

## Evaluation of Economic Traits of Balochi and Bibrik (Beverigh) Sheep Breeds of Balochistan, Pakistan

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**ABSTRACT:** This study was conducted to evaluate the performance of Balochi and Bibrik (Beverigh) sheep breeds reared under farm flock system at sheep research Centre Yetabad, Balochistan. Records on fourteen hundred and five (n=1171) lambs (Balochi (n=630) and Beverigh (n=541)) descended from (n=490) ewes and (n=46) rams data were collected for period of three years (2005 - 2007). Traits were evaluated for male and female lambs of weights at birth (BW), 120 days Weaning weight (WW), 180 days (6MW), 365 days (12MW), 24 months (24MW), respectively. The collected data were subjected to statistical analysis by standard methods of analysis of variance. The birth weight averages for Balochi and Beverigh breeds were 3.33±0.75 and 2.99±0.45 kg for male and 2.77±0.50 and 2.54±0.33 kg for female lambs respectively. The overall averages for WW male lambs of Balochi and Beverigh breeds were 17.56±1.41 and 16.24±1.24 kg and 15.02±0.72 and 14.01±0.59 kg for female lambs respectively. The live weight at 6MW was averaged 21.26±1.31 and 20.25±1.49 kg for male lambs, and for female lambs 19.15±0.83 and 16.99±1.16 kg of Balochi and Beverigh respectively. The live weight averages at 12MW of Balochi and Beverigh lambs were found as 30.65±1.92 and 27.92±2.39 kg for male lambs and 27.42±1.04 and 24.17±1.14 kg for female lambs, respectively. For Balochi and Beverigh breeds, the overall average values for 24MW male lambs were 39.18±3.96 and 35.80±2.41 kg and 34.35±1.87 and 32.41±2.24 kg for 24 MW female lambs respectively. Statistically significant effects of breed, type of birth and sex on live weight at BW, WW, 6MW, 12MW and 24MW ages were found (P<0.05). However, 9MW was not affected by type of birth (P>0.05). All reproductive traits were found non significant (P>0.05), whereas significant difference in twinning percentage between two breeds was detected (P<0.05). Results reflected that Balochi and Beverigh breeds can be improved through better selection and management.

**Keywords:** Balochi sheep, bibrik (beverigh) sheep, live weight, reproductive traits

## Pakistan'ın Belucistan Bölgesindeki Balochi ve Bibrik (Beverigh) Koyun Irklarının Ekonomik Özelliklerinin Değerlendirilmesi

**ÖZET:** Bu çalışma, Balochistan'daki Yetabad Koyun Araştırma Merkezi'nde yetiştirilen Balochi ve Bibrik (Beverigh) koyunlar ırklarının performanslarını değerlendirmek için yürütülmüştür. Kırkaltı baş koçun 490 koyun ile çiftleştirilmesiyle elde edilen 1171 baş kuzuya (630 baş Balochi (n=630) ve Beverigh (n=541)) ait kayıtlar 3 yıllık periyotta toplanmıştır. Özellikler olarak, erkek ve dişiler için doğum (BW), 120. (WW), 180. (6MW), 365. ve (12MW) günlerdeki ve 24. aydaki (24MW) canlı ağırlıkları değerlendirilmiştir. Elde edilen veriler standart varyans analiz metoduyla analiz edilmiştir.

