

❖ **Research Activities:**

Crop Improvement:

1. Strengthening of genetic resources, which include collection, evaluation and maintenance of germplasm for making use in breeding programme.
2. Testing of newly developed genotypes under various categories of trials such as PET, SST, LST and AVT in timely and late sowing conditions.
3. Seed multiplication of different varieties on large scale to cater the need of farmers and various seed producing agencies.
4. Dissemination of the newly developed varieties and technologies through demonstrations.
5. Screening of high temperature tolerance culture of Wheat crop for South Gujarat

Resource Management:

(1) To find out Performance of paddy based cropping sequence in presence and absence of Green Manure.

(2) To test the response of genotypes to limited irrigations in Wheat

Contribution in release of Varieties :

Bardoli station has contributed in released of following wheat&Paddy varieties from Vijapur (Main wheat Res. Stn.) and Navsari(NARP)&Navagam(Main Rice Res.St.).

Sr. No.	Name of crop	Name of Verities	Year of released	Chief characteristics
1	Wheat	GW366	2005-06	Suitable for timely irrigated cond.for central Zone
2	Paddy	GR 12	2005-06	Early Maturing,Kolam type,Fine grain
3	Wheat	GW273	2006-07	Suitable for timely irrigated cond.for central Zone
4	Wheat	GW-11	2009-10	Suitable for timely sowing with limited irrigation (3 irrigation)
5	Paddy	GAR 13	2009-10	Midlate Maturing, fine grain
6	Paddy	GNR-2	2010-11	Salt tolerant, Fine Grain, Superior over GR-11 non scented with good cooking quality
7	Paddy	GNR-3	2011-12	GNR-3 especially suitable for <i>poha</i> making. It gives 18% more yield than Gurjari.
8	Paddy	GAR 2	2011-12	Irrigated TP ,long slander fine type, Early. It gives 23% more yield than GR.4
9	Paddy	GAR 3	2013-14	Mid Early,Fine , It gives 11.1% more yield than GR.11
10	Wheat	GW 451	2014-15	Suitable for timely irrigated cond.for central Zone

Wheat Research Station, Navsari Agricultural University, Bardoli
Details of Seed Production (2003-16)

S.N.	Year	Season	Corp	Variety	Stage	Area (Ha)	producti on(Kg)	Productivi ty kg/ha
1	2003-04	Kharif	Paddy	GR-3	Certified	0.73	3800	5205
			-"-	Gurjari	-"-	3.32	15890	4786
			-"-	Jaya	-"-	3.38	21350	6317
		Rabi	Wheat	Lok-1	Breeder	1.84	5165	2807
2	2004-05	Kharif	Paddy	GR-3	Certified	0.65	2870	4415
			-"-	Gurjari	-"-	2.15	8540	3972
			-"-	Jaya	-"-	4.60	25750	5598
		Rabi	Wheat	GW-496	Foundation	1.00	2550	2550
		-"-	Lok-1	Certified	2.95	7900	2678	
3	2005-06	Kharif	Paddy	GR-3	Certified	0.63	2965	4706
			-"-	Gurjari	-"-	2.74	11200	4088
			-"-	Jaya	-"-	4.13	21560	5220
		Rabi	Wheat	Lok-1	-"-	3.13	7000	2236
		-"-	GW-496	-"-	1.52	4000	2632	
-"-	Lok-1	Breeder	1.00	2630	2630			
4.	2006-07	Kharif	Paddy	GR-3	Foundation	1.17	4595	3927
			-"-	Gurjari	Certified	4.46	26030	5836
			-"-	Jaya	-"-	1.84	7485	4068
		Rabi	Wheat	Lok-1	Breeder	1.97	4450	2259
		-"-	GW-496	-"-	2.16	2910	1347	
5.	2007-08	Kharif	Paddy	GR-3	Foundation	1.17	4595	3927
			-"-	Gurjari	Certified	1.50	4250	2833
			-"-	Jaya	-"-	4.97	24990	5028
		Rabi	Wheat	Lok-1	Breeder	1.97	8100	4112
		-"-	GW-496	-"-	2.16	7700	3565	
6.	2008-09	Kharif	Paddy	GR-3	Foundation	5.90	28730	4869
			-"-	Gurjari	Certified	0.50	2365	4730
			-"-	Jaya	-"-*	0.90	4060	4511
		Rabi	Wheat	Lok-1	Breeder	2.55	7410	2495
		-"-	GW-496	-"-	2.97	5985	2347	
7.	2009-10	Kharif	Paddy	GR-3	Foundation	1.00	4650	4650
			-"-	Gurjari	Certified	1.00	4520	4520
			-"-	Jaya	-"-	5.21	30230	5802
		Rabi	Wheat	Lok-1	Breeder	2.96	8020	2710
		-"-	GW-496	-"-	2.63	6620	2527	
8.	2010-11	Kharif	Paddy	Gurjari	Certified	0.90	3350	3722
			-"-	Jaya	-"-	6.26	28900	4616
		Rabi	Wheat	Lok-1	Breeder	2.92	9800	3356
		-"-	GW-496	-"-	3.03	8950	2953	
9.	2011-12	Kharif	Paddy	Gurjari	Certified	0.90	3150	3500
			-"-	Jaya	-"-	6.26	30030	4797
			Rabi	Wheat	GW-496	-"-	3.09	11555
		-scane	Co 86032	F1	1.18	114 tone	96 tone	
		Summer	Paddy	Gurjari	truthful	0.50	2170	4340
-	Green Gram	Meha	"-"	1.10	1400	1272		

