

Table 9 Correlation coefficients of dry matter and nutrients intake with milk yield, milk components and reproductive parameters.

	Milk yield	FC milk yield	Fat (%)	Fat yield	Protein (%)	Protein yield	Total solid (%)	CFE	Days open	SPC
DM intake	0.66	0.60	-0.28	0.51	-0.29	0.61	-0.16	0.22	-0.03	0.38
p=	***	***	NS	**	NS	***	NS	NS	NS	*
CP intake	0.65	0.60	-0.14	0.54	-0.20	0.60	-0.03	0.22	0.09	0.54
p=	***	***	NS	**	NS	***	NS	NS	NS	**
CP (% DMI)	0.43	0.35	-0.06	0.32	-0.14	0.35	-0.01	0.32	0.11	0.35
p=	*	*	NS	NS	NS	NS	NS	NS	NS	NS
ME (MJ)	0.58	0.50	-0.22	0.43	-0.21	0.52	-0.02	0.07	0.08	0.55
p=	***	**	NS	*	NS	**	NS	NS	NS	**
NDF (% DMI)	0.20	0.26	0.08	0.28	0.04	0.25	0.01	0.23	0.00	-0.06
p=	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EE (% DMI)	-0.43	-0.48	0.02	-0.46	-0.18	-0.43	-0.02	-0.17	0.04	-0.13
p=	*	*	NS	*	NS	*	NS	NS	NS	NS
Calcium (% DMI)	0.40	0.27	-0.34	0.16	-0.26	0.27	-0.12	0.13	0.14	0.42
p=	*	NS	NS	NS	NS	NS	NS	NS	NS	*
Phosphorus (% DMI)	0.68	0.65	-0.11	0.61	-0.22	0.61	0.08	0.34	0.00	0.46
p=	***	***	NS	***	NS	***	NS	NS	NS	*
Sodium (% DMI)	0.22	0.24	0.02	0.24	-0.18	0.11	0.11	-0.17	-0.37	-0.12
p=	NS	NS	NS	NS	NS	NS	NS	NS	*	NS

*=p<0.05; **=p<0.01; CFE=days from calving to first observed estrus; SPC=services per conception.

Table 11 Mean chemical compositions of the experimental diets for cows fed hay and concentrate supplement with/without cottonseed cake and/or bole.

Experimental diets	(%DM)							(mg/kg)				Ca: P ^c ratio		
	DM%	CP	OM	NDF	EE	Ash	IVOMD	Ca	P	Na	K		Mg	Mn
Hay	91	4.9	92	72	1.17	8.35	46.3	0.40	0.17	0.02	1.48	0.17	340	2.4:1
C (control)	89	20.1	89	39	5.07	10.96	66.9	1.17	0.88	0.48	1.09	0.41	147	1.3:1
C + CSC ^a	90	21.9	92	46	6.18	8.47	62.5	0.74	0.82	0.39	1.22	0.38	82	0.9:1
C + Bole ^b	90	20.2	84	32	4.31	15.94	66.5	1.12	0.83	1.39	1.03	0.39	151	1.4:1
C + CSC + Bole	91	21.9	88	47	5.70	11.83	63.0	0.79	0.77	0.88	1.16	0.38	98	1:1
CSC alone	95	24.9	94	48	7.8	5.6	55.7	0.21	0.86	0.02	1.33	0.35	8.8	0.24:1
Bole (soil)	-	-	-	-	-	-	-	0.21	0.04	36.84	1.13	0.08	11	5.3:1
Critical levels of minerals ^c	-	-	-	-	-	-	-	0.30	0.25	0.06	0.60-0.80	0.20	30-40	1.2:1

^a CSC=cotton seed cake; C=concentrate.

^b Bole = a salty lake soil used by local farmers as a mineral source.

^c Adapted from McDowell (1997).