Balochi ve Beverigh ırkı erkek kuzular için doğum ağırlıkları sırasıyla 3.33±0.75 ve 2.99±0.45 kg, dişi kuzular için doğum ağırlıkları sırasıyla 2.77±0.50 ve 2.54±0.33 kg olarak hesaplanmıştır. Balochi ve Beverigh erkek kuzularında 120 günlük canlı ağırlık için genel ortalama 17.56±1.41 ve 16.24±1.24 kg, Balochi ve Beverigh dişi kuzularda bu özellik 15.02±0.72 ve 14.01±0.59 kg olarak belirlenmiştir. Balochi ve Beverigh ırkı kuzular için 180 günlük canlı ağırlığı erkeklerde sırasıyla 21.26±1.31 ve 20.25±1.49 kg, dişilerde ise 19.15±0.83 ve 16.99±1.16 kg olarak tespit edilmiştir. 365. günlük canlı ağırlığı, Balochi ve Beverigh erkeklerinde 30.65±1.92 ve 27.92±2.39 kg, dişilerde 27.42±1.04 ve 24.17±1.14 kg olarak gözlenmiştir. 24 aylık canlı ağırlık özelliği için Balochi ve Beverigh erkekleri sırasıyla 39.18±3.96 ve 35.80±2.41 kg, dişileri ise 34.35±1.87 ve 32.41±2.24 kg olarak belirtilmiştir. doğum (BW), 120. (WW), 180. (6MW), 365. ve (12MW) günlerdeki ve 24. aydaki (24MW) canlı ağırlıkları üzerine ırk, doğum tipi, ve cinsiyet faktörlerinin önemli (P<0.05) etkilere sahip olduğu belirlenmiştir. Ancak, doğum tipinin, 9. ay canlı ağırlığı (9MW) üzerinde etkili olmadığı saptanmıştır. Tüm üreme özellikleri bakımından ırklar arasında önemli fark bulunmamıştır. Ancak, ikizlik oranı bakımından iki ırk arasında önemli bir fark (P<0.05) olduğu belirlenmiştir. Sonuçlar, daha iyi seleksiyon ve bakım-idare yönetimiyle Balochi ve Beverigh ırklarının geliştirilebileceğini göstermiştir.

**Anahtar Kelimeler:** Balochi koyunu, bibrik (beverigh) koyunu, canlı ağırlık, üreme özellikleri

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## INTRODUCTION

Small ruminants contribute to the animal production and rural economy in arid and semi arid regions of Pakistan especially marginal and sub marginal land holdings. Of the total 27.8 million sheep in the country, more than one 13.6 million sheep population is found in Balochistan province. Sheep production also meets 14% of the total meat needs (excluding poultry meat eaten in Pakistan (GOP, 2010). Indigenous sheep breeds of Balochistan have high adoptability to extreme climatic conditions. All the sheep breeds found in the province are of fat-tailed sheep adapted to the range conditions being reared on the large scale mostly under migratory farming system (Khan, 1994). Eydurán et al. (2009) reported that for sheep breeding, animal productions such as meat and milk are very indispensable for people's nourishment in all over the world. The Government of Balochistan is managing sheep production under farm flock systems at different places. Mostly all of the documented sheep breeds of the province are being bred on these farms. Flocks are managed under farm flock and range flock system. The data in order to evaluate the performance of two sheep breeds, Balochi and Beverigh (Beverigh) in term of growth, reproductive and wool traits and to develop selection strategies for genetically improving productivity (yield traits) of both breeds have been recorded. Knowledge of environmental factors significantly affecting live weights at different growth periods of sheep is required for conducting efficient selection program in improvement of yield traits, which are quantitative traits such as meat, and milk etc. Hence, taking the advantage of availability of performance records on traits of economic importance, the present study is designed to evaluate and compare the performance traits of Balochi and Beverigh breeds of Balochistan, Pakistan.

## MATERIAL AND METHODS

The performance data on growth and reproductive traits of local sheep breeds of Balochistan, 1171 lambs, (Balochi (n=630) and Beverigh (n=541)), descended from 440 ewes and 38 rams were collected from Multipurpose sheep Research Station Yetabad, Balochistan, Pakistan for period of three years (2005 - 2007). The flocks were maintained under range management system. The natural system of breeding under control conditions was being practiced on the farm. The rams

were allowed to the ewe flocks for breeding from 15 September to 15 November. Breeding was done once in a year. The data was collected. Ear tags were applied for the identification of animals. The following information was collected: individual's identity, sire, dam, date of birth, date of service, date of lambing, sex of the lamb, type of birth (TOB), Year of birth (YOB). The performance traits viz. birth weight (BW), at 120 days Weaning weight, (WW), 6 months weight (6MW), 9 months weight (9MW), 12 months weight (12MW) and 24 months weight (24MW) were recorded. Reproductive traits such as age at first service (AFS), age at first lambing (AFL), service period (SP); lambing interval (LI); twinning percentage (TP), lambing percentage (LP) and fertility rate (FR) were also recorded. The animals were vaccinated and dewormed regularly according to schedule. Statistical analysis by standard methods of analysis of variance was applied for the collected data (Snedecor and Cochran, 1993) and statistically significant differences were determined by Duncan's Comparison range test (DMR) in MSTATC package program.

