

**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
<b>Doe rabbit groups:</b>									
<b>A (Control)</b>	36	23	63.9 <sup>b</sup>	1.6 <sup>a</sup> $\pm$ 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>B</b>	37	29	78.4 <sup>ab</sup>	1.3 <sup>ab</sup> $\pm$ 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
<b>C</b>	36	32	88.9 <sup>a</sup>	1.12 <sup>b</sup> $\pm$ 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
<b>Significance</b>			*	*	NS	NS	NS	NS	NS
<b>Parity:</b>									
<b>1<sup>st</sup></b>	42	31	73.8	1.4 $\pm$ 0.13	31.7 $\pm$ 0.63 <sup>b</sup>	7.4 $\pm$ 0.3	7.0 $\pm$ 0.3	5.7 $\pm$ 0.4	5.3 $\pm$ 0.4
<b>2<sup>nd</sup></b>	39	30	76.9	1.3 $\pm$ 0.09	32.8 $\pm$ 0.35 <sup>ab</sup>	7.9 $\pm$ 0.5	7.0 $\pm$ 0.5	6.1 $\pm$ 0.5	5.9 $\pm$ 0.5
<b>3<sup>rd</sup></b>	28	23	82.1	1.2 $\pm$ 0.11	33.6 $\pm$ 0.36 <sup>a</sup>	7.1 $\pm$ 0.5	7.0 $\pm$ 0.4	6.2 $\pm$ 0.45	6.0 $\pm$ 0.4
<b>Significance</b>			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>						
<b>A (Control)</b>	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>B</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
<b>C</b>	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
<b>Significance</b>	NS	NS	NS	NS	NS	NS
<i>Parity:</i>						
<b>1<sup>st</sup></b>	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
<b>2<sup>nd</sup></b>	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
<b>3<sup>rd</sup></b>	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
<b>Significance</b>	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>							
<b>A (Control)</b>	49.9 $\pm$ 2.4	300.9 $\pm$ 19.5	494.8 $\pm$ 31.4	6.1	13.4	15.2	2.1
<b>B</b>	47.8 $\pm$ 1.9	317.1 $\pm$ 16.1	534.3 $\pm$ 22.2	10.3	16.5	17.3	1.5
<b>C</b>	47.9 $\pm$ 1.8	290.6 $\pm$ 15.6	498.4 $\pm$ 21.8	4.9	15.4	18.8	4.4
<b>Significance</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
<i>Parity:</i>							
<b>1<sup>st</sup></b>	48.4 $\pm$ 1.9	329.9 $\pm$ 17.8	560.5 $\pm$ 23.1	4.7	18.8	20.3	2.7
<b>2<sup>nd</sup></b>	48.9 $\pm$ 1.8	284.6 $\pm$ 14.4	482.3 $\pm$ 22.3	10.1	13.1	15.5	2.8
<b>3<sup>rd</sup></b>	47.7 $\pm$ 2.3	288.1 $\pm$ 15.3	475.7 $\pm$ 24.8	6.4	12.8	15.6	2.8
<b>Significance</b>	<b>NS</b>	<b>NS</b>	<b>*</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>

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 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week	4 <sup>th</sup> week	1 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week	4 <sup>th</sup> week
<i>Doe rabbit groups:</i>								
<b>A(Control)</b>	107.4 $\pm$ 10.7	149.9 $\pm$ 8.6	160.7 $\pm$ 8.5	131.4 $\pm$ 7.3 <sup>b</sup>	1.8 $\pm$ 0.1	1.9 $\pm$ 0.1	3.2 $\pm$ 0.2	1.7 $\pm$ 0.2
<b>B</b>	123.8 $\pm$ 12.0	168.5 $\pm$ 6.8	172.5 $\pm$ 5.7	152.8 $\pm$ 4.7 <sup>a</sup>	2.2 $\pm$ 0.2	2.0 $\pm$ 0.1	2.8 $\pm$ 0.2	1.7 $\pm$ 0.2
<b>C</b>	124.6 $\pm$ 7.5	168.3 $\pm$ 9.2	175.8 $\pm$ 7.7	151.5 $\pm$ 6.0 <sup>a</sup>	2.1 $\pm$ 0.2	2.2 $\pm$ 0.1	2.8 $\pm$ 0.2	1.5 $\pm$ 0.1
<b>Significance</b>	NS	NS	NS	*	NS	NS	NS	NS
<i>Parity:</i>								
<b>1<sup>st</sup></b>	93.4 $\pm$ 6.7 <sup>c</sup>	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 <sup>b</sup>	2.4 $\pm$ 0.2 <sup>b</sup>	1.4 $\pm$ 0.1
<b>2<sup>nd</sup></b>	122.4 $\pm$ 10.8 <sup>b</sup>	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 <sup>ab</sup>	3.2 $\pm$ 0.2 <sup>a</sup>	1.7 $\pm$ 0.1
<b>3<sup>rd</sup></b>	150.2 $\pm$ 8.1 <sup>a</sup>	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 <sup>a</sup>	3.3 $\pm$ 0.2 <sup>a</sup>	1.9 $\pm$ 0.2
<b>Significance</b>	**	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.