

**JUNAGADH AGRICULTURAL UNIVERSITY**  
**RESEARCH RECOMMENDATIONS FOR FARMERS COMMUNITY**

**VI. ANIMAL HEALTH & ANIMAL PRODUCTION**

Total 21 recommendations developed by Science disciplines are described herein.

**Year: 2004-05**

**1. Animal Feed**

Jowar straw and groundnut gotar in 70:30 ratios instead of Jowar straw alone can meet the daily maintenance need of Gir bullocks.

**2. Afforestation**

Under rainfed Agro-climatic situation of South Saurashtra, tree species *Azadirachta indica*, *Acacia nilotica*, *Ziziphus mauritiana* and *Tectona grandis* have fairly good survival and growth rate on barren, degraded and wasteland. Therefore, these tree species can be planted to conserve afforestation and improve such land.

(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2006-07**

**3. Milk replacer**

Milk replacer containing the following ingredients is useful to replace 50 per cent of whole milk for feeding weaned Gir calves, without any adverse effect on body growth. Ingredient composition for one kg milk replacer is wheat flour 100 g, soybean meal 120 g, groundnut cake meal 400 g, skim milk powder 130 g, coconut oil 100 g, butyric acid 3 g, molasses/jaggary 65 % 100 g, mineral mixture 32 g and citric acid 15 g.

(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2009-10**

**4. Replacement of groundnut gotar (haulm) with urea treated straw in composite feed blocks for Gir heifers**

The farmers and livestock owners of Saurashtra are recommended that in the ration of Gir heifers, inclusion of four per cent urea treated wheat *bhusa* in place of groundnut *gotar* (haulm) results in 19 per cent higher live weight gain at 23 per cent lower cost of feeding.

**5. Milk production in Gir cows on no green rations**

Feeding of 4 per cent urea treated wheat straw as sole roughage source to lactating Gir cows could sustain milk production up to 3.4 lts/day economically with 139 per cent higher returns compared to feeding *ad. Lib.* wheat straw and five kg green jowar fodder/cow/day.

(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2011-12**

**6. Impact of herd composition on herd performance traits in Gir cattle**

On a large farm of Gir cattle in South Saurashtra region, herd structure of 330-345 heads with 100-110 (30-33 %) cows, 65-70 (18-21 %) breedable heifers and 245-250 (72-75 %) total female proportion in the herd is optimum to achieve higher wet average (7.3-7.7 lit), herd average (4.2-4.7 lit), % milch cows (55-60 %) and higher return over feed cost (140 %) in the herd.

**7. Impact of herd composition on herd performance traits in Gir cattle**

Dairy farmers/gaushalas of Gir herd in South Saurashtra region desiring to improve herd performance and return should set optimum targets of herd performance traits of 7.6 lit wet average, 4.3 lit herd average and more than 64 % milch cows for economical and sustainable dairy farming.

**8. Breeding and lactation efficiencies of Gir cows**

Dairy farmers of large herd of Gir cattle in South-Saurashtra region should set the target of age at first calving < 44 months and calving interval of 14 months to improve these traits for maximum return. They can maintain Gir cows up to 8 lactations for economical dairy farming. However, high yielding cows may be maintained for more than 8 lactations also.

**9. Breeding and lactation efficiencies of Jaffrabadi buffaloes**

Dairy farmers of large herd of Jaffrabadi buffaloes in South-Saurashtra region should set age at first calving of 47 months and calving interval of 15 months as targets to improve these traits for maximum return. They can maintain Jaffrabadi buffaloes up to 6 lactations for economical dairy farming, however, high yielding buffaloes may be maintained for more than 6 lactations also.

**Year: 2012-13**

**10. Effect of restricted suckling on lactation and reproductive performance of Gir cows**

Dairy farmers keeping Gir cows are advised to practice restricted suckling of calves to reduce the incidences of short lactations and low lactation milk yields due to short lactations. There is increased overall milk production in suckled cows as compared to non-suckled cows. Even though there is delay in service period by one cycle, it is off-set by over-all benefits in production performance of suckled cows.

**11. Effect of restricted suckling on growth performance of Gir calves**

Dairy farmers keeping Gir cows are advised to practice restricted suckling up to 5 months of age (daily 2 to 2.5 lit during birth to 1 mo., 3 to 4 lit during 1 to 3 mo. and 1 to 1.5 lit during 4 to 5 month age) and then stop suckling of the calves. This improves growth performance (412 vs. 312 g/d) and body weight of calf at 3 months of age (59 vs. 51 kg) with lesser milk consumption (319 vs. 279 lit per calf) over that in weaning.