Following general linear model was fitted to different traits with little modifications.

$$Y_{ijklmn} = \mu + \text{Breed}_i + \text{Flock}_j + \text{YOB}_k + \text{TOB}_l + \text{Sex}_m + e_{ijklmn}$$

where

$Y_{ijklmn}$  = observation on a trait

$\mu$  = population mean

$\text{Breed}_i$  = breed of sheep

$\text{Flock}_j$  = flock of animal

$\text{YOB}_k$  = year of birth

$\text{TOB}_l$  = type of birth

$\text{Sex}_m$  = sex of lamb(s) born

$e_{ijklmn}$  = random error associated with each observation

SPSS version 10 was used for the analysis.

## RESULTS AND DISCUSSION

The results of LSM±SE for BW, WW, 6MW, 9MW, 12MW and 24MW for Balochi and Beverigh lambs are presented in Table 1. The differences in live weight varied at BW, WW, 6MW, 12MW and 24MW ages due to

breed, type of birth, year of birth and sex were significant ( $P < 0.05$ ). However, the effect of type of birth on 9MW was insignificant ( $P > 0.05$ ). Descriptive statistics for some reproductive traits are given in Table 1. In the present study, results illustrated that breed factor on all the reproductive traits was insignificant, but significant difference in TP between breeds was detected ( $P < 0.05$ ).

**Birth Weight:** The significant effects of YOB, TOB, sex on BW of lambs as obtained in the present study were in line with the findings of many authors (Nawaz et al., 1998a; Akhtar et al., 2001; Esenbuga et al., 2002a; Babar et al., 2004; Shah and Khan, 2004; Hussain, 2006; Refiq et al., 2009; Tariq et al., 2010; Mokhtari and Rashidi, 2010).

Nawaz et al. (1998a) recorded data on 22837 lambs of Lohi and Kajli ewes (1962-94) and revealed that, body weight of single-born lambs at birth exceeded that of twin-born lambs by 18 %. Males were 3 % heavier than females at birth. Akhtar et al. (2001) analyzed performance data on 4777 Hissardale lambs during the period of 1978-95 and reported an average value of  $4.0 \pm 0.51$  kg for weight at birth. They further stated that single born lambs were heavier than twin born lambs ( $3.9 \pm 0.14$  vs.  $3.5 \pm 0.03$  kg). Male lambs were also heavier ( $3.9 \pm 0.02$  kg) than the female lambs ( $3.5 \pm 0.02$  kg). Esenbuga et al. (2002a) studied the effects of some environmental factors on growth traits of Awassi and Red-Karman lambs. They also reported that the YOB, TOB and sex had highly significant ( $P < 0.01$ ) effect on birth weight. Babar et al. (2004) reported in Lohi sheep that birth weight was significantly ( $P < 0.01$ ) influenced by the YOB, TOB and sex of the lamb born. The age of the dam also was a factor significantly influencing birth weight of the lamb; the younger ewes produced

lighter ( $3.48 \pm 0.02$  kg) lambs than older ewes ( $3.67 \pm 0.03$  kg). Hussain (2006) recorded in Thalli sheep that, the lambs born during spring season were slightly heavier ( $4.05 \pm 0.12$  kg) than the lambs born during autumn season ( $4.01 \pm 0.06$  kg) whereas, lambs born as single were ( $4.24 \pm 0.00$  kg) observed heavier than twin lambs ( $3.68 \pm 0.01$  kg). The male lambs were also heavier than females, as expected. Birth weight averages for male and female lambs were  $4.21 \pm 0.10$  and  $3.85 \pm 0.08$  kg, respectively. The author also reported that, YOB, TOB ( $P < 0.01$ ) and sex ( $P < 0.05$ ) had significant effect on birth weight while, SOB had an insignificant effect. Refiq et al. (2009) and Mokhtari and Rashidi (2010), also mentioned that SOB and sex had significant effect on birth weight. Birth weight of lambs born in spring season was significantly heavier than the birth weight of lambs born in autumn season and similar findings were also observed in the present study.

The results of several environmental factors affecting birth weight were not consistent with those of present study as Al-Amin et al. (1983) and Sharma et al. (1999) reported that year of birth had insignificant effect on lamb birth weight. Greeff et al. (1991) analyzed the data on 2465 Karakul lambs and observed type of birth (single or twin) had insignificant effect on lamb weight at birth. Sahani et al. (1989) and Guevara et al. (1993) reported that, sex had no effect on birth weight of Marwari and Pelibuey x Wiltshire Horn lambs, respectively.

