DETERMINATION OF BODY WEIGHT AND BODY MEASUREMENTS OF AKKARAMAN SHEEP REARED AT MALYA STATE FARM IN MIDDLE ANATOLIA REGION CONDITIONS OF TURKEY*

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Turkey has number of 25 million heads sheep and native sheep breeds constitute 95% of sheep existence in Turkey (**Anonymous,** 2014). Akkaraman sheep breed constitutes nearly half of sheep existence and takes as numerically in first rank in Turkey. Akkaraman sheep are very important for Turkey because Akkaraman sheep are reared in large geographic regions like Middle Anatolia, in close parts to Middle Anatolia of East Anatolia, Black Sea region, Mediterranean region and South-Eastern Anatolia region of Turkey (**Akçapınar,** 2000). Akkaraman has been well adapted to harsh continental climate, poor environmental conditions, resistant to diseases, hunger and poor pasture conditions of Anatolia (**Şireli,** 1996). Akkaraman has narrow and long head, long legs, and long ears, fat tailed and tail vertebrae makes S-shaped bent in ends of tail and 4-6 kg tail fat weight (**Karabulut et al.,** 1987; **Akçapınar,** 2000; **Esen and Yıldız,** 2000). Tail fat serves as energy store, providing survival against periodic food scarcity such as in drought and winter (**Gökdal et al.,** 2003;**Taghipour et al.,** 2010). Akkaraman sheep have mixed and coarse wool type which is suitable for the construction of carpets, blankets and duvet (**Akçapınar,** 2000). Greasy wool yield, fiber diameters and clean wool percentage of Akkaraman sheep were reported between 1.6 kg and 1.8 kg, between 27 μm and 28.6 μm and between 53.8% and 60.8%, respectively (**Garip et al.,** 2010).

Body weight of Akkaraman was reported between 44.7 kg and 69 kg for ewes and between 89 kg and 102 kg for rams (**Düzgüneş and Pekel,**1966; **Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000; **Altıoğlu,** 2007; **Yılmaz et al.,** 2011). Wither height of Akkaraman was reported between 67.2 cm and 75.9 cm for ewes and between 85 cm and 87.9 cm for rams (**Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000; **Altıoğlu,** 2007;**Yılmaz et al.,** 2011). This study was conducted in order to determine body weight and some body measurements of Akkaraman sheep reared at Malya state farm in Middle Anatolia conditions of Turkey.

MATERIAL AND METHODS

This experimental study was done immediately after shearing in 2013 year for Akkaraman ewes and rams reared at Malya state farm, which have steppe climate and very suitable for sheep breeding in Middle Anatolia region of Turkey. Body weight and body measurements were measured for 60 ewes and 40 rams at different ages (2, 3, 4 and 5 years old and more). Effects of age and sex of sheep on body measurements and body weight were investigated. Four age groups were formed beginning with 2 years old and ending at 5 years old and older, as older sheep than 5 years old were reformed from herd in this state farm. Small animal scale, which is in precision of 100 grams with a capacity of 300 kg, was used to measure body weights. Body weights were measured while sheep were hungry in early hours of morning. Before sheep had an access to food and water in the morning, body measurements were determined with measuring stick and measuring tape. For each animal, body weight and 20 body measurements were taken by same researcher. Body measurements were measured, while sheep stand on squarely all 4 legs. Definitions regarding some body measurements measured in this study are as follows:

Wither height: vertical distance between the highest point of withers and flat ground.

Rump height: vertical distance between the highest point of sacrum and flat ground.

Back height: vertical distance between the highest point of back and flat ground.

Rump length: horizontal distance between tuber coxae and tuber ishium.

Rump width: horizontal distance between left and right tuber coxae, known as front rump width.

Front cannon bone circumference: circumference measured from the thinnest point of metacarpi leg bone.

Body length: horizontal distance between caput humeri and tuber ischii.

