

SHORT NOTE

Factors affecting mortality rate of Tagger goats in the Gezira State, Sudan

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Goat meat is important in the Sudan due to high goat population, wide distribution and cheap prices. However, it is generally less preferred than mutton and beef and is preferred in rural areas. The international demand for goat meat is increasing due to its high nutritive value and low fat. However, exports are less than expected from goat population in the country. Goat meat production is still traditional in the Sudan and is based on natural pastures with low inputs and outputs (Mudawi, 2002; Ombabi and Elimam, 2007). Improving goat production is likely to boost local demand and exports and increase sheep and cattle exports. Goat meat production could be improved by improving health, genetic constitution, nutrition, management, marketing and capacity building. Tagger goat is mainly found in the Nuba Mountains, South Kordofan State, Sudan and is an important meat producer due to superior meat quality and conformation (Mofarrah, 1995; Elbukhary, 1998; Mudawi, 2002). The breed is recently introduced into the Gezira State for meat production. Mortality rate is among the main factors affecting goat meat production in the Sudan. Information on Tagger mortality rate is not available in the Gezira State. Consequently, this study was conducted to study Tagger mortality rates and factors affecting them in the Gezira State, Sudan.

A flock of 50 Tagger goats (40 females and 10 males) was bought from Eldaleng area in the Nuba Mountains, South Kordofan State, Sudan. It is reared in the premises of the Goat Research Centre, Faculty of Agricultural Sciences, University of Gezira in Elneshasheba farm in Wad Medani, Sudan, since

June 2006. They were housed in an open corral shaded with corrugated metal sheets and well managed and fed. They were regularly vaccinated against prevalent diseases in the area and treated against external and internal parasites. They were mainly grazed in Elneshasheba farm from 8 am to 2 pm and from 4:30 pm to 6:30pm. The animals mainly grazed Kittir (*A. mellifera* L.) and Rabaa (*Trianthema pentandra* L.) and were also fed Sudangrass (Gerawia), Abu 70 and Lubia. Clean water was offered *ad lib.*. Individual records were kept for the animals. The study period was divided into a transitory period (26/6 – 31/7/2006) and an experimental period for 2 years starting from 1/8/2006. Data on the flock mortality and its causes were collected and statistically analyzed.

Transitory period:

Thirteen animals were lost during this period (26% of the flock) including 2 animals on the way (4%) and the others for different reasons. Pneumonia was the sole cause of mortality and was associated with diarrhea (60%) followed by pneumonia alone (30%) and then pneumonia and renal inflammations (10%). Losses in the farm were higher in females (n = 12, forming 24% of animals) than males (n =1, forming 2% of animals). The very high losses in this period were because some animals were sick when bought and not well treated and due to stress. Very high losses in goats were found in the Gezira when animals were kept indoors and may reach 100% (Khadega Mohmed Elamin, Butana University, Sudan personal communication). Mortality rate was very high and is expected when animals are transferred from one environment to another. Tagger mortality rate close to the 26.8% was reported in Zaraibi in Egypt (Marai *et al.*, 2002).

Experimental period:

Table 1 shows Tagger mortality causes during the experimental period. Mortality rates were higher in the first year than the second year with variations between years in the ranking order of causes. Poisoning and nonspecific causes were the main reasons for mortality. Mortality rates were higher in females (68.19%) than males (31.81%) in the first year and were similar in the two sexes (50%) in the second year.

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Table1. Tagger goat mortality causes in the Gezira State, Sudan.

