






## Poultry Complex (Central Poultry Research Station)

### Profile:

Poultry Complex was established as Central Poultry Research Station during the year 1962 under Institute of Agriculture. In the year 1964, Central Poultry Research Station became the part of Veterinary College on its establishment; subsequently it became a part of Gujarat Agricultural University in 1972 and Anand Agricultural University in 2004. Initially under this center, three schemes namely Central Poultry Research Station, Poultry Training Centre and Poultry Feed Manufacturing Unit were started which are continued till date. In the year 1978, project entitled "All India Coordinated Research Project (A.I.C.R.P.) on Poultry Breeding for eggs" (ICAR) was started. The project entitled "Random Bred Control Population" was sanctioned by ICAR as ad hoc project in the year 1983-84 and was continued as University plan scheme from the year 1988. To intensify the poultry training programme, in the year 1991, the scheme entitled "Upgrading of Poultry Training Center" has been started. Postgraduate program in Poultry Science discipline has been started at Poultry Complex from the year 2005.

### Faculties:

Sr. No.	Name	Designation	Phone (O)	Cell No	Inter Com No.	E-Mail
1	 Dr. F.P. Savaliya	Principal Scientist & Head	02692-262352	9537913412	856	fpsavaliya@aau.in
2	 Dr. R.K. Mishra	Associate Research Scientist	02692-262352	9427549050	407	<a href="mailto:rkmishra@aau.in">rkmishra@aau.in</a>
3	 Dr. A.B. Patel	Assistant Research Scientist	02692-262352	9913603878	408	patelab1411@aau.in
4	 Dr. N.J. Bhagora	Assistant Professor	02692-262352	9429442294	408	nikeshkumar@aaau.in
5	 Dr. R.S. Parmar	Senior Research Assistant (Veterinary Officer)	02692-262352	9662633929	408	parmarrs@aau.in

## Major Activities:

### I. Teaching

#### A. UG Courses:

Sr. No.	Name of Course	Course No.	Credits
1	Avian Production Management	LPM-211	1+1
2	Commercial Poultry Production and Hatchery Management	LPM-221	1+1
3	Internship Program for students of all four Veterinary Colleges of SAUs and two polytechnic colleges.	---	Full Day

#### B. PG Courses :

Sr. No.	Code	Name of Course	Credits
<b>M.V.Sc.</b>			
1	PSC-601	Poultry Breeding and Genetics	2+1
2	PSC-602	Poultry Nutrition and Feeding	2+1
3	PSC-603	Commercial Layer Production	2+1
4	PSC-604	Commercial Broiler Production	2+1
5	PSC-605	Breeder Stock, Flock Health and Hatchery Management	3+1
6	PSC-606	Management of Poultry other than Chicken	2+1
7	PSC-607	Poultry Products Technology and Marketing	2+1
8	PSC-608	Poultry Economics, Projects and Marketing	2+1
9	PSC-609	Physiology of Poultry Production	2+1
10	PSC-691	Master's Seminar	1+0
11	PSC-699	Master's Research	20
<b>Ph.D.</b>			
12	PSC-701	Applied Poultry Nutrition	2+1
13	PSC-702	Concepts in Commercial Poultry Production	2+1
14	PSC-703	Developments in Poultry Products Technology	2+1
15	PSC-704	Emerging Diseases of Poultry and Flock Health	2+1
16	PSC-705	Advanced Poultry Breeding Methods	2+1
17	PSC-706	Poultry Economics, Marketing and Integration	2+1
18	PSC-791	Doctoral Seminar I	1+0
19	PSC-792	Doctoral Seminar II	1+0
20	PSC-799	Doctoral Research	45

## II. Research

### A. Research Projects Completed:

Sr. No.	Title	Agency
1	Survey of Ankleshwar Poultry Breed (NBAGR – ICAR)	NBAGR – ICAR
2	Small Farm Rural Poultry Production	NATP (PSR Mode)
3	Utility of Bantamised White Leghorn line for improving feed efficiency of layer commercial hybrids	NATP (CGP Mode)
4	Utilization and feeding of 'OO' variety of Mustard cake v/s Conventional variety of Mustard cake in poultry	N.D.D.B.
5	Studies on genetic aspects of Plasma Very Low Density Lipoprotein (VLDL)	ICAR ad hoc Project
6	Tata Chemical Ltd Project on "Effect of Sodium bicarbonate (ALKAKARB) inclusion in layer and broiler rations" Tata Chemical L	Tata Chemical Ltd.