Chest circumference: circumferential measure taken around chest right next behind of front legs.

Chest depth: vertical distance from withers to the sternum.

Chest length: horizontal distance from acromion of scapula to last thoracic rib, because it is difficult to feel the first rib in live animals (chest length was measured first time in this study).

Chest width: distance between left and right caput humeri.

Tail length: vertical distance between base of tail and tip of tail.

Tail-tarsal joint distance: vertical distance between fatty part at tail tip (S-shaped bent) and tarsal joint.

Tail width: distance of width measured at the broadest part of tail.

Head length: distance between crista occipitalis and os incicivum.

Head circumference: circumference measure for head from right next below of root of the ear. Head width: distance at a bit upper part of between both eyes measured from the widest part of head.

Distance between ears: distance between both bottoms of ears.

Ear length: distance from the bottom of ear to tip of the ear.

Ear width: width between the two ear edges measured from where ear is the widest (**Çalışlar et. al.,** 1996; **Bıyıkoğlu,** 2009; **Yılmaz et al,** 2011; **Koncagül et. al.,** 2012).

Minitab packet program was used for statistical analysis (**Minitab,** 1998). The least square means method was used for determination of effective factors (age and sex of sheep) on body measurements and body weight. Tukey test was used for multiple comparisons in important subgroups.

RESULTS AND DISCUSSION

Least squares means for body weight and some body measurements of Akkaraman sheep were presented in Table 1. Effect of age on body weight, wither height, rump length, back height, rump width and body length were significant ($P<0.05$) but non-significant for front cannon bone circumference and rump height ($P>0.05$). Effect of sex on all traits in Table 1 were significant ($P<0.001$) and rams have bigger measurements than ewes. Differences between ram and ewes in all age groups were significant ($P<0.05$) and rams have bigger body measurements. Least squares means of body weight were 64.59±0.94 kg for ewes and 88.70±1.15 kg for rams.

Least squares means of measurements of tail and chest region were presented in Table 2. Effects of age on chest circumference, chest depth and tail width were significant ($P<0.001$). It can be said that chest circumference and tail width increased with increasing of age. Effects of sex on chest circumference, chest depth, chest length, chest width and tail width were significant ($P<0.001$) but non-significant for tail-tarsal joint distance and tail length. The effect of sex on alone tail width from all tail features was significant ($P<0.001$) and rams have more fatty tail than ewes. Also, tail width increased with increasing of age and older sheep have bigger tail width and more fatty tail. Least squares means of measurements of head region for Akkaraman sheep were presented in Table 3. Effects of sex on head measurements were significant ($P<0.01$) except for ear length. It can be said that head and ear measurements of rams were longer than ewes except for ear length. Effects of age on head length and head circumference were statistically significant ($P<0.001$)

and it can be said that all head measurements increased until 4-5 years old.

Least squares means of body measurements were 81.43±0.34 cm for wither height, 80.59±0.34cm for rump height, 81.19±0.35cm for back height, 29.75±0.16cm for rump length, 18.30±0.12cm for rump width, 8.27±0.05 cm for front cannon bone circumference, 77.43±0.45 cm for body length, 89.78±0.50 cm for chest circumference, 38.29±0.21cm for chest depth, 35.19±0.27 cm for chest length, 23.27±0.16 cm for chest width, 30.58±0.44 cm for tail length, 23.45±0.29 cm for tail-tarsal joint distance, 33.21±0.52 cm for tail width, 31.16±0.12 cm for head length, 44.74±0.22 cm for head circumference, 10.85±0,13 cm for head width, 18.08±0.14 cm for distance between ears, 17.16±0.13 cm for ear length and 8.65±0.06 cm for ear width for ewes. Body measurements of rams were statistically higher than ewes except for ear length, tail length and tail-tarsal joint distance. It can be said that rams have bigger values both body weight and all body measurements.