Numerous researchers also indicated that the single born lambs and the male lambs were heavier than multiple births and females (Turner and Young, 1969; Mokhtar et al., 1991; Babar, 1994; Akhtar, 1996; Hussain, 2006).

**Table 1.** Least Square Mean $\pm$ SE (LSM $\pm$ SE) Values of Some Performance Traits (kg)

S no	Breeds	B W	WW	6MW	9MW	12MW	24MW
1	Balochi Male (280)*	$3.33 \pm 0.75$ (280)*	$17.56 \pm 1.41$ (222)*	$21.26 \pm 1.31$ (210)*	$26.43 \pm 1.61$ (205)*	$30.65 \pm 1.92$ (222)*	$39.180 \pm 3.96$ (222)*
2	Beverigh Male (350)*	$2.99 \pm 0.45$ (350)*	$16.24 \pm 1.24$ (319)*	$20.25 \pm 1.49$ (303)*	$24.05 \pm 1.56$ (295)*	$27.92 \pm 2.39$ (295)*	$35.80 \pm 2.41$ (295)*
3	Balochi Female (221)*	$2.77 \pm 0.50$ (221)*	$15.02 \pm 0.72$ (205)*	$19.15 \pm 0.83$ (199)*	$24.33 \pm 0.87$ (187)*	$27.42 \pm 1.04$ (179)*	$34.35 \pm 1.87$ (111)*
4	Beverigh Male (320)*	$2.54 \pm 0.33$ (320)*	$14.01 \pm 0.59$ (296)*	$16.99 \pm 1.16$ (284)*	$21.88 \pm 1.34$ (278)*	$24.17 \pm 1.14$ (271)*	$32.41 \pm 2.24$ (130)*

\* = Number of observations; \*\*AWY = Annual Wool Yield

The significant effect of male lambs as found in the present study was in line with the findings of Dixit et al. (2001), who reported that heavier body weight of male lambs compared to female lambs may be due to variation in their endocrine profile and in their culling level practiced at various ages. The variation of BW in lambs in different years reflected the level of management, some environmental effects like rain fall and availability of feed. Ewes well selected and properly fed commonly produced heavy lambs at birth; similar findings were also documented by Hussain (2006) and Tariq et al. (2010).

\*= Number of observations; <sup>1</sup>AFS= Age at first service; <sup>2</sup>AFL= Age at first lambing; <sup>3</sup>SP= Service period; <sup>4</sup>LI=lambing interval; <sup>5</sup>TP=twinning percentage, <sup>6</sup>LP lambing percentage; <sup>7</sup>FR=fertility rate

These differences in birth weights may be due to breed, size of the data set or method of estimation used in different studies, production system, climatic conditions and ecological zones, where sheep farming were practiced. This wide variation in birth weight indicated that mass selection for higher birth weight could be made in order to improve the birth weight of lambs so that early lamb mortality may be reduced.

**Weaning Weight (WW):** The results of the present study revealed that the weight at WW was influenced significantly by YOB, TOB, and sex (P<0.05). Present results were in line with those reported by many authors (Nawaz and Ahmad, 1998; Akhtar et al., 2001; Esenbuga et al., 2002a; Matika et al. 2003; Babar et al., 2004; Shah and Khan, 2004; Hussain, 2006; Refiq et al., 2009; Mokhtari and Rashidi, 2010).

Nawaz and Ahmad (1998) analyzed data from 6305 lambing of Lohi and its crosses with Awassi and Kachhi. They reported that the weaning weight was affected significantly by YOB (P<0.01) and sex (P<0.01), SOB (P<0.05) and TOB (P<0.05). Male lambs were 14%

heavier at weaning than females lambs. Akhtar et. al. (2001) assessed the effect of some environmental factors affecting pre-weaning growth traits of Hissardale sheep in Pakistan by using Harvey's Mixed Model Least Squares and Maximum Likelihood computer programs. They reported that weaning weight of Hissardale sheep was affected significantly by year and season of birth and sex of the lamb (P<0.01). Hussain (2006), who analyzed data on 11674 lambs of Thalli sheep during (1975-2004), revealed that, the significant effects of year, sex, season of birth (P<0.01) and sex by type of birth interaction were insignificant, these findings were similar to those of the present study. However, season of birth by sex of lamb and season of birth by type of birth interactions were found to be significant on weaning weight (P<0.01), However, the insignificant difference observed in weaning weight due to type of birth, the result was in disagreement with the present study.