S.N.	Year	Season	Corp	Variety	Stage	Area (Ha)	producti on(Kg)	Productivi ty kg/ha
10	2012-13	Kharif	Paddy	Jaya	Certified	5.30	24990	4715
			-"-	GNR-3	Truthful	0.40	1845	4612
		Rabi	Wheat	Lok 1	Breeder	5.00	15340	3068
			s'cane	Co 86032	General Ratoon	1.18	67 tone	57 tone
11	2013-14	Kharif	Paddy	Jaya	Foundation	2.00	8470	4235
			-"-	-"-	Certified	3.60	13280	3688
			-"-	GNR-3	Truthful	0.40	1100	2750
		Rabi	Wheat	Lok.1	Breeder	5.00	12800	2560
		Summer	G. Gram	Meha	Certified	1.20	1500	1250
11	2014-15	Kharif	Paddy	Jaya	Foundation	2.11	11330	5370
			-"-	-"-	Certified	4.80	23940	4987
			-"-	GNR-3	Truthful	0.50	2865	5730
			Rabi	Wheat	Lok.1	Breeder	3.12	11100
		-"-	-"-	GW 496	Truthful	1.00	2500	2500
		Summer	Paddy	Jaya	Truthful	0.60	2800	4666
			G. Gram	Meha	Certified	1.83	2030	1109
12	2015-16	Kharif	Paddy	Jaya	Foundation	0.79	3920	4962
			-"-	-"-	Certified	6.51	31430	4827
			Rabi	Wheat	Lok.1	Breeder	3.00	10199
		-"-	-"-	Lok.1	Truthful	1.00	3000	3000
		-"-	-"-	GW.496	Truthful	1.00	2700	2700
		Summer	G.Gram	Meha	Foundation	0.80	700	875
Meha	Certified			0.80	900	1125		

Recommendations:

- (1) It is recommended to the farmers of South Gujarat growing high yielding high nitrogen responsive bacterial blight susceptible rice varieties such as GR-11 in the endemic bacterial blight area to applied 100 kg / ha nitrogen, either from neem cake, coaltar coated urea or urea or ammonium sulphate in three splits; viz; 40% nitrogen at the time of transplanting, 40% nitrogen at tillering stage and 20% nitrogen at panicle initiation; to save the crop from the bacterial blight damage and loss of yield. The increase dose of nitrogen beyond the optimum dose (i.e.100 kg N/ha) of nitrogen to the rice was found responsible for increasing trend of bacterial blight damage resulting in drastically reduction of yield.
- (2) The farmers of south gujarat of heavyrainfall agroclimatic zone adopting paddy(k)-paddy(s)are advise to follow paddy(k)-caster(r)-green manure(s) or paddy(k)-sorghum(r)-green manure(s)sequence for realising higher net income to the tune of 12 to 16 per cent as compared to paddy(k)-paddy(s)sequence. Further, these sequences also improve physical condition of soil along with saving of 62 per cent irrigation water in comparison to summer paddy.(year of recommendation - 2011-12).
- (3) The farmer of south gujarat heavy rainfall zone(AES-III)growing paddy are advised to adopt SRI method (10-12 days old seedling per hill at 25cm x 258cm spacing)to realise higher grainn yield and net income(42,383 Rs/ha)with cbr of1:2.47.Alteernatively form soil and water saving(40 %)point of view ,they are advised to adopt aerobic sowing(irrigated drilled)of rice at a row spacing of 30cm to get higher cost:Benifit ratio(1:2.36)as compared to conventional paddy cultivation.(year of recommendation : 2011-12)
- (4). The Farmer of south Gujarat growing wheat under irrigated condition are advised to adopt precision land leveling technique with laser leveler advise to prepare their land maintaining a slope of 0.15% to obtain higher (18.3%)yield,higher net income(Rs. 9041/-ha)and additional water saving (565 m³/ha)over those under traditionally leveled field. (year of recommendation :(2015-16)

