	Fisheries Research Station, J.A.U., Okha
58	12016-00	Establishment of aqua-based research and training centre in coastal Saurashtra at Mahuva	2011	Fruit Research Station, J.A.U., Mahuva
59	12031-00	Crop improvement in papaya at Junagadh	2014	Dept. of Horticulture, J.A.U., Junagadh
60	12032-00	Integrated pest management in seed spices at Junagadh	2014	Dept. of Entomology, J.A.U., Junagadh
61	12033-00	Evaluation of pharmacological activity of indigenous medicinal plants of Saurashtra region	2014	College of Veterinary & Animal Husbandry, J.A.U., Junagadh
62	12034-00	Identification & documentation of marine fish biodiversity using mitochondrial DNA bar coding at Veraval	2014	College of Fisheries, J.A.U., Veraval

**(B) Non Plan Scheme (Sponsored by State Government of Gujarat):**

Sr. No.	B.H.	Name of Programme	Sanction Year	Location
1	3226	Scheme of Design Experiment	1980	Dept. of Agril. Statistic, J.A.U., Junagadh
2	5002	Scheme for Research in Bajra	1985	Main Pearl Millet Research Station, J.A.U., Jamnagar Agriculture Research Station, J.A.U., Talaja
3	5004	Scheme for Research in Wheat	1995	Wheat Research Station, J.A.U., Junagadh Fruit Research Station, J.A.U., Mangrol
4	5006	Scheme for Research in Sorghum	2011	Cotton Research Station, J.A.U., Kukada
5	5007	Project for the Research in Pulses	1975	Pulse Research Station, J.A.U., Junagadh
6	5008	Scheme for Oilseed Research	1962	Main Oilseeds Research Station, J.A.U., Junagadh
			1973	Agricultural Research Station, J.A.U., Amreli
			1985	Main Pearl Millet Research Station, J.A.U., Jamnagar
			1979	Main Sugarcane Research Station, J.A.U., Kodinar
			1979	Oilseed Research Station, J.A.U., Manavdar
7	5009	Scheme for Strengthening of Research in Cotton Investigation of Fiber Crops other than Cotton, Development of Remie Fibre.	1985	Agricultural Research Station, J.A.U., Amreli
			1985	Cotton Research Station, J.A.U., Khapat
			2002	Cotton Research Station, J.A.U., Junagadh
8	5011	Scheme for Research in Sugarcane.	1971	Main Sugarcane Research Station, J.A.U., Kodinar
9	5012	Scheme for Research in Grasses forage.	1985	Grassland Research Station, J.A.U., Dhari
10	5013	Strengthening of Research in Vegetable (Tomato)	1962	Vegetable Research Station, J.A.U., Junagadh
11	5014	Scheme for Research and Improvement in Fruit Crops.	1961-62	Fruit Research Station, J.A.U., Mangrol Agriculture Research Station (Fruit Crops), J.A.U., Mahuva Dept. of Horticulture, J.A.U., Junagadh



Sr. No.	B.H.	Name of Programme	Sanction Year	Location
12	5018	Scheme for Research Studies in Agriculture Economics.	1972	Dep. of Agril. Economics, J.A.U., Junagadh
13	5020	Scheme for Research in Agriculture Chemistry & Soil Science	1972	Dept. of Soil Science and Chemistry, JAU, Junagadh
14	5025	Project for the Research in Agronomy and Crop Husbandry	2005	Dept. of Agronomy, J.A.U., Junagadh
15	5026	Project for the Research in Pest Control and Other Entomological Aspect	1960	Dept. of Entomology, J.A.U., Junagadh
16	5042	Strengthening of Dry Farming Research Station	1965	Dry Farming Research Station, J.A.U., Ratia
			1979	Main Dry Farming Res. Station, J.A.U., Targhadia
			1967	Dry Farming Res. Station, J.A.U., Jam-Khambhalia
			1964	Dry Farming Research Station, J.A.U., Vallbhipur
			2011	Cotton Research Station, J.A.U., Kukada
			1975	Grass Land & Agricultural Res. Station, J.A.U., Dhari
			1947-48	Megaseed Project, J.A.U., Sagdividi
			1995	Cotton Research Station, J.A.U., Khapat
			1967	Dept of Agronomy, J.A.U., Junagadh
17	5044	Project for the Research in Plant diseases and other Pathological Aspect	1985-86	Dept. of Plant Pathology, J.A.U., Junagadh
18	5046-A	Study of Biology Investigation & Control of weed control, Botanical garden and Cytogenesis	1969	Dept. of Genetics and Plant Breeding, J.A.U., Junagadh
	A			
	B			
	C			
19	5073	Research in Agricultural Engineering	1962-63	Res. Training and Testing Center, J.A.U., Junagadh
20	5075	Establishment of Seed Technology Cell.	1981	Directorate of Research, J.A.U., Junagadh
21	7082-A	National Agriculture Research Project	1987	Main Oilseed Research Station, J.A.U., Junagadh
	7082-B	National Agriculture Research Project	1995	Dry Farming Res. Station, J.A.U., Jam- Khambhalia
	7082-B	National Agriculture Research Project	1988	Pearl Millet Res. Station, J.A.U., Jamnagar
	7082-C	National Agriculture Research Project	1982	Grassland Research Station, J.A.U., Dhari