When examined Table 1, it was shown that body measurements were the lowest value in 2 years old ewes and rams and the highest value in 5 years old and older ewes, as reported previous studies (**Oğan,** 1994; **Altıoğlu,** 2007; **Yılmaz et al.,** 2011). Average body weight was found as 64.59±0.94 kg for ewes and 88.70±1.15 kg for rams. Body weight increased from 60.96±1.72 kg for 2 years old ewes to 71.59±2.04 kg for 5 years old ewes. Mean body weight of ewes is similar to values reported between 66 kg and 69 kg in previous researches for Akkaraman (**Altıoğlu,** 2007; **Yılmaz et al.,** 2011) and higher than between 44.7 kg and 55 kg for Akkaraman (**Düzgüneş and Pekel,** 1966; **Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000) and between 48 kg and 62.6 kg for Merino (**Öznacar,** 1973; **Oğan,** 1994).

It can be said that there are an increase in body weight together with increasing of age for both ewes and rams. Body weight of ram was higher than ewes in all age groups and differences between ram and ewes were statistically significant ($P<0.001$).

As shown in Table 1, effect of age on all body measurements were significant ($P<0.05$) except for front cannon bone circumference and rump height. Body measurements increased with increasing of age until 5 years and older. Non-significant effect of age on rump height may be caused by different rump types and rump shapes (normal rump, lower rump and high rump). However, it can be said that rump height increased at insufficient levels with increasing of age.

Mean front cannon bone circumference for ewes was 8.27±0.05 cm and similar to 7.9 cm and 8.2 cm (**Yalçın and Aktaş,** 1969; **Koncagül et al.,** 2012) and lower than 9.5 cm (**Yılmaz et al.,** 2011). Mean of front cannon bone circumference for rams were 9.2±0.06 cm and lower than 10.7cm in previous research (**Yılmaz et al.,** 2011). Effect of age on front cannon bone circumference was statistically non-significant. Thus, it can be said that development of front cannon bone circumference was completed in 2 years old.

Table 1. **Least squares means for body weight and some body measurements of Akkaraman sheep**