Refiq et al. (2009) studied the effect of YOB, TOB, and sex on weaning weight of Turkish Merino lambs and reported that, the weaning weight was significantly influenced by YOB, SOB, TOB, and sex (P<0.05). Mokhtari and Rashidi, (2010), who studied the effects of some environmental factors on growth traits of Kermani lambs, reported that, the year, season of birth, sex and type of birth had highly significant (P<0.05) for weaning weight. Weaning weight of the lamb indicates the mothering ability of dam and the growth potential inherited by the lamb.

The significant difference of type of birth on weaning weight for the present study was in disagreement with the findings of Greef et al. (1991) and Akhtar et al. (2001). They reported insignificant effect of type of birth on weaning weight in Karakul and Hissardale lambs respectively.

The contradictions in findings of the present study and others studies may be due to breed, climatically and

**Table 2.** Least Mean±SE (LSM±SE) Values of Some Reproductive Traits

Breeds	AFS <sup>1</sup> (days)	AFL <sup>2</sup> (days)	SP <sup>3</sup> (days)	LI <sup>4</sup> (days)	TP <sup>5</sup> (%)	LP <sup>6</sup> (%)	FR <sup>7</sup> (%)
Balochi	587±2.90 (334)*	731±3.70 (320)*	209±2.51 (290)*	359±3.34 (310)*	2±.03 (320)*	87±2.71 (334)*	82±3.56 (320)*
Beverigh	595±1.51 (290)*	744±2.34 (278)*	215±3.45 (290)*	365±4.11 (290)*	1±.02 (290)*	81±2.45 (290)*	77±3.03 (290)*

\* = Number of observations; <sup>1</sup>AFS= Age at first service; <sup>2</sup>AFL= Age at first lambing; <sup>3</sup>SP= Service period; <sup>4</sup>LI=lambing interval; <sup>5</sup>TP=twinning percentage, <sup>6</sup>LP lambing percentage; <sup>7</sup>FR=fertility rate

ecological differences where sheep farming are practiced.

**Six Months Weight (6MW):** The results of the present study for 6MW were in line with the findings of some researchers Akhtar (1996); Hussain (2006). Akhtar (1996) analyzed the data on 2630 lambs of Hissardale sheep over a period of fifteen years and reported that effect of YOB, SOB and sex on 180 days weights were significant. These results were similar to the present study. However, type of birth did not exert any significant effect on the body weights at 180; the result was contrary to the present study.

Hussain (2006) analyzed data on 9080 lambs of Hissardale sheep during and indicated that, year and season of birth, type of birth, sex had significant effect at 180 days weight ( $P < 0.01$ ) and the interaction between type of birth and sex of lamb born had non-significant effect which was similar to the results of the present study. Autumn born lambs were heavier than spring born lambs ( $23.70 \pm 0.38$  vs.  $22.98 \pm 0.39$  kg). Males were also heavier than females ( $24.25 \pm 0.61$  vs.  $22.43 \pm 0.42$  kg). Single born lambs were heavier than twin born lambs at 180 days of age which were slightly heavier than triplets ( $23.41 \pm 0.14$  vs.  $22.54 \pm 0.16$  vs.  $22.06 \pm 1.08$  kg). These findings were also similar to the present study. Refiq et al. (2009), who analyzed the data on Turkish Merino lambs and reported that year of birth and season of birth, type of birth, sex shown significant effect at 180 days weight ( $P < 0.01$ ).

**Nine Months Weight:** The results of 9MW of present study were partially in agreement with the results of Hussain (2006), who analyzed data on 9080 lambs of Hissardale sheep during (1975-2004) and revealed that, results on sex, type of birth, interaction between sex and type of birth and linear effect of weaning weight on 270 days of weight were similar to the present study. However, the effect of year of birth, season of birth and TOB by sex interaction was found significant, these results were not similar to those given in the present study. Autumn born lambs ( $26.72 \pm 0.73$  kg) were slightly lighter at 270 days of age than spring born lambs ( $26.93 \pm 0.73$  kg). Male lambs were also heavier than female ( $28.66 \pm 1.35$  vs.  $24.99 \pm 0.50$  kg). Single born lambs were heavier than twins and triplets, these results were almost similar to those of the present study.