Sr. No.	B.H.	Name of Programme	Sanction Year	Location
22	9091	NARP Scheme Phase-II	1989	Cattle Breeding Farm, J.A.U., Junagadh
23	9091-9	NARP Scheme Phase-II	1989	Cattle Breeding Farm, J.A.U., Zonpur(JND)
24	5353	Livestock Research Station	1978	Cattle Breeding Farm, J.A.U., Junagadh
25	7253	Strengthening Research in Veterinary Science & Animal Husbandry	1986	Cattle Breeding Farm, J.A.U., Junagadh
26	5302	State farm for Gir and Kankarej Cattle	1949	Cattle Breeding Farm, J.A.U., Junagadh

Zonal Research Extension Advisory Committee (ZREAC):

This committee is functioning at zonal level of South Saurashtra & North Saurashtra Agro-climatic Zones and two meetings are organized in the year viz., *Kharif* and *Rabi summer*. The research programmes/works carried out in different schemes/projects are presented by scientists in the meeting. The power point presentation is made in the house for thorough discussion and refinement of each ongoing project. In this meeting, more than 150 scientists from different disciplines as well as officers from line departments are participating and debating on the results of the projects as well as suggest improvement in new technical programmes

for future research work. The officers from the line departments are also presenting feed back as well as over all agriculture situations in their regions. They also suggest the inputs for new area of research. It is the multidisciplinary task to evaluate the research results of different disciplines.

During 2014-15 year, four meeting of ZREAC were organized; two each at Junagadh and Targhadia. In both ZREAC meeting, eight varieties, 48 farmers recommendations, 18 scientific recommendations and 65 new technical programmes were approved (Table-4.3). The feedbacks as well as suggestions were also received from the officers of line departments.

Table 4.3 Zonal Research Extension Advisory Committee (ZREAC) meeting organized during 2014-15

Name of Meeting	Held at	Date of organization	No. of participants	No. of recommendations approved		New Technical Programmes
				Farmers	Scientific	
North Saurashtra Agro-climatic Zones (Zone-VI)						
21 st ZREAC (<i>Rabi summer</i>)	Targhadia	October 16, 2014	55	1*+2	-	-
22 nd ZREAC (<i>Kharif</i>)	Targhadia	January 21, 2015	58	04	-	08
South Saurashtra Saurashtra Agro-climatic Zones (Zone-VII)						
21 st ZREAC (<i>Rabi summer</i>)	Junagadh	October 09-10, 2014	136	5*+19	03	13
22 nd ZREAC (<i>Kharif</i>)	Junagadh	January 07-08, 2015	146	2*+23	15	44
Total...				8*+48	18	65

* Variety released



22nd ZREAC Meeting



22nd ZREAC Meeting (*Kharif*) organized under chairmanship of Dr. A. Y. Desai, Director of Research, JAU, Junagadh, on January 07-08, 2015 at JAU, Junagadh

Agricultural Research Sub Committees (AGRESCO discipline wise):

There are nine sub-committee of research functioning in the University to manage the research activities mentioned herein:

Table 4.4 Agricultural Research Sub Committees

Sub-Committee	Subjects area of research
Crop Improvement	Development of variety and maintenance of germplasm of mandate crops.
Crop Production	Agronomy & Soil Science, Weed Control.
Plant Protection	Entomology & Plant Pathology.
Horticulture & Agro Forestry	Fruit, Vegetable, Flower and Spices.
Agricultural Engineering	Soil and Water Engineering, Farm Machinery and Power, Renewable Energy and Rural Engineering, Post Harvest Technology, Agro-Processing and Research Training & Testing Centre.
Fisheries Science	Resource Management, Post Harvest Technology, Aquatic Environment, and Aquaculture.
Animal Science	Breeding, Animal Nutrition, Live Stock Production & Management, Anatomy, Medicine & Surgery, Animal Genetics & etc.
Basic Science	Biochemistry, Biotechnology, Plant Physiology & Seed Technology.
Social Science	Agricultural Economics, Agril. Extension Education, Agril. Engg. Extension Education, Agril. Statistics and ABM.