	n	Body weight, kg	Wither height, cm	Rump height, cm	Back height, cm	Rump width, cm	Rump length, cm	Front cannon bone circumferenc, cm	Body length, cm
Level of importance between ewes and rams in age groups (P value)		***	***	***	***	***-*	***	***	***
2 years old Ewe	15	60.96±1.72 [b]	81.17±0.68 [b]	80.70±0.66 [b]	81.03±0.66 [b]	17.70±0.19 [b]	29.52±0.38 [b]	8.41±0.09 [b]	78.10±0.67 [b]
2 years old Ram	10	79.32±2.11 [a]	87.60±0.83 [a]	86.80±0.81 [a]	87.00±0.80 [a]	19.80±0.24 [a]	31.70±0.46 [a]	9.08±0.11 [a]	84.95±0.82 [a]
3 years old Ewe	15	60.47±1.41 [b]	80.67±0.53 [b]	79.80±0.58 [b]	80.53±0.52 [b]	18.17±0.23 [b]	29.63±0.26 [b]	8.42±0.07 [b]	75.93±0.94 [b]
3 years old Ram	10	84.53±1.72 [a]	89.90±0.65 [a]	89.20±0.72 [a]	89.50±0.63 [a]	20.32±0.28 [a]	31.75±0.32 [a]	9.44±0.08 [a]	87.10±1.15 [a]
4 years old Ewe	15	65.35±0.68 [b]	80.93±0.24 [b]	80.33±0.25 [b]	80.60±0.26 [b]	18.13±0.09 [b]	29.87±0.11 [b]	7.99±0.03 [b]	78.43±0.32 [b]
4 years old Ram	10	96.66±0.85 [a]	91.00±0.30 [a]	90.44±0.31 [a]	90.54±0.33 [a]	20.85±0.11 [a]	33.26±0.14 [a]	9.58±0.04 [a]	90.25±0.40 [a]
5 years old and older Ewe	15	71.59±2.04 [b]	82.93±0.73 [b]	81.53±0.71 [b]	82.60±0.74 [b]	19.21±0.28 [b]	29.97±0.30 [b]	8.26±0.08 [b]	77.27±0.92 [b]
5 years old and older Ram	10	94.46±2.50 [a]	90.40±0.89 [a]	89.30±0.87 [a]	89.95±0.91 [a]	20.44±0.34 [a]	32.80±0.37 [a]	9.57±0.10 [a]	88.30±1.13 [a]
Level of importance between age groups (P value)		***	*	ns	*	**	*	ns	*
2 years old	25	70.72±1.46 [b]	84.57±0.53 [b]	83.97±0.54	84.23±0.54 [b]	18.75±0.19 [b]	30.66±0.25 [b]	8.79±0.07	81.86±0.70 [b]
3 years old	25	72.50±1.46 [b]	85.19±0.53 [ab]	84.39±0.54	84.93±0.54 [ab]	19.23±0.19 [ab]	30.74±0.25 [b]	8.94±0.07	81.42±0.70 [b]
4 years old	25	80.22±1.46 [a]	85.77±0.53 [ab]	85.19±0.54	85.37±0.54 [ab]	19.43±0.19 [ab]	31.48±0.25 [a]	8.73±0.07	84.20±0.70 [a]
5 years old and older	25	83.15±1.46 [a]	86.75±0.53 [a]	85.47±0.53	86.35±0.54 [a]	19.91±0.19 [a]	31.36±0.25 [ab]	8.90±0.07	82.70±0.70 [ab]
Level of importance between sex groups(P value)		***	***	***	***	***	***	***	***
Ewe	60	64.59±0.94 [b]	81.43±0.34 [b]	80.59±0.34 [b]	81.19±0.35 [b]	18.30±0.12 [b]	29.75±0.16 [b]	8.27±0.05 [b]	77.43±0.45 [b]
Ram	40	88.70±1.15 [a]	89.71±0.41 [a]	88.93±0.42 [a]	89.24±0.43 [a]	20.36±0.15 [a]	32.38±0.20 [a]	9.42±0.06 [a]	87.66±0.55 [a]
Means	100	76.65±10.7	85.57±0.27	84.76±0.27	85.21±0.27	19.33±0.10	31.06±0.13	8.84±0.04	82.55±0.35

Data show mean ns: non-significant, *: $P<0.05$, **: $P<0.01$, ***: $P<0.001$,
a,b: The differences between the means of groups carrying various letters in the same column are significant

Table 2. **Least squares means of measurements of tail and chest region for Akkaraman sheep**

