(100%), Contagious Caprine Pleuropneumonia (CCPP) (93.75%), goat pox (18.75%), and FMD (6.25 %). For parasitic control 24% farmer did nothing for control while 52% farmers on regular basis. About 71% farmers were using traditional treatment regularly, out of which 24% farmers got treatment for their goats from veterinary doctors on regular basis. Diseases outbreak in the studied herds were maximum for Enterotoxaemia (71%), followed by CCPP (59%). Most common production systems of raising goats in the sampled area were backyard, agro-pastoralist and rangeland based (20% each) followed by mixed production system (13%) and agro-forestry, ranching, landless and industrial (approximately 7% each). About 12 % farmers had sheds for housing while 53% had open housing system. Most farmers provided unrestricted supply of water to their goat (76%) with unknown quality. Mostly (82%) farmers were depending on natural pasture for feeding goats. Crossbreeding among goat herds was uncontrolled and widespread (76%). Maximum mattings were arranged between June and September. Ram selection on phenotype was common (71%). Framers used to sell goat in local market (41%). The study highlights potential areas of improvement in goat production for better welfare of animals and more profit for goat breeders.

Key Words: Management practices, goat, Sindh

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473 Late-Breaking: Efficacy of L-methionine in comparison to DL-methionine in Cherry Valley ducks.

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The current research was to study the efficacy of L-methionine in comparison to DL-methionine in Cherry Valley ducks. A total of 1080 1-d-old Cherry Valley male ducks were allotted to nine groups with six replicate pens of 20 birds each according to a completely randomized design. Ducks were reared in coops (or on floor). The trials last 35 days and divided to two phases (0–14 d and 15–35 d). During the starter phase, ducks were fed a basal diet (Met, 0.30%) or supplemented with DL-Met or L-Met at 0.05%, 0.10%, 0.15%, or 0.2% of feed. During the growth phase, ducks were fed a basal diet (Met, 0.24%) or supplemented with DL-Met or L-Met at 0.04%, 0.08%, 0.12%, or 0.16% of feed. The results showed that dietary DL-Met or L-Met supplementation affected the growth performance of ducks in starter and whole phases($P < 0.05$), both linearly and quadratically increased the body weight of ducks at 14 and 35 d of age, the average daily gain (ADG) of the starter and whole period, the feed intake and feed ratio during the starter phase ($L < 0.05$; $Q < 0.05$). No significant difference of carcass quality of ducks was found among groups, except the L-Met supplementation linearly and quadratically increased the leg ratio of eviscerated ducks ($L < 0.001$; $Q < 0.001$). Dietary DL-Met or L-Met supplementation linearly and quadratically increased the score of back feather of ducks at 35 d of age ($L < 0.05$;$Q < 0.05$). Besides, compared with DL-Met, the efficacy of L-Met was 110.8% (ADG in starter phase, R2=0.79) and 127.8% (feed ratio in starter phase, R2=0.79). Overall, dietary L-Met supplementation can affect the growth performance of ducks, especially at the starter phase, and the efficacy in ADG and feed ratio were 110.8% and 127.8% respectively.

Key Words: Efficacy; L-methionine; meat ducks

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474 Productive and reproductive performance of Goat Breeds of Sindh.

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The study was carried out in Sindh province of Pakistan to investigate productive and reproductive performance of ten local goat breeds. The ten goat breeds included in the study were Kamori, Tapri, Bugi-Turi, Pateri, Kachan, Jattan, Lohri, Chappar, Barri, and Thari. The data were collected using a detailed survey on various productive (birth weight, weaning weight, weaning age, average daily gain, milk yield and lactation length) and reproductive (age at first heat, age at first kidding, kidding interval, service period, number of services per conception and twinning percentage) traits of goats. Up sixteen local farmers of each breed were visited by the investigators and information was recorded/collected on prescribed performas. The highest birth weight was observed in Pateri goat (2.90 ± 0.11kg). In case of weaning weight maximum was observed in Kachan (16.0 ± 0.50kg) and lowest in Thari (11.19 ± 0.40 kg). Moreover weaning age was lowest in Thari (3.0 ± 0.11months) and highest was in Bugi-Turi (8.0 ± 0.14months). The highest milk yield was observed in Tapri and Kamori (~ 3.50 kg) followed by Pateri (~2.90 kg), Bugi Tori, Kacchan, Jattan (~ 2.00 kg) and Lohri, Chapper, Barri and Theri (~1 kg). As far as reproductive traits are concerned; age at first heat was lowest in Pateri (around 7 months) while all other breeds ranged from 11 to 15 months). The maximum twining percentage at first kidding was observed in Chappar (25%). Jattan had lowest kidding interval