### B. Research Projects On going:

Sr. No.	Title	Agency	Budget			PI/Co-I
			Particular	Sanctioned	Spent	
1	A.I.C.R.P. on Poultry Breeding for Eggs (BH-2305)	ICAR	Pay and allowances	55,96,648.00	23,94,522.00	<b>PI:</b> Dr. F.P. Savaliya  <b>Co-I:</b> Dr. A.B. Patel
			T.A.	1,00,667.00		
			<b>Contingencies</b>			
			a) Recurring	52,00,000.00	51,96,805.00	
			b) Non recurring Equipments	2,00,000.00	56,150.00	
			Works	3,00,000.00	2,99,975.00	
			Livestock	1,00,000.00	00.00	
			<b>Receipt</b>	<b>20,43,953.28</b>		
2	Central Poultry Research Station (BH-5301)	Non-plan (AAU)	Pay and allowances	Common Budget Head		<b>PI:</b> Dr. F.P. Savaliya  <b>Co-I:</b> Dr. R.K. Mishra
			<b>Contingencies</b>	6,10,000.00	6,08,661.00	
			Recurring	Nil	-	
			Non recurring			
			<b>Receipt</b>	2,00,922.00		
3	Development and Maintenance of Different Population of Poultry (BH-12388)	Plan (AAU)	and allowances	27,01,000.00	27,05,480.00	<b>PI:</b> Dr. F.P. Savaliya  <b>Co-I:</b> Dr. R.K. Mishra
			<b>Contingencies</b>			
			Recurring	25,00,000.00	24,85,734.00	
			Non-recurring	Nil	00.00	
			<b>Receipt</b>	<b>9,48,696.58</b>		

### C. Number of M.V.Sc. & Ph.D. degrees awarded:

1. M.V.Sc.	: 16
2. Ph.D.	: 01

**D. Research Publications (No.):**

- |  |      |
|--|------|
| 1. Research Papers in National Journals      | : 40 |
| 2. Research Papers in International Journals | : 06 |
| 3. Popular articles/ Extension publications  | : 48 |
| 4. Lead Paper Presented                      | : 03 |

**E. Research Recommendations**

**Year-2012**

1. For development of crossbred chicken suitable for rural poultry farming using Australorp, Naked neck as well as Rhode Island Red as males and White Leghorn as female parents, Naked neck and Rhode Island Red crossbreds have shown significantly better egg number, egg mass, feed efficiency in terms of Feed consumption per egg, per kilo egg and per dozen egg and return over feed cost upto 40 weeks of age as compared to Australorp crossbred.
2. The pooled over average annual egg production / bird of various native crossbreds namely Aseel, Kadaknath, Frizzle and Naked Neck was found to be 145 eggs v/s 85 eggs in local breeds with excellent livability under harsh conditions of rural poultry farming. The average Benefit; cost ratio was Rs. 3.74: 1. The horizontal transmission of the technology was noteworthy. These crosses are recommended to be released for rural farmers.
3. Four per cent lime treated extrusion cooked castor seed cake can be used at 10 % level in broiler rations without any adverse effect on growth, feed conversion efficiency, livability and carcass characteristics and with 7.91 % reduction in the total feed cost of rearing.
4. At IGF-II locus, AA genotype (*Nla*///RFLP) has lower body weight and better feed conversion efficiency than AB and BB genotypes with egg number, egg weight and AFE at par in Bantamized White Leghorn birds suggesting A allele having favorable effect on feed conversion efficiency.
5. At OCX-32 ex2 and ex4 loci, AB and BB genotypes (*HpyCH4IV* and *NcoI*/RFLP) has significant and favorable association with egg production without affecting egg weight as compared to AA genotype in Bantamized White Leghorn birds suggesting B alleles at both loci has favorable effect on egg production.
6. For development of coloured meat purpose crosses suitable for rural farming, New Hampshire will be used as male line and Australorp as female line as New Hampshire crosses gained significantly higher weight (1253 g) at 8 weeks age whereas, Australorp has produced significantly higher egg numbers (80) upto 40 weeks with 55 g egg weight at 40 weeks age.

**Year-2014:**

1. A Synthetic White Leghorn line developed for high egg weight has shown potential of laying on an average 234 eggs at 64 weeks of age and 280 eggs at 72 weeks of age with more than 50 g egg weight at 28 weeks and more than 54 g egg weight at 40 weeks of age. Hence, this line is recommended for release as "Anand Synthetic White Leghorn" for improving egg weight.
2. A feed efficient Bantamized White Leghorn is developed with better feed efficiency consumes on an average 10 g less feed to produce one egg as

compared to normal White Leghorn strain during 21-64 weeks of age. It has potential of laying on an average 252 eggs at 64 weeks of age and 302 eggs at 72 weeks of age with more than 50 g egg weight at 40 weeks of age. Hence, this breed is recommended for release as “Anand Bantamized White Leghorn”.