		n	Chest circumference, cm	Chest depth, cm	Chest length, cm	Chest width, cm	Tail length, cm	Tail-tarsal joint distance, cm	Tail width, cm
Level of importance between ewes and rams in age groups (P value)			***	***	***-**	***	***-ns	***-ns	***-*
2 years old	Ewe	15	87.97±0.88 [b]	37.79±0.32 [b]	35.12±0.52 [b]	23.39±0.29 [b]	30.10±0.70	22.68±0.50	31.10±0.71 [b]
	Ram	10	95.30±1.08 [a]	40.52±0.40 [a]	37.55±0.63 [a]	25.52±0.35 [a]	30.45±0.86	23.20±0.61	36.90±0.86 [a]
3 years old	Ewe	15	87.40±0.80 [b]	37.63±0.34 [b]	34.80±0.46 [b]	23.15±0.31 [b]	31.70±1.02	24.23±0.60	32.77±0.94 [b]
	Ram	10	98.20±0.98 [a]	41.53±0.41 [a]	38.40±0.56 [a]	25.16±0.37 [a]	30.35±1.24	23.65±0.73	36.40±1.15 [a]
4 years old	Ewe	15	90.20±0.41 [b]	38.17±0.13 [b]	34.97±0.17 [b]	22.67±0.11 [b]	28.87±0.28 [b]	23.53±0.21 [b]	31.87±1.24 [b]
	Ram	10	103.48±0.51 [a]	45.51±0.16 [a]	41.08±0.22 [a]	27.05±0.14 [a]	33.06±0.35 [a]	25.42±0.27 [a]	39.90±1.52 [a]
5 years old and older	Ewe	15	93.57±0.94 [b]	39.57±0.42 [b]	35.89±0.59 [b]	23.88±0.29 [b]	31.67±0.89	23.37±0.56	37.10±1.12 [b]
	Ram	10	102.30±1.15 [a]	44.75±0.52 [a]	39.35±0.72 [a]	26.30±0.35 [a]	32.30±1.09	24.75±0.68	40.65±1.38 [a]
Level of importance between age groups (P value)			***	***	ns	ns	ns	ns	***
2 years old		25	91.90±0.78 [b]	39.36±0.33 [b]	36.48±0.42	24.52±0.25	30.33±0.69	22.97±0.45	33.95±0.80 [b]
3 years old		25	92.72±0.78 [b]	39.67±0.33 [b]	36.63±0.42	24.23±0.25	31.25±0.69	24.08±0.45	34.75±0.80 [b]
4 years old		25	96.46±0.78 [a]	41.58±0.33 [a]	37.79±0.42	24.69±0.25	30.61±0.69	24.40±0.45	35.61±0.80 [b]
5 years old and older		25	98.06±0.78 [a]	42.12±0.33 [a]	37.66±0.42	25.12±0.25	32.01±0.69	24.00±0.45	39.05±0.80 [a]
Level of importance between sex groups (P value)			***	***	***	***	ns	ns	***
Ewe		60	89.78±0.50 [b]	38.29±0.21 [b]	35.19±0.27 [b]	23.27±0.16 [b]	30.58±0.44	23.45±0.29	33.21±0.52 [b]
Ram		40	99.79±0.61 [a]	43.08±0.26 [a]	39.09±0.33 [a]	26.01±0.20 [a]	31.53±0.54	24.28±0.35	38.46±0.63 [a]
Means		100	94.79±0.40	40.68±0.17	37.14±0.21	24.64±0.13	31.05±0.35	23.86±0.23	35.84±0.41

Data show mean ns: non-significant, *: $P<0.05$, **: $P<0.01$, ***: $P<0.001$,
a,b: The differences between the means of groups carrying various letters in the same column are significant