(5.0 ± 0.16 months). On the basis of overall average pre-weaning growth rate of kids, Tapri and Thari appear to have higher growth potential followed by Kamori and Kachhan. It could be concluded that Tapri, Thari and Kamori may be utilized for meat production under existing circumstances in the order of priority. Similarly, Tapri, Kamori and Pateri may be better utilized as dairy goats as well.

Table 1. Effect of breed on productive and reproductive traits in Sindh Goats

Traits	Breed 1 Kamori N=10	Breed 2 Tapri N=11	Breed 3 Bugi Tori N=10	Breed 4 Pateri N=10	Breed 5 Kacchan N=10	Breed 6 Jattan N=10	Breed 7 Lohri N=10	Breed 8 Chappar N=10	Breed 9 Barri N=10	Breed spThari N=16	Overall P value
Birth weight (months)	2.40±0.11a	2.0±0.11a	2.0±0.11a	2.90±0.11a	2.80±0.11a	2.0±0.11a	2.00±0.11a	1.000±0.11h	2.4±0.11a	2.62±0.08a	<.0001
Lactation length (months)	6.70±0.26a	2.27±0.26b	7.50±0.27	3.30±0.27d	4.00±0.27c	4.70±0.27e	5.10±0.27ae	6.40±0.27a	5.50±0.27ai	2.62±0.218j	<.0001
Milk production (kg)	3.50±0.90a	3.54±0.90a	2.0±0.90ab	2.90±0.90ab	2.0±0.90ab	2.0±0.90ab	1.00±0.90gh	1.30±0.90gh	1.0±0.90gh	1.00±0.07gh	<.0001
Weaning age (months)	4.30±0.14a	3.54±0.13a	8.0±0.14c	5.10±0.14a	4.80±0.14a	4.0±0.14a	6.0±0.14g	5.40±0.14a	4.50±0.14a	3.0±0.11a	<.0001
Weaning weight (kg)	15.0±0.50a	13.36±0.48b	14.70±0.5c0	12.90±0.50b	16.0±0.50e	12.0±0.50b	11.60±0.50b	11.20±0.50b	11.40±0.50b	11.19±0.40b	<.0001
Average daily Pre-weaning growth rate (g/ day)	114.75	124.14	60.44	83.20	109.65	98.68	63.60	68.23	83.33	122.70	<.0001
Age at 1st heat(months)	11.80±0.50a	11.45±0.48a	11.60±0.50a	7.50±0.50d	12.0±0.50a	12.0±0.50a	12.0±0.50a	12.0±0.50a	15.80±0.50i	13.94±0.40j	<.0001
Age at 1st kidding(months)	16.80±0.54a	16.45±0.52a	16.60±0.54a	12.50±0.54d	17.80±0.54d	18.0±0.54b	18.0±0.54b	17.70±0.54a	22.10±0.54i	18.94±0.42b	<.0001
Kidding interval(months)	8.30±0.16a	6.54±0.15b	7.30±0.16a	8.20±0.16a	5.20±0.16e	5.0±0.16f	8.0±0.16a	9.30±0.16a	7.50±0.16a	10.37±0.12j	<.0001
Service period (months)	3.30±0.18a	2.64±0.17a	4.10±0.18a	3.50±0.18a	6.0±0.18e	6.0±0.18e	7.0±0.18e	6.7±0.118e	6.50±0.18e	5.37±0.14e	<.0001
No. of Services per Conception	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	1.0±0a	Non-Sig
Twining at 1st kidding%	23.0±1.25a	22.73±1.19a	20.0±1.25a	20.0±1.25a	21.0±1.25a	20.0±1.25a	20.0±1.25a	25.0±1.25h	17.50±1.25a	14.37±1.00j	<.0001
Twining at 2nd kidding%	21.30±3.31a	24.45±3.16a	29.40±3.31a	26.50±3.31a	29.50±3.31a	19.0±3.31a	26.50±3.31a	23.40±3.31a	31.50±3.31a	10.0±2.62a	<.0001

