

A Study of Some Cattle Fattening Units in Omdurman and Khartoum North, Sudan

By

Wafa Daf alla Awad Elkrim Balla

Supervisor: Prof: Aamer Mohammed Salih

Sudan has one of the largest livestock populations in Africa. This wealth is estimated, in the year 2012, to a number of 103.570 million heads of which the contribution of cattle, sheep, goats and camels was 29.358, 39.137, 30.452 and 4.623 millions heads, respectively. The main livestock production sites are located in Northern and Southern Kordofan and Northern, Southern and Western Darfur, (Anon, 2011).

In general the systems of production for cattle in Sudan are not well characterized. The traditional range grazing system that includes the pastoral and semi-pastoral types is considered to be the most common as under which more than 80% of livestock is raised (Yousif and Fadl El Moula, 2006). The local Sudanese cattle breeds belong to Boss indices species referred to as Zebu type or indigenous cattle which is estimated as 40 million heads (Elniema et al., 2011). Kennana and Butana are milk producing, while western Beggar is the major beef-producing cattle breed in Sudan (Anon, 2008).

About 90% of the cattle population is owned by pastoralists mainly concentrated in three major regions, namely Western Sudan, the homeland for Beggara cattle, Mid-Sudan, the homeland for the Kennana and Butana breeds (Yousif and Fadl El Moula, 2006).

Objectives of this study:

To survey some beef cattle unit in Khartoum North and Omdurman with emphasis on feeding of nutrition.

MATERIALS AND METHODS

Study area

This study was carried out in Khartoum State, which occupies the center of the Sudan, between the two Niles, the white and blue Nile. The State was divided to three major towns: Khartoum, Khartoum North and Omdurman.

Khartoum State is located in the semi arid zone that extends over an area of 20971Km² between latitude 15°N and 16.45°N and longitude 31°E and 34.4°E. The average rainfall is between 139-157 mm annually, the rainy season from July to October .In winter, dusty cold winds, while hot dry winds in summer (Ibrahim *et al.*, 1991).

The state human populations are 5-7 million increasing at an annual rate. Water for irrigation is abundant from the white and Blue Niles which joint at Khartoum forming the River Nile (Ministry of Agriculture, Animal Resources and Irrigation of Khartoum State, M.A.A.R.I., 2005).

The State has an advantage of being inside the disease free zone area; also its high intensive human population creates excellent chances for animal products marketing, in addition to the availability of technical and scientific experiences in different fields.

Data collection:

Experimental Herd:

Ninety five beef units of varying sizes, adopting traditional and modern management systems were chosen to cover the state localities, in Khartoum North and Omdurman.

Structural questionnaire

The questionnaire was designed to include (general information about owners (education level, owner's age, jobs and experiences source of stock, type of breed, starting of fattening period, duration working in fattening, type of rations, ration ingredients, consumption of ration per day, number of stock, the length of fattening, Marketing, cost of production, veterinary supervision program services and kind of veterinary services death of cattle and reasons of maturity and serious constraints.

Statistical analysis

The collected survey data were coded and analyzed using SPSS system computer program. All the data were analyzed statistically by using the frequency procedure and Chi-Squire Test to describe performance and characteristic of beef farms.

Results

Table (4.1) Education level of owner in farm beef in Khartoum state

Farms location	Owners education						sig
	Illiterat e	Khalw a	Primar y	Second ary	University	Post graduate	
Omdurma n	34	24.4	26.8	13.8	0.9	0.1	*
Khartoum North	32	22.5	25.5	12.7	6.7	0.6	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4.2) Owners age in farm beef in Khartoum state

Farms location	Owners age (years)			Sig
	18-30	30-50	50-85	
Omdurman	0.0	30.2	69.8	*
Khartoum North	1.9	40.7	57.4	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4.3) Owners jobs in farm beef in Khartoum state

Farms location	Owners jobs					Experiences (years)
	Farmers	Traders	Employers	Business	Sig	
Omdurman	0.0	80	0.0	20	*	23.2
Khartoum North	56.1	1.9	40.7	1.3		14.5

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4.4) Type of farm, Pens shading and Floor types in Khartoum state

Farms location	Type of farm		Sig	Pens shading			sig	Floor types		sig
	Tradi-tional	Moder-n		shaded	not shaded	semi shaded		Concre-te	Soil	
Omdurman	90.2	9.8	*	0.0	85.4	14.6	-	7.2	92.8	-
Khartoum North	57.4	42.6		40.8	14.8	44.4		9.3	90.7	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4.5) Cattle breeds and source in Khartoum state