**12. Effect of age and body weight at calving on lactation performance of primiparous Gir cows**

Farmers keeping Gir animals are advised to maintain 300 to 350 kg body weight at first calving in Gir heifers for obtaining higher lactation milk yield.

(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2013-14**

**13. Morbidity and mortality in Gir cattle herd**

In South Saurashtra region, in organized dairy farm of Gir cattle:

1. Overall annual mortality averages around 6 per cent in the herd. Higher mortality occurs from birth to 1 month of age especially, during November–December months on account of colibacillosis and pneumonia.
2. Mastitis, colibacillosis, fever and pneumonia are major health disorders in Gir cattle.

Therefore, dairy farmers of Gir cattle are advised to take all possible care and precautions during first month of calthood especially during November-December months to keep incidence of diseases and mortality at the minimum.

**14. Morbidity and mortality in Jaffrabadi buffalo herd**

In South Saurashtra region, in large dairy farm of Jaffrabadi buffaloes:

1. Overall annual mortality averages around 11 per cent in the herd. Higher mortality occurs from birth to 1 month of age group especially, during September-October months on account of colibacillosis and pneumonia.
2. Colibacillosis, fever, mastitis and gastroenteritis are major health disorders in Jaffrabadi buffaloes.

Therefore, dairy farmers of Jaffrabadi buffalo are advised to take all possible care and precautions during first month of calthood especially during September-October to keep incidence of diseases and mortality at the minimum.

(Cattle Breeding Farm and Dept. LPM, College of Vet. Sci. & A.H., JAU, Junagadh)

**Year: 2016-17**

**15. Hydrocyanic concentration during different stages of growth in Gundri jowar (*Sorgum vulgare*) and Baru (*Sorgum halepense*)**

*Sorgum vulgare* (jowar) and *Sorgum halepense* (baru) fed at 25 per cent flowering stage is safe for ruminants as the HCN content is below the toxic level.



(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2017-18**

**16. Seroprevalence of Infectious Bovine Rhinotracheitis (IBR) in dairy animals with reproductive disorders**

Seroprevalence of Infectious Bovine Rhinotracheitis (IBR) in dairy animals is above 30%. Hence dairy farmers of Saurashtra region are recommended to vaccinate their animals against Infectious Bovine Rhinotracheitis (IBR).

### **17. Clinical studies of foot affections in unsound working horses**

Horse rearers are informed that the prevalence of laminitis is higher during winter; hence they are advised to take appropriate care of the hooves.

(Department of Veterinary Public Health, College of Vet. Sci. & A.H., JAU, Junagadh)

### **18. Effect of fogger cooling on body comfort, milk yield and milk composition in Jaffrabadi buffaloes during summer season**

It is recommended to dairy farmers that fogger cooling system in loose housing buffalo shed is beneficial in sustaining milk production.



(Cattle Breeding Farm, JAU, Junagadh)

**Year: 2018-19**

### **19. Ecological studies of *Staphylococcus aureus* isolates from poultry meat and associated environment in and around Junagadh district**

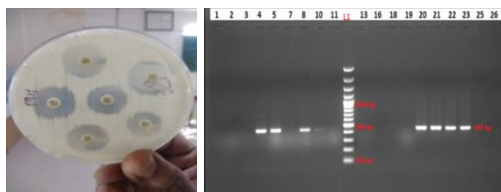
Poultry meat handlers need awareness for hygienic production of poultry meat to reduce possible food infection caused by *Staphylococcus aureus* in Junagadh District.



(Dept. of Vet. Public Health & Epidemiology, College of Vet. Sci. & A.H., JAU, Junagadh)

### **20. Phenotypic and Molecular characterization of extended-spectrum $\beta$ -lactamase (ESBL) producing *Escherichia coli* from poultry in Junagadh, Gujarat**

The presence of *E. coli* is confirmed in poultry in and around Junagadh, hence poultry farmers are advised to use antibiotics in the treatment of poultry diseases under the guidance of registered veterinary practitioners and strictly follow prescribed antibiotic regimens to avoid anti-microbial resistance.



(Dept. of Livestock Product Technology, College of Vet. Sci. & A.H., JAU, Junagadh)

### **21. Studies on nutritive value and feeding varying levels of Marvel (*Dicanthium annulatum*) grass on milk production and milk composition in lactating Gir cows**

Dairy farmers are recommended to feed 18 kg/day green Marvel/Jinjavo grass equivalent to 50 % Crude protein replacement to Gir cows (470 kg body weight and 7.6 litres milk/day) to enhance milk production by 6.81 % and profit (return over feed cost) by 41.08 %. Marvel/Jinjavo grass should be harvested at 40-45 days interval.

(Cattle Breeding Farm, JAU, Junagadh)