

**Table (1):** Effect of organic, mineral and bio-N fertilization on some vegetative growth parameters of Zebda mango tress during 2014 and 2015 seasons

Treatments	Number of new shoot/twig	new shoot length	Number of leaves/shoot	Leaf area (cm <sup>2</sup> )
<b>2014 season</b>				
<b>100 %MN<sup>*</sup> ( control)</b>	4.49 c	55.38 e	30.00 e	85.65 f
<b>100 %ON<sup>**</sup></b>	4.78 c	55.80 de	30.53 de	87.59 ef
<b>100 %ON with Bio<sup>***</sup></b>	5.82 ab	56.99 a-c	32.13 a-c	93.43 bc
<b>75 % ON+25 % MN</b>	5.37 abc	56.59 b-d	31.60 b-d	91.48 cd
<b>75 % ON+25 % MN with Bio</b>	6.23 a	57.78 a	33.20 a	97.33 a
<b>50 % ON+50 % MN</b>	5.08 bc	56.19 c-e	31.07 c-e	89.54 de
<b>50 % ON+50 % MN with Bio</b>	5.94 ab	57.38 ab	32.66 ab	95.38 ab
<b>2015 season</b>				
<b>100 %MN<sup>*</sup> ( control)</b>	5.34 d	56.88 g	32.00 d	89.15 f
<b>100 %ON<sup>**</sup></b>	5.62 cd	57.41 f	32.57 cd	90.73 ef
<b>100 %ON with Bio<sup>***</sup></b>	6.42 a-c	59.00 c	34.13 a-c	95.48 bc
<b>75 % ON+25 % MN</b>	6.16 a-d	58.47 d	33.60 a-d	93.86 cd
<b>75 % ON+25 % MN with Bio</b>	6.96 a	60.07 a	35.20 a	98.64 a
<b>50 % ON+50 % MN</b>	5.90 b-d	57.94 e	33.06 b-d	92.30 de
<b>50 % ON+50 % MN with Bio</b>	6.70 ab	59.54 b	34.65 ab	97.01 ab

MN<sup>\*</sup>= Mineral nitrogen (Ammonium sulphate) , ON<sup>\*\*</sup>=Organic nitrogen ( Chicken manure) , Bio<sup>\*\*\*</sup> = Biofertilizer (Biogen).

Values having the same alphabetical letter(s) in each column are insignificantly different at the 0.05 level of significance.

**Table (2):** Effect of organic, mineral and bio-N fertilization on macro elements in leaves of Zebda mango tress during 2014 and 2015 seasons

Treatments	N (%)	P (%)	K (%)
<i>2014 season</i>			
<b>100 %MN<sup>*</sup> ( control)</b>	1.42 d	0.143 g	1.39 e
<b>100 %ON<sup>**</sup></b>	1.48 cd	0.162 f	1.42 de
<b>100 %ON with Bio<sup>***</sup></b>	1.68 a-c	0.218 c	1.62 a-c
<b>75 % ON+25 % MN</b>	1.62 a-d	0.200 d	1.55 b-d
<b>75 % ON+25 % MN with Bio</b>	1.82 a	0.256 a	1.74 a
<b>50 % ON+50 % MN</b>	1.55 b-d	0.181 e	1.49 c-e
<b>50 % ON+50 % MN with Bio</b>	1.75 ab	0.238 b	1.68 ab
<i>2015 season</i>			
<b>100 %MN<sup>*</sup> ( control)</b>	1.38 e	0.146 g	0.98 d
<b>100 %ON<sup>**</sup></b>	1.44 de	0.167 f	1.03 cd
<b>100 %ON with Bio<sup>***</sup></b>	1.64 a-c	0.230 c	1.19 a-c
<b>75 % ON+25 % MN</b>	1.57 b-d	0.209 d	1.14 a-d
<b>75 % ON+25 % MN with Bio</b>	1.77 a	0.272 a	1.29 a
<b>50 % ON+50 % MN</b>	1.51 c-e	0.188 e	1.08 b-d
<b>50 % ON+50 % MN with Bio</b>	1.70 ab	0.251 b	1.24 ab

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**Table (3):** Effect of organic, mineral and bio-N fertilization on fruit set and yield of Zebda mango trees during 2014 and 2015 seasons