Farms location	Cattle breeds			sig	source of breeds		sig
	Kenana	Butana	Baggara		Purchase	Heredita ry	
Omdurman	0.0	0.0	100	*	100	0.0	*
Khartoum North	57.4	1.9	40.7		70.4	29.6	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4-6): Weight of cattle, form adaptation period in Khartoum state

Farms location	Weight of cattle		Sig	adaptation period of cattle		sig	Time of adaptation period	Sig
	Yes	No		Yes	No			
Omdurman	00.0	100	*	00.0	100	*	0.00	*
Khartoum North	2	98		35.2	64.8		10.8	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4-7) Beef feed & feeding

Farms location	feeding system			sig
	Traditional	Semi modern	modern	
Omdurman	85.4	14.6	0.0	*
Khartoum North	50.0	46.3	3.7	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4.8) Feeding of Beef (ration)

Farms location	Sources of ration			sig	Number of feeding		Sig
	Locally made concentrate at the farm	Factories	specific ration		Once	Twice	
Omdurman	100	0.0	0.0	*	100	0.0	-
Khartoum North	50.0	46.3	3.7		100	0.0	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4-9) Type of beef feeding (concentrate):

<u>Farm location</u>	Type of ration	Percentage	Sig
Omdurman	G.N.C + C.S.C + M + S	17.6	*
	C.S.C + S.F.C + Sg + M	26.8	
	C.S.C + S.F.C + M	11.7	
	C.S.C + S.F.C + Sg + W.B + M	12.2	
	C.S.C + Sg + S.F.C + W.B + M	31.7	
	G.N.C + W.B + S	30	
Khartoum North	Sg + C.S.C + S + W.B	12.5	*
	G.N.C + W.B + G.N.H + M + U + S + S.G.M	1.9	
	C.S.C + W.B + S	12.5	
	G.N.C + W.B + M + S + Sg	43	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

G.N.C Ground nut cake

W.B Wheat bran

S Salt

M Molass

C.S.C Cotton seed cake

S.F.C Sun flower cake

Sg Sorghum

table(4-10) Type of beef feeding fodder:

Farm location	Type of ration	Percentage	
Omdurman	Sorghum stalk	37	Sig *
	Abusabein	20.4	
	Bagass	13	
	Alfa Alfa	3.8	
	Sorghum seed	1.7	
	Guar hall	5.6	
Khartoum North	Sorghum stalk	30.4	Sig *
	Abusabein	16.8	
	Bagass	15	
	Alfa Alfa	8	
	Sorghum cobs	20.8	
	Guar hall	9	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Table (4-11) source of income

Farms location	Source of income			sig	Place of marking				sig
	beef	Beef with others	Others		In farm	stature	exported	other	
Omdurman	100	0.0	0.0	*	100	0.0	0.0	0.0	*
Khartoum North	46.3	20.4	33.3		53.7	25	20	1.3	

(*): There are significant differences ($P \leq 0.05$)

(-): There are not significant differences ($P \geq 0.05$)

Conclusion

- The study investigated 95 farmers and two locations (Omdurman and Khartoum North) of city aspects of management practices, nutrition, housing and education of owners with effect on production.
- The data show that most of owners and laborers were illiterate, Khalwa and primary and few were education because the education effect (especially university).
- The important factor effect on fattening farms nutrition system. Feeding system traditional

in Omdurman (85.7%) Khartoum North (50%) semi modern (14.6%), (46.3%) morn (0.0%) ,(3.7%) in Omdurman and Khartoum North respect in the studied farms most of them use sorghum stalk(37%) Abu sabian (20.4%) Bagass (13%) , sorghum stalk(30.4%) Abu sabian (16.8%) Bagass (15%) in Khartoum North respect Others in could what bran ,sorghum ,cotton seed cake , moa lass , ground nut cake .

The rearing of beef in this study poorly type housing traditional (90.2%) (57.4%) in Omdurman and Khartoum North respect modern (9.8%) , (42.6%) in Omdurman and Khartoum North respect.

Recommendations

- Abundant concentrates by the government in few prices.
- -Improve the extension sector in Animal Resources Department to develop breeder, skill in management practices.
- -The government abundant veterinary services and the staff of animal resource department they will be extension the breeders.
- -Recommend ate to other studies for this subject.

THANK YOU FOR ATTENTIO