The members of the committees are senior scientists of the University working in various department/projects, subject matter specialists and representatives of state line departments. The conveners of all committees are nominated by the Director of Research for two years to organize the meeting and also issuing the proceedings. The meeting of all committees is held annually to discuss and to evaluate the research results. The members also discuss the new technical programmes as well as the recommendations for farmers and scientific community. The scientists presenting the results of various schemes will refine the reports, recommendations and new programmes for ensuing season. The suggestions made in the meetings are incorporated in the reports. The committee is

consisting of senior scientists as a member. Hence, the proposals and programmes pertaining to the various disciplines is discussed critically, debated meticulously and the suggestions and ideas from senior scientists are incorporated. The conveners of various sub committees present the proceedings in the joint AGRESKO meeting.

The Agricultural Research Sub Committees were held during February to March 2015 at Junagadh. Eight new crop varieties, 53 recommendations for farmers and 26 recommendations for Scientific Community and 66 new technical programmes were approved. The reports of work carried out in the various research schemes of the University were also presented and approved.

Table 4.5 Various AGRESKO Subcommittee held at JAU, Junagadh

Name of the Sub-Committee	Held at	Date of organization	No. of participant	No. of Recommendations		New Technical Programme
				Farmer	Scientific	
Social Science	Junagadh	February 20, 2015	31	-	-	07
Animal Science	Junagadh	February 20-21, 2015	37	02	09	06
Fisheries Science	Junagadh	February 20-21, 2015	27	03	05	07
Basic Science	Junagadh	February 19-20, 2015	31	04	05	09
Horticulture & Agro forestry	Junagadh	February 27, 2015	31	04	-	03
Plant Protection	Junagadh	February 25-26, 2015	40	20	01	20
Agricultural Engineering	Junagadh	February 19-20, 2015	35	05	03	06
Crop Production	Junagadh	March 09-10, 2015	44	15	03	08
Crop Improvement	Junagadh	March 12-13, 2015	45	8*	-	-
Total...				8*+53	26	66

* Variety released



Joint AGRESKO Committee:

The meeting of this committee is held annually to discuss research proposals and results. The committee finalizes the recommendations and new programmes to be undertaken in various disciplines. This committee comprises of the Director of Research, Associate Director of Research, the senior scientists of various disciplines, representatives of line departments *etc.* finalize the programmes. The conveners of various AGRESKO present the findings of their respective committees for approval. This committee meeting is presided over by the Hon'ble Vice Chancellor. Joint AGRESKO will finalized the recommendations and new technical programmes for research, which is to

be presented in the ensuing 11th Combined Joint AGRESKO Committees of State Agricultural Universities.

The 11th Joint AGRESKO meeting was held in the seminar hall of College of Agricultural Engineering & Technology, Junagadh Agricultural University, Junagadh on March 24, 2015 under the Chairmanship of Dr. A. R. Pathak, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh. All AGRESKO conveners of various committees presented their reports and approved. Total 90 scientists of various disciplines and Officers of line department of Gujarat States attended the meeting.

Table 4.6 11th Joint AGRESKO meeting of JAU held on March 24, 2015 at JAU

Name of the Sub-Committee	No. of Recommendations for		New Technical Programme
	Farmer	Scientific	
Crop Improvement	8*	-	-
Crop Production	15	01	08
Plant Protection	20	01	20
Horticulture & Agro forestry	04	-	03
Agricultural Engineering	05	03	06
Animal Science	02	09	06
Fisheries Science	03	05	07
Basic Science	04	05	09
Social Science	-	-	07
Total:	8*+53	24	66

* Variety Release

Combined Joint Agricultural Research Sub Committee (One for four State Agricultural Universities):

This is the apex body to finalize the research recommendations at state level as well as the new technical programmes. The meeting is held annually at the venues in the rotational mode. The members of this committee include Hon'ble Vice Chancellor, Director of Research, Director of Extension Education, Associate Director of Research, Conveners of various AGRESKO Sub Committees

and senior scientists of various disciplines of all State Agricultural Universities. The Hon'ble Chief Secretary, Department of Agriculture and Cooperation, Govt. of Gujarat, Director of Agriculture, Director of Horticulture, Director of Animal Husbandry are members of this meeting. Hon'ble Minister of Agriculture and Cooperation, Govt. of Gujarat also attends this meeting. Separate sessions are organized discipline-wise, in which conveners of various AGRESKO sub committees present the reports of their respective universities. In

the concluding session, the conveners from each sub-committee present the final report of research in the meeting. The output of research in the form of recommendations/ technologies is published in the form of proceedings and supplied to the all concerned for implementation.