Treatments	Number of initial fruit set /panicle	Number of retained fruits/panicle at harvest	Fruit retention percentage	Yield (kg/tree)	Relative increases in yield/ tree (%)
<i>2014 season</i>					
<b>100 %MN* ( control)</b>	13.94 f	0.86 g	6.16 g	129.32 g	00.00
<b>100 %ON**</b>	15.94 ef	1.25 f	7.85 f	137.55 f	06.36
<b>100 %ON with Bio***</b>	22.08 bc	2.48 c	11.22 c	163.56 c	26.48
<b>75 % ON+25 % MN</b>	20.04 cd	2.07 d	10.35 d	154.99 d	19.85
<b>75 % ON+25 % MN with Bio</b>	26.11 a	3.28 a	12.57 a	180.63 a	39.68
<b>50 % ON+50 % MN</b>	17.91 de	1.65 e	9.23 e	145.95 e	12.86
<b>50 % ON+50 % MN with Bio</b>	24.14 ab	2.87 b	11.90 b	172.16 b	33.13
<i>2015 season</i>					
<b>100 %MN* ( control)</b>	24.78 f	0.84 g	3.35 g	132.92 g	00.00
<b>100 %ON**</b>	27.56 ef	1.20 f	4.34 f	142.35 f	07.09
<b>100 %ON with Bio***</b>	35.74 bc	2.28 c	6.39 c	171.64 c	29.13
<b>75 % ON+25 % MN</b>	33.22 cd	1.92 d	5.79 d	161.88 d	21.79
<b>75 % ON+25 % MN with Bio</b>	41.45 a	3.01 a	7.27 a	190.51 a	43.33
<b>50 % ON+50 % MN</b>	30.42 de	1.56 e	5.12 e	152.12 e	14.44
<b>50 % ON+50 % MN with Bio</b>	38.53 ab	2.65 b	6.87 b	180.91 b	36.10

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**Table (4):** Effect of organic, mineral and bio-N fertilization on some physical fruit properties of Zebda mango trees during 2014 and 2015 seasons

Treatments	Fruit weight (g)	Fruit peel thickness (mm)	Fruit pulp firmness (Lb/inch <sup>2</sup> )
<i>2014 season</i>			
<b>100 %MN* ( control)</b>	365.90 g	1.26 a	2.34 g
<b>100 %ON**</b>	374.56 f	1.11 e	2.63 f
<b>100 %ON with Bio***</b>	400.60 c	1.13 e	3.52 c
<b>75 % ON+25 % MN</b>	391.88 d	1.18 cd	3.22 d
<b>75 % ON+25 % MN with Bio</b>	417.89 a	1.16 d	4.11 a
<b>50 % ON+50 % MN</b>	383.25 e	1.23 b	2.92 e
<b>50 % ON+50 % MN with Bio</b>	409.23 b	1.20 c	3.81 b
<i>2015 season</i>			
<b>100 %MN* ( control)</b>	426.84 g	1.17 a	2.59 g
<b>100 %ON**</b>	436.40 f	1.06 e	2.92 f
<b>100 %ON with Bio***</b>	465.28 c	1.07 de	3.90 c
<b>75 % ON+25 % MN</b>	455.65 d	1.11 cd	3.57 d
<b>75 % ON+25 % MN with Bio</b>	484.33 a	1.09 cde	4.55 a
<b>50 % ON+50 % MN</b>	446.06 e	1.15 ab	3.25 e
<b>50 % ON+50 % MN with Bio</b>	474.61 b	1.13 bc	4.22 b

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**Table (5):** Effect of organic, mineral and bio-N fertilization on some chemical fruit characters of Zebda mango trees during 2014 and 2015 seasons

Treatments	TSS (Brix)	Acidity (%)	TSS/acid ratio	Vitamin C (mg/100 g F.W.)
<i>2014 season</i>				
<b>100 %MN* ( control)</b>	13.97 g	0.989 a	14.12 g	34.99 g
<b>100 %ON**</b>	14.21 f	0.975 b	14.57 f	35.50 f
<b>100 %ON with Bio***</b>	14.92 c	0.932 d	16.00 c	37.17 c
<b>75 % ON+25 % MN</b>	14.70 d	0.947 c	15.52 d	36.63 d
<b>75 % ON+25 % MN with Bio</b>	15.43 a	0.904 e	17.06 a	38.26 a
<b>50 % ON+50 % MN</b>	14.46 e	0.961 bc	15.04 e	36.08 e
<b>50 % ON+50 % MN with Bio</b>	15.20 b	0.918 de	16.54 b	37.72 b
<i>2015 season</i>				
<b>100 %MN* ( control)</b>	13.53 g	0.956 a	14.15 g	38.40 g
<b>100 %ON**</b>	13.75 f	0.943 b	14.57 f	38.95 f
<b>100 %ON with Bio***</b>	14.40 c	0.907 e	15.86 c	40.61 c
<b>75 % ON+25 % MN</b>	14.17 d	0.919 d	15.41 d	40.06 d
<b>75 % ON+25 % MN with Bio</b>	14.81 a	0.883 g	16.78 a	41.72 a
<b>50 % ON+50 % MN</b>	13.94 e	0.932 c	14.96 e	39.51 e
<b>50 % ON+50 % MN with Bio</b>	14.60 b	0.895 f	16.30 b	41.17 b

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