Key Words: reproductive, productive, goat

PSXIII-12 Effects of altitudinal floor on nutrient digestibility, energy efficiency, visceral organ mass, and performance by guinea pigs. D. Izurieta[1], B. Heredia[2], D. Sandoval[2], C. Ponce[1], [1]*Universidad San Francisco de Quito, Quito, Ecuador,* [2]*Universidad de las Fuerzas Armadas-ESPE, Latacunga, Ecuador*

An experiment was conducted to evaluate the effect of altitude on nutrient digestibility, energy efficiency, performance, and, visceral organ mass by guinea pigs. Twenty male guinea pigs (initial BW 1.011 ± 0.096 kg) were selected in a crossover design experiment, maintained at metabolic cages (2 animals per cage) during a total digestibility period of 25 d (2 periods of 13-d). Animals were randomly assigned at 1 of 2 altitudinal sites, 2986 and 2480 m. above the sea level (masl; 5 cages per altitude). Animals were fed 45 g of alfalfa (DM) to meet energy requirements at maintenance levels. At the end of the digestion phase, an animal from each cage was slaughter to determine body fat content from body specific gravity and visceral organ mass. A subsequent performance phase was evaluated as completely randomized design, and animals were kept at the same altitudinal floor in which they ended period 2 of the crossover period. Animals were fed *ad libitum* with alfalfa. At the end of the performance phase, all remaining animals were slaughtered and visceral organ mass was measured. Energy intake and Dry matter, were increased by animals at 2986 compared to animals at 2480 masl (P<0.001). Metabolizable energy tended to be lower for animals kept at 2986 masl (P=0.053). Nutrient digestibility was lower for animals kept at 2986 compared to 2480 masl. Liver, kidneys and spleen mass were greater for animals maintained at 2986 masl (P<0.012). Heart mass tended to be greater for animasl kept at 2480 masl (P=0,060). Body fat was not alterd by altitudinal site (P>0.345). Final BW, ADG, and feed conversion rate was decreased by animals fed at 2986 masl (P<0.002). Results from this experiment suggest a novel approach to determine Energy efficiency as affected by altitudinal site. Data from this experiment evidenced a 7% increase on energy requirements on ME for animals kept 516 masl higher. Further research is requiered to apply to other biological models.

Key Words: Altitude, guinea pig, nutrient digestibility, visceral organ mass

PSXIII-19 Swine Health Health and Management Evaluation in American Samoa. H. Zaleski[1], T. Petznick[2], M. Hansell[3], F. Uta[3], I. Gurr[3], [1]*University of Hawai'i at Mānoa, Honolulu, HI, United States,* [2]*Thomas M Petznick, D V M, P C, Norfolk, NE, United States,* [3]*American Samoa Community College, Pago Pago, American Samoa*

American Samoa is working to improve swine production genetics and management. Our objective was to identify health and management factors affecting swine performance. A1998 survey found six leptospirosis serovars and parvovirus and heavy parasites loads, but no brucellosis or pseudorabies. Our 2016 Artificial Insemination Training focused on improving genetics and resulted in 12 sows bred and 103 piglets born. Oour 2017 Swine Farm Evaluation surveyed 26 farms with an average of 9 sows per farm. Serological samples were tested for antibodies against Porcine Circovirus Type 2b (ELISA, 96% positive), Swine Influenza (ELISA, 31%), Senecavirus (IFA, 27%), Mycoplasma hyopneumoniae (ELISA, 15%), Porcine Epidemic Diarrhea (IFA, 15%), and Porcine Reproductive and Respiratory Syndrome (ELISA, 4%, 1 pig). o evidence was seen of Porcine Respiratory Coronavirus (ELISA), Transmissable Gastroenteritis (ELISA) or Pseudorabies (SN). Fecal samples contained Ascaris suum, Oesophagostomum dentatum, Stephanurus dentatus, and, less commonly, Strongyles nodular worm, Stronglyloides, Brachylaemus suis, Necator species, Trichuris suis, and Fasciolopsis buski. Ear scrapings and scratching behavior indicated the presence of sarcoptic mange (31% of farms). Most farms fed a 14% grain feed (88% of farms) and local feeds (coconut, vegetables, fruits, 69%); only one farm fed an 18% starter and one fed milk to young pigs. One or more thin pigs were seen on 46% of farms. Waste is managed either by wash down (85% of farms) or as dry