Parameters	First year (n= 45)		Second year (n= 82)	
	n	%	n	%
Mortality	16	35.56	22	26.83
Poisoning	06	37.50	05	22.73
Pneumonia	02	12.50	01	04.55
Bloat	02	12.50	01	04.55
Sway back	01	06.25	00	00.00
Anaemia	01	06.25	01	04.55
Diarrhea	00	00.00	02	09.09
Dystokia	00	00.00	02	09.09
Hemorrhages	00	00.00	01	04.55
Snake bites	00	00.00	01	04.55
Dog bites	00	00.00	01	04.55
Non specific	04	25.00	07	31.82

Lower mortality rates in the second year compared to the first one were due to improved management, health and nutrition in the second year. Similarly improved animals health reduced goat mortality from 16% to 12% with vaccination and to 4% by vaccination and deworming (Ba *et al.*, 1996). The breed mortality rate in Eldalang area (36.57%) (Mudawi, 2002) was close to that in the first year and lower than in the second year. Mortality rate in the first year was higher than in Sahelian goats in Nigeria (21.8%) which was very close to that in the second year (Ameh *et al.*, 2000). Mortality rate was less than the reported 38.6% for West African goats (Osugwuh and Akpokodje, 1984) and higher than the 16% in the semiarid areas in Mali (Ba *et al.*, 1996) and 6.9- 7.9% in Tanzania (Eik *et al.*, 2008). Poisoning was the main cause for Tagger mortality in the Gezira State followed by pneumonia and bloat. However, the last two causes were the main mortality causes in Sahelian goats in Nigeria (Ameh *et al.*, 2000). In Tanzania, pneumonia was the main cause for goat mortality.

Table 2 shows the monthly mortality rates of Tagger goat in the Gezira State. There were monthly variations in mortality rate in the two years. It was highest in January followed by July in the first year and in August followed by October in the second year. There were no mortalities in May and December. The higher mortality rates in January could be due to poor Tagger adaptation cold weather, since it has short coat and thin skin.

Table 2. Tagger goat monthly losses and mortality rates in the Gezira State, Sudan.

Month	First year		Second year	
	n	%	n	%
January	4	25.00	01	04.55
February	1	06.25	02	09.10
March	2	12.50	01	04.55
April	1	06.25	00	00.00
May	0	00.00	00	00.00
June	1	06.25	02	09.10
July	3	18.75	01	04.55
August	2	12.50	11	50.00
September	1	06.25	00	00.00
October	0	00.00	03	13.64
November	1	06.25	01	04.55
December	0	00.00	00	00.00

There were seasonal variations in Tagger mortality rates in the two years (Table 3). It was highest in autumn in the second year followed by winter. It was similar in winter and autumn in the first year. The higher mortality rate in autumn and winter could be due to the cold weather and Tagger short coat is not a good insulator. Mortality rate was least in summer in the two years and this was because the breed is well adapted to hot and arid environments. Seasonal variations in diseases were reported in goats in Shambat Educational Veterinary Hospital, Sudan (Aradaib and Abbas,1985).

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Table 3. Tagger goat seasonal mortality rates (%) in the Gezira State, Sudan.

Season	First year		Second year	
	n	%	n	%
Autumn	6	37.50	15	68.18
Winter	6	37.50	4	18.18
Summer	4	25.00	3	13.64

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نسب النفوق والعوامل المؤثرة عليها في ماعز القرني ولاية الجزيرة

بالسودان

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الخلاصة

تمت دراسة العوامل المؤثرة علي نسب النفوق في قطيع من ماعز التقر من منطقة الدلنج في جبال النوبة حفظ في ود مدني في ولاية الجزيرة في السودان لمدة عامين. كانت نسب النفوق 22% في الفترة الانتقالية وكانت الإلتهابات الرئوية المسبب الرئيس للنفوق (100%) وارتبطت معظمها بإسهالات (60%) تليها الألتهايات الرئوية لوحدها (30%) ثم مع الألتهايات البولية (10%). . كانت نسب النفوق أعلى في العام الأول ووجدت اختلافات شهرية وموسمية فيها في العامين. وكانت نسب النفوق أعلى في يناير يليه يونيو في العام الأول وفي أغسطس يليه اكتوبر في العام الثاني. وكانت نسب النفوق أقل صيفا في العامين وأعلى شتاء وخريفا في العام الأول وأعلى في الخريف في العام الثاني.