The 11th Combined Joint meeting of Agricultural Research Council (AGRESCO-2015) of SAUs of Gujarat was held at Anand Agricultural University, Anand during April 07-09, 2015. Dr. K. B. Kathiria, Director of Research, AAU, Anand welcomed the dignitaries, invited guests, conveners of various sub-committee and scientists. Dr. N. C. Patel, Hon'ble Vice Chancellor of AAU, Anand welcomed the dignitaries by offering the rose flowers a symbol of love and affection. The Combined Joint AGRESCO meeting of SAUs of Gujarat was inaugurated by lighting the lamp by Hon'ble Minister of Agriculture Shri Babubhai Bokhriya and other dignitaries. Then Hon'ble Minister of Agriculture was felicitated by Dr. N. C. Patel, Hon'ble Vice chancellor of AAU, Anand. The august gathering was addressed by Dr. A. J. Kachhiya Patel, Director of Animal Husbandry and Dr. B. R. Shah, Director of Horticulture, Govt. of Gujarat, Gandhinagar, Dr. A. R. Pathak, Hon'ble Vice Chancellor of JAU, Junagadh, Dr. C. J. Dangariya, Hon'ble Vice Chancellor of NAU, Navsari, Dr. A. A. Patel, Hon'ble Vice Chancellor of

SDAU, Sardarkrushinagar, Prof. M. C. Varshneya, Hon'ble Vice Chancellor of Kamdhenu University, Gandhinagar and Dr. N. C. Patel, Hon'ble Vice Chancellor of AAU, Anand. Shri Jaswantsinh Solanki, President District Panchayat, Anand and Hon'ble Minister of Agriculture Shri Babubhai Bokhriya also addressed the gathering.

Dr. A. R. Pathak, Hon'ble Vice Chancellor of JAU, Junagadh expressed his views about the research work carried out by the scientists. He stressed the importance of farming system approach and to work in coordinated manner rather to work in isolated condition. Moreover, on behalf of SAUs of Gujarat, he expressed thank to Shri Babubhai Bokhriya for his sincere efforts for giving the permission to fill up the vacant posts in the agricultural universities.

In the 11th Combined Joint AGRESCO Meeting, Eight varieties *viz.*, Gram (GJG 6), Pigeonpea (GJP 1), Sesame (GJ Til 5), Brinjal (GJLB 4 & GJBH 4), Sponge gourd (GJSG 2), Okra (GJOH 4) and Onion (GJRO 11) were recommended for release in the state. Besides, 45 technologies/ recommendations were made for farmers and 32 recommendations were made for Scientific Community. In addition, as many as 66 new technical programmes were formulated to initiate the new research programmes for the solutions of the applied and basic problems of agriculture and allied fields.



Inauguration Function of 11th Combined Joint AGRESCO Meeting of SAUs held on April 07-09, 2015 organized by AAU, Anand



All India Coordinated Research Projects (AICRPs)

Apart from the mechanism of evaluating and monitoring the research programmes/schemes at University level; the projects sanctioned by Indian Council of Agricultural Research, the Annual Workshops and review meetings in different universities in India are organized. In Junagadh Agricultural University, 21 AICRP Projects are operating. The results of each project are regularly presented in the annual workshops/group meetings. The monitoring of the projects is also carried out by

respective Project Directors every year at field level. After five years, the evaluation of performance of each research project is also carried out by QRT Committee comprising of leading senior scientists nominated by the ICAR. The research scientist of the project will present results to the quinquennial review team (QRT). All AICRP projects operating in the Junagadh Agricultural University are regularly reviewed and monitored as per the ICAR norms. They identify and evaluate the performance of the research projects according to national standards.

Table 4.7 Monitoring of AICRP trial at JAU, Junagadh

Name of Project	Department / Research Station	Date of monitoring team visit	Name and Designation of monitoring team
All India Network Research Project on Onion and Garlic	Vegetable Research Station, JAU, Junagadh	April 24, 2014	Dr. A. J. Gupta, Senior Scientist (Horti.), AINRPOG, Rajgurunagar, Pune
AICRP - Groundnut	Main Oilseed Research Station, JAU, Junagadh	September 15, 2014	Dr. S. C. Patil & Team, Principal Groundnut Breeder, ARS, Jalgaon
AICRP - Pearl millet	Pearl millet Research Station, JAU, Jamnagar	September 21-22, 2014	1. Dr. G. L. Yadav, Professor (Agron.), ARS, Jaipur 2. Dr. L. D. Sharma, Professor (PB & G), ARS, Jaipur 3. Dr. A. C. Mathur, Professor (Patho.), ARS, Jaipur 4. Dr. R. C. Meena, Asstt. Prof. (Physio.), ARS, Jaipur 5. Dr. B. L. Tandi, Professor (Ento.), ARS, Jaipur
All India Coordinated Cotton Improvement Project	Cotton Research Station, JAU, Junagadh	November 08, 2014	1. Dr. P. L. Nehra, Professor & PI, AICCIP (Agron.), ARS, RAU, Srigangarnagar 2. Dr. Pardeep Kumar, Pathologist, AICCIP (Cotton), ARS, RAU, Srigangarnagar 3. Dr. M. Gunasekaram, Senior Cotton Breeder, Tamilnadu Agril. Uni., Srivilliputtur, (Tamilnadu) 4. Dr. N. V. V. S. Durgaprasad, Senior Entomologist, ARS, Acharya N. G. Ranga Agril. Uni., Lam Farm, Guntur (AP)