Table 3. Least squares means of measurements of head region for Akkaraman sheep

	n	Head length, cm	Head circumference, cm	Head width, cm	Distance between ears, cm	Ear length, cm	Ear width, cm
Level of importance between ewes and rams in age groups (P value)		***	***	***-ns	***	ns	*-ns
2 years old　　Ewe	15	30.66±0.21^b	44.11±0.40^b	10.62 ±0.20^b	18.18±0.29^b	17.10±0.29	8.57±0.12
Ram	10	33.15±0.26^a	48.25±0.49^a	11.75±0.24^a	21.50±0.35^a	17.25±0.36	8.95±0.15
3 years old　　Ewe	15	31.17±0.23^b	44.00±0.44^b	10.77±0.20^b	17.89±0.25^b	16.97±0.21	8.67±0.11^b
Ram	10	34.05±0.28^a	47.95±0.54^a	11.95±0.24^a	22.20±0.30^a	17.35±0.26	9.11±0.13^a
4 years old　　Ewe	15	31.23±0.08^b	45.26±0.12^b	10.51±0.05^b	18.13±0.08^b	17.37±0.11	8.75±0.03
Ram	10	35.39±0.11^a	51.58±0.15^a	12.41±0.06^a	23.20±0.10^a	17.70±0.14	8.95±0.03
5 years old and older　Ewe	15	31.60±0.24^b	45.58±0.46^b	11.48±0.43	18.10±0.27^b	17.20±0.25	8.61±0.14
Ram	10	34.55±0.29^a	51.22±0.57^a	12.25±0.53	23.10±0.34^a	17.42±0.30	8.65±0.17
Level of importance between age groups (P value)		***	***	ns	ns	ns	ns
2 years old	25	31.97±0.19^b	46.27±0.34^b	11.20±0.21	19.95±0.21	17.19±0.21	8.75±0.09
3 years old	25	32.63±0.19^{ab}	46.08±0.34^b	11.36±0.21	20.06±0.21	17.15±0.21	8.87±0.09
4 years old	25	33.19±0.19^a	48.28±0.34^a	11.39±0.21	20.60±0.21	17.53±0.21	8.86±0.09
5 years old and older	25	33.09±0.19^a	48.34±0.34^a	11.91±0.21	20.54±0.21	17.32±0.21	8.66±0.09
Level of importance between sex groups (P value)		***	***	***	***	ns	**
Ewe	60	31.16±0.12^b	44.74±0.22^b	10.85±0.13^b	18.08±0.14^b	17.16±0.13	8.65±0.06^b
Ram	40	34.28±0.15^a	49.74±0.26^a	12.09±0.16^a	22.50±0.17^a	17.43±0.16	8.92±0.07^a
Means	100	32.72±0.10	47.24±0.17	11.47±0.11	20.29±0.11	17.29±0.11	8.78±0.05

Data show mean ns: non-significant, *: $P<0.05$, **: $P<0.01$, ***: $P<0.001$,
a,b: The differences between the means of groups carrying various letters in the same column are significant

Mean of wither height for ewes was 81.43±0.34 cm and higher than values between 67.2 cm and 75.9 cm for Akkaraman (**Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000; **Yılmaz et al.,** 2011). Mean of rump width was 18.30±0.12 cm and smaller than values between 19.1 cm and 20.4 cm (**Yalçın and Aktaş,** 1969; **Koncagül et al.,** 2012; **Yılmaz et al.,** 2011). Mean of body length for ewes was 77.43±0.45 cm and higher than values between 60.2 cm and 66.6 cm in previous studies (**Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000; **Yılmaz et al.,** 2011; **Koncagül et al.,** 2012).

As shown in Table 2, mean of chest circumference for ewes was 89.78±0.50 cm and nearly similar to values between 94.7 cm and 98.8 cm (**Yalçın and Aktaş,** 1969; **Koncagül et al.,** 2012; **Yılmaz et al.,** 2011) and lower than 105 cm (**Altıoğlu,** 2007). Mean of chest depth for ewes was 38.29±0.21cm and nearly similar to 35 cm (**Yılmaz et al.,** 2011) and higher than 29.9 cm and 33.4 cm (**Yalçın and Aktaş,** 1969; **Gökdal et al.,** 2000; **Koncagül et al.,** 2012). Mean of chest width for ewes was 23.27±0.16 cm and similar to previous researches (**Altıoğlu,** 2007; **Gökdal et al.,** 2000). It can be said that all thoracic measurements and thoracic volume increased with age and rams have bigger chest measurements.

Effects of age and sex on tail length and tail-tarsal joint distance was non-significant (*P*>0.05). Thus, it can be said that tail length and tail-tarsal joint distance did not chance at important level with increasing age. However, tail width increased excessively with increasing of age at older ewes and rams. Although difference between rams and ewes for tail length and tail-tarsal joint distance was not at important level, rams have bigger tail width and more fatty tail. Mean of tail length for ewes was 30.58±0.44 cm and longer than 22.7 cm (**Koncagül et al.,** 2012). Tail-tarsal joint distance was 23.45±0.29 cm and higher than 10.9 cm (**Yılmaz et al.,** 2011). Longer tail-tarsal joint distance means being smaller and at above of fatty tail. Tail length and tail-tarsal joint distance in rams was generally longer than ewes. However, tail length and tail-tarsal joint distance for 3 years old ram were shorter than 3 years old ewes. This condition may be caused by selection for smaller tail structure of rams in this farm or bringing of rams having small tail structure from other state farms. Very large and drooping tail structure in breeding ewes is not wanted by breeders.

