

Report to be presented in 16th Joint AGRESCO meeting of NAU

Name of sub-committee: Animal Production and Fisheries Science

Date of Meeting of sub-committee: 16.05.2020

Summary:

Farmers recommendation		Scientific recommendation		New Technical Programme		Ongoing programme
Presented	Accepted	Presented	Accepted	Presented	Accepted	
06	04	10	10	06	06	10

No.	RECOMMENDATION FOR FARMER'S COMMUNITY
16.1.1	<p>Title: Effect of heat ameliorative measures during dry period on production performance in subsequent lactation in Surti buffaloes</p> <p>Farmers of south Gujarat rearing Surti buffaloes are advised to keep Surti buffaloes in the pukka shed having fans and chuna on roof top during summer season, before two months of calving (dried buffaloes) as it improves immune status and milk fat during subsequent lactation.</p> <p>દક્ષિણ ગુજરાતના સુરતી ભેંસ પાળતા પશુપાલકોને ભલામણ કરવામાં આવે છે કે ગરમીની ઋતુમાં વિયાણના બે મહિના પહેલાં વસુકેલ ભેંસોના પાકા રહેઠાણમાં છત ઉપર ચૂનો તેમજ અંદર પંખા લગાવી ઠંડક રાખવાથી રોગપ્રતિકારક શક્તિ વધે તેમજ આવનાર દૂધાણા દિવસોમાં ફેટની ગુણવત્તામાં સુધારો થાય છે</p> <p>(Action: PI through HOD, Veterinary Physiology and Biochemistry)</p>
16.1.2	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p>It is recommended to goat keepers that, goats fed with fresh tree leaves of Sisam or Seven or Gliricidia or Sisu at level of 125, 210, 165 and 175 gram/day, respectively, without any side effect of anti-nutritional factor (tannin) on digestibility of nutrients.</p> <p>બકરાપાલકોને ભલામણ કરવામાં આવે છે કે, બકરાઓને સીસમ અથવા સેવન અથવા ગ્લીરીસીડીઆ અથવા સીસુ વૃક્ષના તાજા પાન અનુક્રમે દૈનિક ૧૨૫, ૨૧૦, ૧૬૫ અને ૧૭૫ ગ્રામ સુધી ખવરાવવાથી તેમાં રહેલ નુકશાનકારક તત્વ (ટેનીન) થી પાચ્યતા પર આડ અસર થતી નથી.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>

16.1.3	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p>It is recommended to goat keepers that, more than 70% nutrient digestibility observed in fresh tree leaves of Sisam, Sevan, Gliricidia and Sisu; therefore these tree leaves having potential to become alternative of cultivated fodder during scarcity and to fulfil the maintenance nutrient requirements of goats.</p> <p>બકરાપાલકોને બલામણ કરવામાં આવે છે કે, સીસમ, સેવન, ગ્લીરીસીડીઆ અને સીસુ વૃક્ષના તાજા પાનમાં પોષકતત્વોની ૭૦% થી વધુ પાચ્યતા જોવા મળે છે, જેમાં અછતના સમયમાં ઘાસચારાના વિકલ્પની અથવા બકરાં માટે નિભાવના પોષકતત્વો પુરા પાડવાની ક્ષમતા રહેલ છે.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>
16.1.4	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p>It is recommended to goat keepers that, the fresh tree leaves Baheda and Harde contain more than 6% tannin (anti-nutritional factor), therefore it can be fed maximum 100 gram/day.</p> <p>બકરાપાલકોને બલામણ કરવામાં આવે છે કે, બહેડા અને હરડે વૃક્ષના તાજા પાનમાં ટેનીન (તુકશાનકારક તત્વ) ની માત્રા વધુ હોવાના કારણે મહત્તમ ૧૦૦ ગ્રામ/દિવસ ખવરાવી શકાય છે.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>
No.	RECOMMENDATION FOR SCIENTIFIC COMMUNITY
16.2.1	<p>Title: Measurement of heat stress and its impact on behaviour and production performance in surti buffaloes in different seasons</p> <p>THI of 72.15 observed in winter season beneficially improves fat and lactose percentage in milk and cumulative milk yield in Surti buffaloes.</p> <p>(Action: PI through HOD, Veterinary Physiology and Biochemistry)</p>
16.2.2	<p>Title: Cutaneous thermal profiling of Surti does in different seasons</p> <p>Cutaneous thermal profiling using infrared thermography as a non-invasive tool can be used to assess heat stress in Surti goats.</p> <p>(Action: PI through HOD, Veterinary Physiology and Biochemistry)</p>
16.2.3	<p>Title: Cutaneous thermal profiling of Surti does in different seasons</p> <p>Surface temperature of eye and udder may be used as an alternative to rectal temperature for assessment of body temperature.</p> <p>(Action: PI through HOD, Veterinary Physiology and Biochemistry)</p>