Name of Project	Department / Research Station	Date of monitoring team visit	Name and Designation of monitoring team
AICRP - Castor	Main Oilseed Research Station, JAU, Junagadh	November 26, 2014	1. Dr. K. S. Varaprasad, Project Director, 2. Dr. A. J. Prabhakaran, Principal Investigator
AICRP on LTFE	Dept. of Agril. Chemistry & Soil Science, JAU, Junagadh	December 05-08, 2014	1. Dr. Pradip Dev, Project Coordinator, AICRP on STCR and 2. Dr. Muneshwar Singh, Project Coordinator, AICRP on LTFE
AICRP on Pigeon pea	Pulses Research Station, JAU, Junagadh	December 13, 2014	1. Dr. M. N. Singh, Professor (PB), BHU, Varanasi 2. Dr. R. S. Singh, Professor (Agron.), BHU, Varanasi 3. Dr. Ram Keval, Assistant Professor (Ento.), BHU, Varanasi
AICRP on Chickpea	Pulses Research Station, JAU, Junagadh	February 18, 2014	Dr. Vijay Prakash, Professor, SKRAU, Sriganganagar

Table 4.8 list of AICRPs functioning in University (ICAR 75% & State Govt. 25%)

No.	Budget Head	Scheme Name	Sanction Year	Location
1	2002-00	A.I.C.R.P. on Pearl Millet	1969	Pearl Millet Research Station, J.A.U., Jamnagar
2	2004-00	A.I.C.R.P. on Wheat	1987	Wheat Research Station, J.A.U., Junagadh
3	2008-01G	A.I.C.R.P. on Groundnut	1987	Oilseed Research Station, J.A.U., Junagadh
4	2008-1C	A.I.C.R.P. on Castor	1968	Oilseed Research Station, J.A.U., Junagadh
5	2008-1SM	A.I.C.R.P. on Sesame	1986	Agriculture Research Station, J.A.U., Amreli
6	2009-00	A.I.C.R.P. on Cotton	1967	Cotton Research Station, J.A.U., Junagadh
7	2013-01	A.I.C.R.P. on Vegetable	1988	Vegetable Res. Station, J.A.U., Junagadh
8	2258-D	A.I.C.R.P. on Farm Implements & Machinery	2015	Dept. of Farm Machinery & Power, CAET & Technology, J.A.U., Junagadh



No.	Budget Head	Scheme Name	Sanction Year	Location
9	2030-01	A.I.C.R.P. on Long Term Fertilizer Experiments	1999	Dept. of Soil Science & Chemistry, J.A.U., Junagadh
10	2040-00	A.I.C.R.P. on Cropping System Research (CSR Sub Centre).	1989	Dept. of Agronomy, J.A.U., Junagadh
11	2042-01	A.I.C.R.P. on Dry land Agriculture	1971	DFRS, J.A.U., Targhadia
12	2076-02	A.I.C.R.P. on BSP-NSP Seed Technology Rescarch	1984	Pearl Millet Research Station, J.A.U., Jamnagar
13	2258-00	A.I.C.R.P. on Post Harvest Technology	1980	Dept. of Post Harvest Technology, CAET, J.A.U., Junagadh
14	2374-00	A.I.C.R.P. on Chickpea	1993	Pulse Research Station, J.A.U., Junagadh
15	2374-05	A I C R P on Pegionpea	2000	Pulse Research Station, J.A.U., Junagadh
16	2258-B	A.I.C.R.P. on Plasticulture Engineering & Technologies	2005	Dept. of Renewable Energy, CAET, J.A.U., Junagadh
17	2258-A	A.I.C.R.P. on Ground Water Utilization	2004	Dept. of Soil & Water Engineering, CAET, J.A.U., Junagadh
18	2305-03	Network Project on Buffaloes At CBF	2001	Cattle Breeding Farm, J.A.U., Junagadh
19	2303-08	Gir Germ Plasm Unit	2009	Cattle Breeding Farm, J.A.U., Junagadh
20	2303-09	Gir Data recording Unit	2009	Cattle Breeding Farm, J.A.U., Junagadh



Adhoc Research Projects

The university is also undertaking various adhoc research projects of ICAR, Govt. of India, Govt. of Gujarat, and Private Agencies. According to their terms and conditions, research work is carried out and research report is submitted to concern funding agency.

