

Table (3). Means \pm standard error of conception rate (%), number of services per conception, gestation length and litter size at birth, 21 and 28 days of age of NZW doe rabbits fed different levels of *Moringa oleifera* hay (leaves+twigs) as a substitute for alfalfa hay in the diet.

	Reproductive traits								
	Number of copulated does	Pregnant does	Conception rate (%)	No of services per conception	Gestation length	Litter size at:			
						Birth Total	live	21 days	28 days
Doe rabbit groups:									
A (Control)	36	23	63.9 ^b	1.6 ^a \pm 0.16	32.9 \pm 0.32	6.9 \pm 0.6	6.7 \pm 0.5	5.9 \pm 0.5	5.7 \pm 0.5
B	37	29	78.4 ^{ab}	1.3 ^{ab} \pm 0.10	32.6 \pm 0.36	7.4 \pm 0.4	6.5 \pm 0.4	5.6 \pm 0.4	5.2 \pm 0.4
C	36	32	88.9 ^a	1.12 ^b \pm 0.06	32.3 \pm 0.67	8.1 \pm 0.3	7.6 \pm 0.3	6.4 \pm 0.4	6.1 \pm 0.4
Significance			*	*	NS	NS	NS	NS	NS
Parity:									
1st	42	31	73.8	1.4 \pm 0.13	31.7 \pm 0.63 ^b	7.4 \pm 0.3	7.0 \pm 0.3	5.7 \pm 0.4	5.3 \pm 0.4
2nd	39	30	76.9	1.3 \pm 0.09	32.8 \pm 0.35 ^{ab}	7.9 \pm 0.5	7.0 \pm 0.5	6.1 \pm 0.5	5.9 \pm 0.5
3rd	28	23	82.1	1.2 \pm 0.11	33.6 \pm 0.36 ^a	7.1 \pm 0.5	7.0 \pm 0.4	6.2 \pm 0.45	6.0 \pm 0.4
Significance			NS	NS	*	NS	NS	NS	NS

Means in the same column with each classification not sharing a common superscript letter differ significantly ($P < 0.05$).

*= $P < 0.05$ and NS= Not significance.

Group A (control): was fed a basal pelleted diet contained zero% *Moringa oleifera* hay (leaves+ twigs), **Group B:** was fed a diet contained 9% *Moringa oleifera* hay as a substitute for 50% of alfalfa hay in the basal diet, **Group C:** was fed a diet contained 13.5% *Moringa oleifera* hay as a substitute for 75% of alfalfa hay in the basal diet.

Table (4). Means \pm standard error of litter weight (g) and Litter weight gain (g) of NZW doe rabbits fed different levels of *Moringa oleifera* hay (leaves+ twigs) as a substitute for alfalfa hay in the diet.

Items	Litter weight (g) at:			Litter weight gain (g) from:		
	Birth	21days	28days	Birth-21 days	Birth-28 days	21-28 days
<i>Doe rabbit groups :</i>						
A (Control)	328.7 \pm 25.6	1652.6 \pm 115.9	2722.3 \pm 237.6	1303.7 \pm 49.2	2373.4 \pm 216.2	1069.7 \pm 137.9
B	311.1 \pm 17.8	1686.9 \pm 105.8	2853.0 \pm 203.4	1373.0 \pm 99.3	2522.6 \pm 192.9	1149.59 \pm 105.5
C	355.5 \pm 14.0	1760.2 \pm 88.8	2891.1 \pm 141.1	1398.4 \pm 78.1	2529.2 \pm 134.0	1130.84 \pm 110.4
Significance	NS	NS	NS	NS	NS	NS
<i>Parity:</i>						
1st	329.6 \pm 14.0	1768.4 \pm 101.6	2956.9 \pm 182.2	1449.7 \pm 94.1	2619.7 \pm 173.60	1169.9 \pm 97.2
2nd	337.1 \pm 21.1	1632.5 \pm 96.3	2762.3 \pm 197.0	1278.2 \pm 79.6	2408.0 \pm 182.3	1129.8 \pm 137.8
3rd	331.6 \pm 21.6	1720.6 \pm 105.1	2751.4 \pm 163.6	1367.6 \pm 90.7	2398.4 \pm 148.6	1030.8 \pm 80.3
Significance	NS	NS	NS	NS	NS	NS

NS= Non-significant

Group A (control): was fed a basal pelleted diet contained zero% *Moringa oleifera* hay (leaves+ twigs), **Group B:** was fed a diet contained 9% *Moringa oleifera* hay as a substitute for 50% of alfalfa hay in the basal diet, **Group C:** was fed a diet contained 13.5% *Moringa oleifera* hay as a substitute for 75% of alfalfa hay in the basal diet.