16.2.4	<p>Title: Study of genetic polymorphism in growth related genes and its association with growth parameters in Surti goats</p> <p>Surti goats with BB (366 and 56 bps) genotype is found with higher body weight at 6 months of age as compared to AB (466, 366 and 56 bps) genotype when growth hormone (GH) gene is amplified using forward primer 5' CTCTGCCTGCCCTGGACT 3' and reverse primer 5' GGAGAAGCAGAAGGCAACC 3' and digested with <i>HaeIII</i> restriction enzyme.</p> <p>(Action: PI through HOD, Animal Genetics & Breeding)</p>
16.2.5	<p>Title: Relative gene expression study on casein protein and its regulatory genes in mammary epithelial cells of surti goat</p> <p>The mammary epithelial cells can be successfully recovered from Eight hundred ml milk of Surti goats using antibody mediated magnetic bead separation and can be further used for recovering RNA for down step quantification of major milk Casein protein gene and its regulatory genes expression.</p> <p>(Action: PI through HOD, Animal Genetics & Breeding)</p>
16.2.6	<p>Title: Relative gene expression study on casein protein and its regulatory genes in mammary epithelial cells of surti goat</p> <p>The relative gene expression of <i>CSN1S1</i>, <i>CSN1S2</i>, <i>CSN3</i> and <i>C/EBP</i> genes were significantly up regulated with advancement of lactation from 30 days and 90 days postpartum in Surti goats with fold increase of 7.79, 32.87, 21.41 and 24.68 respectively.</p> <p>(Action: PI through HOD, Animal Genetics & Breeding)</p>
16.2.7	<p>Title: Relative gene expression study on casein protein and its regulatory genes in mammary epithelial cells of surti goat</p> <p>The relative gene expression of <i>CSN1S2</i>, <i>CSN3</i> and <i>C/EBP</i> genes were consistently positive and significant and shared similar expression patterns in the different physiological stages compared at 30 and 90 days postpartum in Surti goats.</p> <p>(Action: PI through HOD, Animal Genetics & Breeding)</p>

16.2.8	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p>Based on average dry and organic matter digestibility (70.60% and 79.99%), TVFA (12.13 mMol/ml) and microbial biomass production (292.47 mg/200 mg DM) of tree leaves, <i>Gliricidia sepium</i> (Gliricidia), <i>Gmelina arborea</i> (Sevan), <i>Dalbergia latifolia</i> (Sisam) and <i>Dalbergia sissoo</i> (Sisu), show better fermentation characteristics and having potential to fulfill the maintenance requirement of small ruminants as promising alternative feed resources.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>
16.2.9	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p>Beyond 6% of total tannin and 8% of ADL content of <i>Terminalia bellirica</i> (Baheda) and <i>Terminalia chebula</i> (Harde) tree leaves decreases dry matter digestibility, organic matter digestibility, total volatile fatty acid and gas production with establishment of negative correlation coefficient.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>
16.2.10	<p>Title: Nutrient composition, <i>in vitro</i> feed degradation and microbial biomass yield estimation of unconventional feed resources for ruminants in south Gujarat.</p> <p><i>Gliricidia</i>, <i>Gmelina</i> (Sevan), <i>Dalbergia</i> (Sisu) and <i>Terminalia spp.</i> (Harade and Baheda) tree leaves use as an alternative fodder, their content of total tannin, acid detergent lignin and silica should be considered because of their negative correlation with digestibility and fermentation characteristics.</p> <p>(Action: PI through HOD, Animal Nutrition)</p>

NEW TECHNICAL PROGRAMME		
No.	Title	Name of Department and PI
16.2.1	Effect of rumen protected niacin supplementation on sweating rate, oxidative stress and skin temperature during summer in Surti buffaloes	Physiology and Biochemistry Dr. Sandhya S. Chaudhary
16.2.2	Study of changes in udder temperature, milk composition and somatic cell count of Surti buffaloes during different stages of lactation	Physiology and Biochemistry Dr. V. K. Singh
16.2.3	Study of changes in udder temperature, milk composition and somatic cell count of Surti goat during different stages of lactation.	Physiology and Biochemistry Dr. Tanvi D. Manat
16.2.4	Placental morphometry <i>vis-à-vis</i> neonatal behavior in Surti buffaloes.	Livestock Production Management Dr. T. K. S. Rao
16.2.5	Impact of light sources on broiler performance.	Instructional Livestock Farm Complex Dr. Y. D. Padheriya
16.2.6	Association of udder and teat morphometric with milk yield and udder health in lactating Surti buffaloes.	Polytechnic in Animal Husbandry Dr. K. K. Verma