Table 4.9 List of Adhoc research project functioning in the university

No.	Budget Head	Scheme Name	Sanction Year	Sponsoring Agency	Location
1	18008-43	Development and Promotion of Promising Varieties/ Lines with High Yield and High Oil Content with Enhanced O/L Ratio for Enhancing Production and Quality of Groundnut Oil in Drought-Prone Environments to Boost the Income of Small and Marginal Groundnut Farmers in India.	2011	ICRISAT, Hyderabad	Oilseed Research Station, J.A.U., Junagadh
2	18057	Harnessing Opportunities for Productivity Enhancement (HOPE) of Millet.	2009	ICRISAT, Hyderabad	Pearl Millet Res. Station, JAU, Jamnagar/ Dept. of Economics, JAU, Junagadh
3	18005-10	Genetically Enhanced Micronutrient-Dense Pearl Millet Grains for Improved Human Nutrition in the India”	2010	ICRISAT, Hyderabad	Pearl Millet Research Station, J.A.U., Jamnagar
4	18246-99	Screening of High Biomass Populations Breeding Lines and Hybrids in Gujarat	2013	ICRISAT, Hyderabad	Pearl Millet Research Station, J.A.U., Jamnagar
5	18053	Scheme for Creating Permanent Machinery for Studying the Cost of Cultivation/ Production of Principal Crops Grown in Gujarat State(Non Plan under DAG)	1984	DAG, Govt. of Gujarat	Dept. of Economics, J.A.U., Junagadh



Sr. No.	Budget Head	Scheme Name	Sanction Year	Sponsoring Agency	Location
6	18005-04, 05 & 15	Agricultural Demonstration Activities in SSP Command Area Ph-II	2010	SSNNL, Govt. of Gujarat	DFRS, JAU, Jam Khambhaliya/ Vallbhipur, Agri. School, J.A.U, Halwad
7	18311-12	Mapping and Marine Fish Biodiversity along the Veraval Coast Using mtDNA Barcoding.	2012	GSBTM, Govt. of Gujarat	College of Fisheries, J.A.U., Veraval
8	18024-11	Biochemical and molecular characterization of Bacillus spp. isolated from rhizosphere of plants and their biocontrol potentials against Fusarium oxysporum f. sp. cumini	2014	GOG	Department of Biochemistry, J.A.U., Junagadh
9	18005-01	Experimental Agro-met Advisory Services	1996	GOI	Dept. of Agronomy, JAU, Junagadh/ DFRS, J.A.U., Targhadia
10	18126-02	Centrally Sponsored Scheme (Spices)	2006	GOI	Vegetable Research Station, JAU, Junagadh
11	18127-00	Seed Production in Agricultural Crops and Fisheries	2006	GOI	(Oilseeds-Megaseeds), JAU, Junagadh
12	18127-00	Seed Production in Agricultural Crops and Fisheries(Oilseeds Megaseeds)	2006	GOI	(Oilseeds-Megaseeds), JAU, Junagadh
13	18803-01to 12	Megaseed Revolving Fund	2006	GOI	(Oilseeds-Megaseeds), JAU, Junagadh
14	18804-01to 04	Seed Production in Agricultural Crops	2006	GOI	(Oilseeds-Megaseeds), JAU, Junagadh
15	18005-06	Forecasting Agricultural Output Using Space, Agro meteorology and Land Based Observations (FASAL)	2011	GOI	Dept. of Agronomy, J.A.U., Junagadh
16	18303-08	Strengthening of Feed Testing Laboratory at CBF	2013	GOI	Cattle Breeding Farm, J.A.U., Junagadh



No.	Budget Head	Scheme Name	Sanction Year	Sponsoring Agency	Location
17	18025-04	Effect of Optically Active Substances on Diversity in Phytoplankton Community Structure of Gujarat.	2013	GOI	Fisheries Research Station, J.A.U., Okha
18	18025-05	Ocean State Forecast Validation and Research (off Okha and Veraval coasts of Gujarat).	2013	GOI	Fisheries Research Station, J.A.U., Okha
19	18003-10	Utilization of Chickpea Genome Sequence for Crop Improvement	2014	GOI	Pulse Research Station, J.A.U., Junagadh
20	18246-94	Enzymatic pre-treatment in the processing of pigeon pea	2014	GOI	Dept. of Food Processing & Engg., CAET, JAU, Junagadh
21	18055	Estimation of Coconut Yield and Production in the State of Gujarat	2015	GOI	Dept. of Economics, JAU, Junagadh
22	2012	All India Network Research Project on Onion and Garlic	2009	ICAR-Network	Vegetable Research Station, JAU, Junagadh
23	2030-2	Soil Test Based Fertilizers Application for Targeted Yield of Bt Cotton in Saurashtra region of Gujarat	2010	ICAR-Network	Dept. of Ag. Chemistry Soil Science &, J.A.U., Junagadh
24	2042-02	National Initiative on Climate Resilient Agriculture-Dry land	2011	ICAR-Network	Dry Farming Research Station, J.A.U., Targhadia
25	2044-14	National Initiative for Climate Resilient Agriculture-Ground Water	2011	ICAR-Network	Dept. of SWE, CAET, J.A.U., Junagadh
26	2002-03	National surveillance programme for aquatic animal diseases	2013	ICAR-Network	College of Fisheries, J.A.U., Veraval
27	2002-5	Implementation of Protection of Plant Varieties and Farmer's Rights Legislation	2002	ICAR-Network	Pearl Millet Research Station, J.A.U., Jamnagar