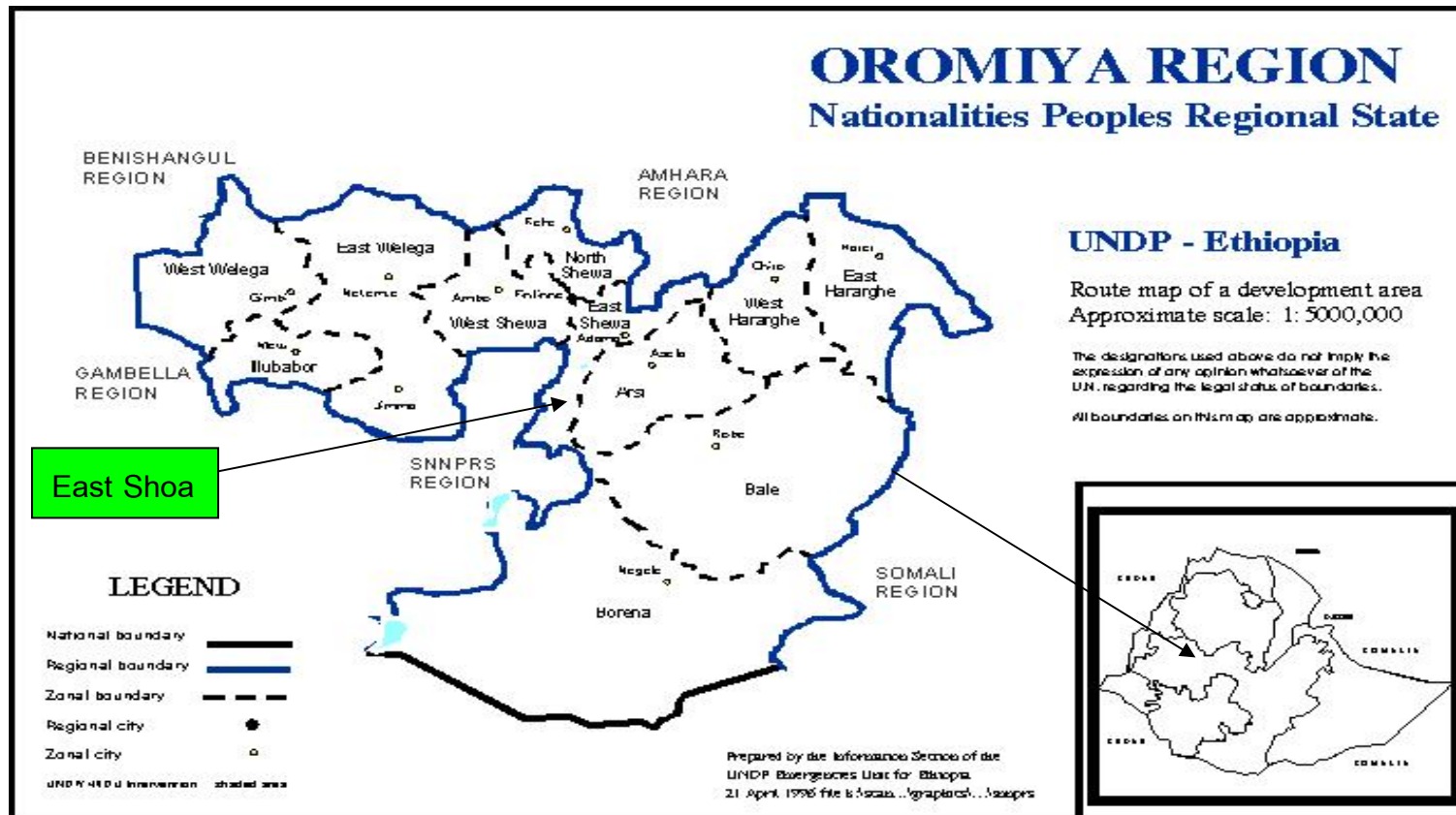


Figure 1 Map of East Shoa Zone, Oromia State.

Source: UNDP (1996).