Table (5). Means \pm standard error for bunny weight (g) and pre- weaning mortality percentage of NZW doe rabbits fed different levels of *Moringa oleifera* hay as a substituted for alfalfa hay in the diet.

Items	Mean bunny weight (g) at:			Pre-weaning mortality (%)			
	Birth	21 days	28 days	stillbirth	Birth- 21 days	Birth-28 days	21-28 days
<i>Doe rabbit groups:</i>							
A (Control)	49.9 \pm 2.4	300.9 \pm 19.5	494.8 \pm 31.4	6.1	13.4	15.2	2.1
B	47.8 \pm 1.9	317.1 \pm 16.1	534.3 \pm 22.2	10.3	16.5	17.3	1.5
C	47.9 \pm 1.8	290.6 \pm 15.6	498.4 \pm 21.8	4.9	15.4	18.8	4.4
Significance	NS	NS	NS	NS	NS	NS	NS
<i>Parity:</i>							
1st	48.4 \pm 1.9	329.9 \pm 17.8	560.5 \pm 23.1	4.7	18.8	20.3	2.7
2nd	48.9 \pm 1.8	284.6 \pm 14.4	482.3 \pm 22.3	10.1	13.1	15.5	2.8
3rd	47.7 \pm 2.3	288.1 \pm 15.3	475.7 \pm 24.8	6.4	12.8	15.6	2.8
Significance	NS	NS	*	NS	NS	NS	NS

NS=Not significance and *= P < 0.05.

Group A (control): was fed a basal pelleted diet contained zero% *Moringa oleifera* hay (leaves+ twigs), **Group B:** was fed a diet contained 9% *Moringa oleifera* hay as a substitute for 50% of alfalfa hay in the basal diet, **Group C:** was fed a diet contained 13.5% *Moringa oleifera* hay as a substitute for 75% of alfalfa hay in the basal diet.

Table (6). Means \pm standard error of daily milk yield (g) and milk conversion ratio of NZW doe rabbit fed different levels of *Moringa oleifera* hay as a substitute for alfalfa hay in the diet.

Items	Daily milk yield ((g)				Milk conversion ratio			
	1 st week	2 nd week	3 rd week	4 th week	1 st week	2 nd week	3 rd week	4 th week
<i>Doe rabbit groups:</i>								
A(Control)	107.4 \pm 10.7	149.9 \pm 8.6	160.7 \pm 8.5	131.4 \pm 7.3 ^b	1.8 \pm 0.1	1.9 \pm 0.1	3.2 \pm 0.2	1.7 \pm 0.2
B	123.8 \pm 12.0	168.5 \pm 6.8	172.5 \pm 5.7	152.8 \pm 4.7 ^a	2.2 \pm 0.2	2.0 \pm 0.1	2.8 \pm 0.2	1.7 \pm 0.2
C	124.6 \pm 7.5	168.3 \pm 9.2	175.8 \pm 7.7	151.5 \pm 6.0 ^a	2.1 \pm 0.2	2.2 \pm 0.1	2.8 \pm 0.2	1.5 \pm 0.1
Significance	NS	NS	NS	*	NS	NS	NS	NS
<i>Parity:</i>								
1st	93.4 \pm 6.7 ^c	159.1 \pm 7.1	166.9 \pm 7.1	141.9 \pm 5.7	1.8 \pm 0.1	1.8 \pm 0.1 ^b	2.4 \pm 0.2 ^b	1.4 \pm 0.1
2nd	122.4 \pm 10.8 ^b	161.9 \pm 8.9	168.1 \pm 7.8	146.7 \pm 7.5	2.3 \pm 0.2	2.1 \pm 0.2 ^{ab}	3.2 \pm 0.2 ^a	1.7 \pm 0.1
3rd	150.2 \pm 8.1 ^a	167.7 \pm 9.6	176.3 \pm 7.5	147.8 \pm 5.1	1.9 \pm 0.2	2.3 \pm 0.1 ^a	3.3 \pm 0.2 ^a	1.9 \pm 0.2
Significance	**	NS	NS	NS	NS	*	*	NS

NS= Non-significant, *= P < 0.05 and **= P < 0.01,

a, b, c Means with different superscript on the same row differ significantly(P < 0.05)

Group A (control): was fed a basal pelleted diet contained zero% *Moringa oleifera* hay (leaves+ twigs), **Group B:** was fed a diet contained 9% *Moringa oleifera* hay as a substitute for 50% of alfalfa hay in the basal diet, **Group C:** was fed a diet contained 13.5% *Moringa oleifera* hay as a substitute for 75% of alfalfa hay in the basal diet.