No.	Budget Head	Scheme Name	Sanction Year	Sponsoring Agency	Location
28	2305-05	National Initiative on Climate Resilient agriculture (NICRA)-Cattle.	2012	ICAR-Network	Cattle Breeding Farm, J.A.U., Junagadh
29	2027-04	Network Project on Market Intelligence.	2013	ICAR-Network	Dept. of Economics, JAU, Junagadh
30	2004-1	Project for Frontline Demonstration in Wheat		ICAR-Network	Wheat Research Station, J.A.U., Junagadh
31	2008-3	Project for Frontline Demonstration in sesame	2007	ICAR-Network	Agriculture Research Station, J.A.U., Amreli
32	2008-11	Need Based Research on AICRP on Castor	-	ICAR-Network	Oilseed Research Station, JAU, Junagadh
33	2008-12	Scheme for Breeder Seed Production of Oilseeds Crops (ICAR Revolving Fund)	2007	ICAR-Network	Oilseed Research Station, J.A.U., Junagadh
34	2009-1	Remittance of TMC-MM-1 (Cotton)	2007	ICAR-Network	Cotton Res. Station, J.A.U., Junagadh
35	2009-6	Front Line Demonstration on cotton	2001	ICAR-Network	Cotton Res. Station, J.A.U., Junagadh
36	2076-3	Central Sector Special Food Grain Production of Breeder Seed (Revolving Fund)	-	ICAR-Network	Pulse Research Station, J.A.U., Junagadh
37	2076-5	R & D efforts on Hybrid Selected Crops	2002	ICAR-Network	Pearl Millet Res. Station, JAU, Jamnagar
38	2254	Study Storage Losses of Food Grains	2013	ICAR-Network	Dept. of Food Processing & Engg., CAET, J.A.U., Junagadh
39	2255	AICRP on GWU under TSP component	-	ICAR-Network	Dept. of SWE, CAET, J.A.U., Junagadh
40	2255-A	AICRP on PHT		ICAR-Network	Dept. of Food Processing & Engg., CAET, J.A.U., Junagadh
41	2256	Assessment of Harvest and Post Harvest Losses of Major Crops	2013	ICAR-Network	Dept. of Food Processing & Engg., CAET, J.A.U., Junagadh
42	2259	Testing Fees for Conduct of AICMIP	2002	ICAR-Network	Pearl Millet Res. Station, JAU, Jamnagar/ Agri. Res. Station, JAU, Talaja

No.	Budget Head	Scheme Name	Sanction Year	Sponsoring Agency	Location
43	2374-1	FLD on Chickpea	-	ICAR-Network	Pulse Res. Station, J.A.U., Junagadh
44	2374-6	FLD on Pigeon pea	-	ICAR-Network	Pulse Research Station, JAU, Junagadh
45	2504-00	Revolving Fund Horticulture(Nursery)	-	ICAR-Network	Dept. of Horti., J.A.U., Junagadh
46	2704-40	Project for Frontline Demonstration on Groundnut	1999	ICAR-Network	Oilseed Res. Stat., JAU, Junagadh/ Agri. Res. Station, JAU, Amreli
47	2704-43	Project for Frontline Demonstration in Pearl millet	1989	ICAR-Network	Pearl Millet Research Station, J.A.U., Jamnagar
48	2002-07	Consortia Research Platform (CRP) on Biofortification	2014	ICAR-Network	Pearl Millet Research Station, J.A.U., Jamnagar



4.3 Crop Improvement

4.3.1 New crops varieties

Eight varieties *viz.*, Gram (GJG 6), Pigeonpea (GJP 1), Sesame (GJ Til 5), Brinjal (GJLB 4 & GJBH 4), Sponge gourd (GJSG 2), Okra (GJOH 4) and Onion (GJRO 11) were recommended for farmers of the state which are briefed herein.

Gram: Gujarat Junagadh Gram 6 (GJG 6)

This variety has produced (1867 kg/ha) 13.6, 21.9 and 5.2 per cent higher seed yield over check varieties Gujarat Gram 1 (1643 kg/ha), Gujarat Gram 2 (1531 kg/ha) and Gujarat Junagadh Gram 3 (1775 kg/ha), respectively. Seeds of this variety are of medium size and dark brown in colour with 19.9 per cent protein. This variety is resistant to wilt (8.7 % in wilt sick plot) and stunt (5.0 %) diseases. It is recommended for release in Gujarat under rainfed condition.