❖ **Publication :**

- (1) Response of Kharif Rice to Nitrogen level and its time of application in presence of crop residues. Published in state level seminar on Integrated Nutrient Management in Rice Sugarcane based cropping system. 19th August,2002 By Prof P.B.Patel ,N.N.Lad and Dr. D.U.Patel
- (2) ઘઉં પાક ઉત્પાદન વધારવાના ચાવીરૂપ મુદ્દાઓ સ્વીકૃત પૂર્વેની તાલીમ નિષ્ણાંત વ્યાખાન નોંધ લેખક, પ્રો.પી.બી.પટેલ
- (3) ઘઉંની આધુનિક ખેતીપદ્ધતિ નર્મદા કિશાન પરિવાર, નવેમ્બર -૨૦૦૪, લેખક, પ્રો.પી.બી.પટેલ
- (4) દક્ષિણ ગુજરાતમાં ચોમાસુપાક લીધાબાદ મોડી વાવણી થી ઘઉંની સફળ ખેતી કરો. કૃષિ મહોત્સવ .૨૦૧૦, સ્મરણિકા લેખક, પ્રો.પી.બી.પટેલ અને પ્રો.એમ.ડી.લાડ
- (5) Makadia j.j.,M.D.Lad,Sachin S. More (2016),Economic Assessment of Post Harvest LossesOf Kesar Mango in South Gujarat; Advances in life Science 5(8):3179-3183.
- (6) Makadia j.j.,M.D.Lad,Sachin S. More (2016),Economic of Banana Cultivation in South Gujarat Region; Advances in life Science 5(8):3156-3161.

B.H. 11600 (Classified Work)

Financial year	Allotted grant	Expenditure	Work done
2004-05			
2005-06	0.75	0.75	Establishment of Impliment shed
2006-07	0.25	0.25	Flooring of godown & store room
2007-08	0.40	0.36	Quarter flooring
2008-09	0.40	0.40	flooring of farm store & pump house
2009-10	0.50	0.46	Seed Processing Unit Repairing
2010-11	0.60	0.60	Shatter Fitting to seed Processing room
2011-12	0.75	0.75	Threshing Yard Extension & Repairing
	0.60	0.60	Establish Implement Shed
2012-13	0.75	0.75	Implement Shed Extension & Repairing
	0.50	0.50	Farm fencing
2013-14	0.50	0.50	Bullock shed Modify in Implement shed
2014-15	0.75	0.37	Implement shed shatter
		0.27	Garden gate
		0.11	Nadep pit
2015-16	0.75	0.75	Farm Working Shed

(Farm Development Works)

Financial year	Budget Head	Allotted grant	Expenditure	Work done
2008-09	11980-4 RKVY	5,00,000/-	3,14,820/-	WBM farm Road-500m
			61,978/-	Water Proofing Of Office Bldg.
			1,13,265/-	Flooring of Office
2013-14	9510-N-20	1,00,000/-	98,859/-	Bullock shed Modification & Ext. of Implement Shed
2014-15	9510-N-20	2,50,000/-	2,11,898/-	Latrine Blok at Farm
2014-15	323/12004-1-R	5,00,000/-	4,33,360/-	Establishment of PVC Pipeline for Irri. at Farm
			61,978	Single phase bore well at Office
2015-16	1543	100000/-	100000/-	Pump House Repairing
	323/12004-1-R	185000/-	1.85000/-	Office ,godawn, seed grader room colour work