3. A high yielding White Leghorn poultry strain-cross (IWN X IWP) has average annual egg production of 300 eggs with more than 52 g egg weight and excellent livability. The egg production and egg weight have been found comparable with commercial layers available in country. Hence, the IWN x IWP **strain- ingcross** is recommended for release as “Anand Commercial Layer” for commercial poultry farm..

#### **Year-2016:**

1. Significantly higher content of  $\beta$ -carotene (8.559 ppm), protein (13.22%) and deep yellow colour of egg yolk are observed in the eggs of White Leghorn birds fed on layer ration prepared by using yellow maize (Gujarat Anand Yellow Maize Hybrid-1) as compared to white maize (Gujarat Maize-3), High Quality Protein Maize-1 (HQPM-1) and purple maize; thus resulting in value addition and satisfying consumer's preference for deep yellow yolk. Hence it is recommended to use yellow maize (Gujarat Anand Yellow Maize Hybrid-1) in preparation of layer ration.
2. Significantly higher content of Lysine (0.427%), tryptophan (0.216%), anthocyanin (0.847 mcg %) and total anti-oxidant activity (13.876 mg/100g) are observed in the eggs of White Leghorn layer birds fed layer mash containing purple colour maize in comparison with white maize (Gujarat Maize-3), yellow maize (Gujarat Anand Yellow Maize Hybrid-1) and High Quality Protein Maize-1 (HQPM-1).

### **III. Extension**

#### **A. Refresher Training Courses / Summer-Winter Schools conducted:**

##### **1. Refresher Training Courses / ASCAD:**

- a. Refresher Courses under ASCAD on Poultry Breeding and Management during 3-1-05 to 12-1-05
- b. Training Courses under ASCAD on Artificial Insemination in Poultry during 3-1-05 to 4-1-05
- c. Refresher Training Course under ASCAD for Gujarat State Veterinarians on “Advances in Poultry Breeding, Health and Management” during 23-1-12 to 28-1-12
- d. Refresher Training Course under ASCAD for Gujarat State Veterinarians on “Recent Advances in Poultry Breeding, Health, Farm and Hatchery Management” during 31.12.12 to 05.01.13
- e. Advances in Poultry Breeding, Health, Farm and Hatchery Management during 09.09.2013 to 14.09.2013
- f. Advances in Poultry Breeding, Health, Farm and Hatchery Management during 14.07.2014 to 19.07.2014
- g. Advances in Poultry Breeding, Health, Farm and Hatchery Management during 24.11.2014 to 29.11.2014

- h. Advances in Poultry Breeding, Health, Farm and Hatchery Management during 17.08.2015 to 22.08.2015
- i. ગવર્મેન્ટ ઓફ ગુજરાતના લાઇવ સ્ટોક ઇન્સ્પેક્ટર માટે નો રીફ્રેશર તાલીમ વર્ગ “મરઘાં સંવનન અને સેવન વ્યવસ્થા” તા.૦૭/૦૮/૨૦૧૫ થી ૧૨/૦૮/૨૦૧૫.

## **2. Winter School:**

- a. Winter School on “Modern Techniques and Practices in Poultry Production and Breeding” during 13.2.2003 to 5.3.2003.
- b. Winter School on "Challenges in Poultry Farming" during 24-1-07 to 13-2-2007

## **B. Seminar/Symposia/Conference/Workshop organized:**

### **1. Seminar:**

The one day seminar on “Biosecurity in Poultry” in KRUSHI MAHOTSAV – 2009

### **2. Conference:**

- a. The Silver Jubilee Annual Conference of Indian Poultry Science Association (IPSACON – 2008) and National Symposium on “Poultry production in India: Threats and Opportunities” December 10-12, 2008.
- b. Annual Review meeting of A.I.C.R.P. on Poultry Breeding and Poultry Seed Project, 13-15 August, 2013.