Pigeonpea: Gujarat Junagadh Pigeonpea 1 (GJP 1)

This variety has produced (2115, 2045 & 1987 kg/ha) 38.8, 10.1 and 27.6 per cent higher seed yield over check varieties, BDN 2 (1524 kg/ha), ICPL 87119 (1858 kg/ha) and Vaishali (1557 kg/ha), respectively. This variety is medium late (176 days) in maturity. Gujarat Junagadh Pigeonpea 1 (GJP 1) is also found moderately resistant to wilt (13.89 %) and SMD (13.89 %) disease. The seeds of this variety are bold in size with white colour. This variety is recommended for Gujarat state.



Sesame: Gujarat Junagadh Til5 (GJ Til 5)

This variety recorded the seed yield of 1241 kg/ha which was 22.4 per cent higher than the check variety Gujarat Til 3 (1014 kg/ha). Oil yield of proposed variety was 22.2 per cent higher than Gujarat Til 3. Proposed variety matured in 91 days and contains 46.98 per cent oil in its seeds, which are white in colour and bolder in size. This variety was approved by the house for cultivation in summer season.



Brinjal: Gujarat Junagadh Long Brinjal 4 (GJLB 4)

This variety had recorded a mean fruit yield of 396 q/ha which was 30.8 and 25.8 per cent higher over check varieties GOB 1 (302.7q/ha) and GBL1 (314.7q/ha), respectively. The little leaf disease (5.08 %) was less as compared to check variety GOB1 (6.15%). Jassid (3.04/leaf), whitefly (4.70/leaf) and fruit borer (11.05 %) were less as compared to check variety GOB1. The protein (1.51 %) and total soluble sugar (3.36 %) were also more than check varieties. The fruits of GJB4 are medium in size with long shape and light purple colour with good shining. It is recommended for release in Gujarat state.



Brinjal: Gujarat Junagadh Brinjal Hybrid 4 (GJBH 4)

This hybrid gave a mean fruit yield of 428 q/ha which was 14.1 and 25.7 per cent higher over hybrid checks GBH2 (375.08 q/ha) and ABH1 (340.57 q/ha), respectively. It has also recorded 6.6 and 7.7 per cent higher fruit yield than the private hybrids Navina (VNR Seeds) and ARBH201 (Ankur Seeds), respectively. The little leaf disease (4.42%) was less as compared to check variety GBH2 (4.98%). The damage due to jassid (2.84/leaf), whitefly (3.93/leaf) and fruit borer (4.93 %) were less as compared to hybrid checks. The protein (1.48 %) and total soluble sugar (3.33 %) were more as compared to hybrid checks. The fruits of this hybrid are medium in size with oblong shape and pink purple colour with good shine. It is recommended for release in Saurashtra and Middle Gujarat.



Sponge gourd: Gujarat Junagadh Sponge Gourd 2 (GJSG 2)

This variety had recorded a mean fruit yield of 114.04 q/ha, which was 18 and 19.2 per cent higher than state check variety GSG1 (96.60 q/ha) and National check variety Pusa Chikni (95.69 q/ha). Further, mosaic (18.25 %), downy mildew score (2.35), fruit fly damage (12.86 %) and leaf miner larvae (5.61/leaf) were less as compared to check varieties. The pulp/skin ratio (12.393), total soluble solids (6.25 %), total soluble sugar (1.67 %), protein (0.218 %) and chlorophyll total (1.53 mg/g) were more as compared to check varieties. The fruits of

GJSG 2 are long in size, green colour with good shine. It is recommended for release in Gujarat.



Okra: Gujarat Junagadh Okra Hybrid 4 (GJOH 4)

This hybrid recorded a mean fruit yield of 135.94 q/ha, which was 46.9 per cent higher over check variety Pusa Sawani (92.50 q/ha) while with hybrid check the GJOH4 recorded 145.74 q/ha fruit yield which was 23.9 per cent higher than GJOH3 (117.67q/ha). It also yielded 17.1, 28 and 30.7 percent higher yield over one private check HOK152 and two public sector checks Arka Anamika and Pusa Sawani, respectively. The yellow vein mosaic (36.71%) was found less as compared to check variety Gujarat Okra Hybrid 2 (46.15 %). The jassid (5.26), thrips (4.79), white fly (4.76) and fruit borer (4.66 %) damage were less than check varieties. The pods of this hybrid are medium dark green, tender, long and attractive. It is recommended for release in Gujarat.



Onion: Gujarat Junagadh Red Onion 11 (GJRO 11)

This variety had recorded a mean bulb yield of 323.55 q/ha which was 21.6, 18.7 and 15.4 per cent higher over check varieties AGFL-Red