The results of present study were not similar to Akhtar (1996) who evaluated the data on 2630 lambs

of Hissardale, and determined that the effects of year of birth and season on body weights at 270 days age were significant. The type of birth, however, did not exert any significant effect. Only significant effect of sex on the body weight at 270 days was similar to the present study. The author also observed that the weight at 270 days of age varied during SOB, autumn born lambs ( $26.00 \pm 0.14$  kg) were slightly lighter at 270 days of age than spring born lambs ( $25.50 \pm 0.23$  kg). Male lambs were also heavier than female ( $26.90 \pm 0.21$  vs.  $24.60 \pm 0.19$  kg). Single born lambs ( $25.70 \pm 0.15$ ) were heavier than twins. ( $25.80 \pm 0.21$ ), these results were consistent with the present study.

**Twelve Months Weight (12MW):** The findings for 12 MW of the present study were in agreement with those reported by many authors (Cloete et al. (1998a); Talebi and Edriss (1998a); Abegaz et al. (2002); Hussain (2006); Refiq et al. (2009), and Mokhtari and Rashidi (2010) reported that, type of birth and sex was significantly different at body weight of one year of age.

Cloete et al. (1998a) reported that, sex and TOB were factors with significant ( $P < 0.05$ ) effects on yearling weight of Dhone Merino sheep. Abegaz et al. (2002) studied factors affecting the early growth and survival of indigenous Ethiopian Horro sheep. They reported that, sex and TOB had significant ( $P < 0.01$ ) effects on yearling weight. Male lambs were heavier by 4.2 kg than females in yearling weight. However, significant effect of YOB was in disagreement with the present study. Hussain (2006) analyzed the data on 7061 lamb of Thalli sheep and reported that, the variation in yearling body weight due to year of birth, sex, type of birth, weaning weight (co-variable), interaction between season of birth with sex and type of birth with sex were significant ( $P < 0.01$ ). However, the effects of season and interaction between season of birth and type of birth on yearling weight were non-significant. These results were in agreement with the results of the present study except for YOB.

The findings of the present study were in agreement with the findings of (Garcia et al., 1980; Abegaz et al., 2002). Garcia et al. (1980) reported that, body weight at one year of age averaged 38.36 kg for females and 43.30 kg for males, and was significantly affected by year in Suffolk breed of sheep. Abegaz et al. (2002) studied factors affecting the early growth and survival of indigenous Ethiopian Horro sheep. They reported

that year of birth, sex and type of birth or rearing had significant ( $P<0.01$ ) effects on yearling weight. Male lambs were heavier by 4.2 kg than females in yearling weight. Hussain (2006) reported that variation in yearling body weight due to year of birth, sex, type of birth, weaning weight (co-variable), interaction between season of birth with sex and type of birth with sex were significant ( $P<0.01$ ). However, the effect of season and interaction between season of birth and type of birth on yearling weight was non-significant.

Refiq et al. (2009) and Mokhtari and Rashidi, (2010) studied the effects of some environmental factors on growth traits at age 12MW in Turkish Merino lambs ( $P<0.05$ ) and Kermani lambs respectively. Both reported that 12MW was significantly influenced by YOB, SOB, TOB ( $P<0.05$ ) and sex  $\rightarrow$  ( $P<0.01$ ), respectively. Results of TOB and sex supported the present study. However; YOB and SOB which had significant effect on 12MW were in disagreement to the findings of the present study. The variation in 12 MW during different season and year of birth indicated managerial and nutritional differences.

**Reproductive Performance:** Breeding is by natural mating in the flock. The results of the present study were low to moderate; therefore, it is necessary to improve managerial practices at the farm for better reproductive and productive traits. The result of reproductive performance for the present study was in line with the findings of many authors (Akhtar, 1996; Hussain, 2006; Tariq et al., 2011).

## CONCLUSION

Environmental factors had significant effects on productive performance of Balochi and Bibrik breeds. Balochi flock performed significantly better in all traits compared to the Beverigh flock. In both breeds birth weight of the male lambs were heavier than that of female lambs, and single born lambs were also significantly heavier than twins ( $P<0.05$ ). Results reflected that Balochi and Beverigh sheep breeds can be improved through better selection and management.

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