Mean of head length was 31.16±0.12 cm for ewes and 34.28±0.15cm for rams. These head length values were a bit longer than values between 20.4cm and 27.9 cm for Akkaraman (**Yılmaz et al.,** 2011; **Koncagül et al.,** 2012). As shown in Table 3, rams have bigger head measurements and ear width but difference between rams and ewes for ear length was statistically non-significant. Mean of ear length and ear width for ewes were 17.16±0.13 cm and 8.65±0.06 cm, respectively and similar to previous researches (**Yılmaz et al.,** 2011; **Koncagül et al.,** 2012). It can be said that an increase will be especially in head circumference and head length with advancing age and rams have bigger head and ear measurements than ewes.

CONCLUSION

Effects of age on body measurements were generally significant. This shows highly termination of skeletal growth in especially ewes after 2 years and all body measurements increased slowly until 5 years old. It can be said that especially chest circumference, body weight and tail width increased at bigger amounts and at important levels with increasing of age after 2 years old. Rams have higher body measurements than ewes except for ear length, tail length and tail-tarsal joint distance.

In comparison with other studies in earlier years, an increase in body size of Akkaraman sheep were determined, this may connected to selection and culling processes applied in herd according to bigger body structure and specifically improvements in feeding and care conditions of sheep in Turkey. It can be concluded that body measurements and body weight of Akkaraman sheep are at good levels depending on the good care and feeding conditions and are raised successfully at Malya state farm.

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DETERMINATION OF BODY WEIGHT AND BODY MEASUREMENTS OF AKKARAMAN SHEEP REARED AT MALYA STATE FARM IN MIDDLE ANATOLIA REGION CONDITIONS OF TURKEY*

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SUMMARY

This study was carried out to determine body weight and some body measurements of Akkaraman sheep reared at Malya state farm in Middle Anatolia region conditions of Turkey. Body weight and body measurements were measured from 60 ewes and 40 rams. Least squares means were 64.59±0.94 kg for body weight, 81.43±0.34 cm for wither height, 80.59±0.34 cm for rump height, 81.19±0.35 cm for back height, 29.75±0.16 cm for rump length, 18.30±0.12 cm for rump width, 8.27±0.05 cm for front cannon bone circumference, 77.43±0.45 cm for body length, 89.78±0.50 cm for chest circumference, 38.29±0.21 cm for chest depth, 35.19±0.27 cm for chest length, 23.27±0.16 cm for chest width, 30.58±0.44 cm for tail length, 23.45±0.29 cm for tail-tarsal joint distance, 33.21±0.52 cm for tail width, 31.16±0.12 cm for head length, 44.74±0.22 cm for head circumference, 10.85±0.13 cm for head width, 18.08±0.14 cm for distance between ears, 17.16±0.13 cm for ear length, 8.65±0.06 cm for ear width of ewes. Mean of body weight of rams was 88.70±1.15 kg. Body measurements of rams were statistically higher than ewes (*P*<0.01) except for ear length, tail length and the tail-tarsal joint distance. Effect of age on body weight was significant (*P*<0.001) and body weight increased until 5 years old in both ewes and rams. Effect of age on some body measurements (wither height, back height, rump length, rump width, body length, chest circumference, chest depth, tail width, head length and head circumference) was significant (*P*<0.05). Body measurements generally increased with increasing of age until 5 years old. It can be concluded that body measurements and body weight of Akkaraman sheep are at good levels and Akkaraman sheep are raised successfully on Malya state farm.

 Key words: *Sheep, Akkaraman, fatty tail, body weight, body measurements.*