## **C. Diagnostic Services / Clinical Camps/Farmers’ advisory services/Ambulatory Clinics/Vaccination camps: NA**

## **D. NSS Camps/ Krishi Mahotsav/ Pashupalan Shibirs/Radio-TV Talks Delivered/Exhibitions/Farmers’ meet-day/Kisan Call Center/Field Visits:**

1. Krishi Mahotsav: Attended
2. Exhibitions: 4

## **E. Expert services to State Government/Co-op. dairies/Other agencies /NGOs: 03**

## **F. No. of Publications of Popular articles /Books /Booklets /Pamphlets /Leaflets/ Souvenir/Compendium/ chapters/ Lab Manuals / Training Manuals etc.**

1. Popular articles : 48
2. Books : 05
3. Leaflets : 01
4. Book Chapters : 02
5. Lab Manuals : 02
6. Training Manuals : 09

## **G. Visitors:**

- a. Dignitaries Visited : 21
- b. Farmers/other :
 

2013	:	500
2014	:	464
2015	:	411
2016	:	305 till date

## Ongoing Extension Schemes:

### 1. POULTRY TRAINING CENTRE (BH-5255)

Sr. No.	Particulars	Amount sanctioned (Rs.)	Amount spent (Rs.)
1.	Pay and allowances	Common Budget Head	
2.	Contingencies	67,000.00	66,344.00
	a) Recurring	Nil	Nil
	b) Non recurring		
	<b>Receipt</b>	28,350.00	

### 2. UPGRADING OF POULTRY TRAINING CENTRE(BH-12315)

Sr. No.	Particulars	Amount sanctioned (Rs.)	Amount spent (Rs.)
1.	Pay and allowances	4,77,000.00	4,77,462.00
2.	Contingencies	12,50,000.00	12,47,085.00
	a) Recurring	Nil	Nil
	b) Non recurring		
	<b>Receipt</b>	2,19,910.04	

This centre provides necessary training to persons who are engaged in poultry farming or to those who are desirous to start poultry farming. Three courses of 10 weeks durations each are being conducted every year. Thus this center has been instrumental in providing self-employment in poultry business to many farmers and these courses also serve as refresher courses to those who are already in the poultry business. Till date **2345 trainees** have been trained under poultry training centre.

Sr. No	Detail	Training in Commercial Poultry Farming		Advance Training in Commercial Poultry Technology
		First Batch	Second Batch	Third Batch
1.	Beginning of training	First Monday of July	First Monday of October	First Monday of January
2.	Period of application	1-20 June	1-20 September	1-20 December
3.	Qualification required	Minimum 7 <sup>th</sup> Std. Pass	Minimum 7 <sup>th</sup> Std. Pass	Minimum 9 <sup>th</sup> Std. Pass
4.	Age limit	16-50 years	16-50 years	16-50 years

### 3. POULTRY FEED MANUFACTURING UNIT (BH-3315)

Sr. No.	Particulars	Amount sanctioned (Rs.)	Amount spent (Rs.)
1.	Pay and allowances	7,90,000.00	6,35,159.00
2.	Contingencies	5,15,000.00	4,91,334.00
	a) Recurring	Nil	-
	b) Non recurring		

#### **4. POULTRY FEED PRODUCTION AND DISTRIBUTION UNIT (REVOLVING FUND) (BH: 9510-A-37)**

##### **Objectives:**

- Computation of various types of balanced poultry rations including least cost poultry feed formulation.
- Production & supply of balanced poultry rations for catering the need of various schemes of Poultry Complex, A.A.U., Anand; other Agricultural Universities of the State and needy farmers.

##### **Achievements:**

###### **A. Awards/Honours/Recognitions/Appreciations:**

“**Prof. J.P. Trivedi**” award, sponsored by Shri Hari Om Ashram, Nadiad, for developed Random Bred Control Population for egg type chicken.

###### **B. Assignments as Subject Expert / Member (Selection Committee/Advisory Board):**

###### **C. Advanced Instrumentation / Lab Facilities**

###### **D. Patents filed / Technology Developed:**

1. **Anand Commercial Layer:** Released “Anand Commercial Layer” which is high yielding White Leghorn poultry strain-cross (IWN X IWP).
2. **Anand Synthetic White Leghorn:** Released “Anand Synthetic White Leghorn” which is synthetic line developed for high egg weight.
3. **Anand Bantamized White Leghorn:** Released “Anand Bantamized White Leghorn” which is a breed developed for better feed efficiency.
4. **Popularization of Native crossbreds**

###### **E. Other Recognitions (SRC/NSS/AGRESCO Convener/Hostel Rector etc.):** **NA**

##### **Future Thrust Areas:**

1. Search for alternate poultry feed resources to minimize the feed cost.
2. Evaluate alternate growth promoters feed additives for antibiotic free poultry production.
3. Evolving technologies for mitigating the adverse effects of climate change for sustainable poultry production.