

Table 1. Effect of organic, chemical and Bio-fertilizers treatments on plant height (cm) and number of branches/ plant at milky stage of *Foeniculum vulgare*, Mill plants at 2003/ 2004 and 2004/ 2005 seasons

Chemical and bio-fertilizers (B)		Organic fertilizers (m ³ / fad.) (A)							
		5	10	20	Mean	5	10	20	Mean
		2003 -2004				2004 - 2005			
		Plant height (cm)							
	100:100:50	103.20	124.50	147.22	125.00	155.00	160.67	170.00	161.89
NPK (kg/ fad.)	200:200:100	109.70	126.70	154.50	130.30	157.44	167.78	172.11	165.77
Active dry yeast	2	98.78	120.00	136.72	118.50	149.72	156.22	160.89	155.61
(g/L)	4	102.33	123.22	139.12	121.56	153.66	158.89	165.44	159.33
Vitamin B ₁ at	25	93.33	113.11	126.00	110.81	135.00	149.44	154.22	146.22
(ppm)	50	96.14	117.62	129.11	114.29	143.33	151.66	156.11	150.37
Nitrobein at	500	86.55	103.55	122.49	104.20	120.00	134.44	139.44	131.29
(g/ fad)	1000	89.56	110.39	125.85	108.60	128.11	140.00	144.66	137.59
Mean		97.45	117.39	135.13		142.78	152.39	157.86	
L.S.D at 0.05 for: (A)		0.79				1.09			
(B)		1.28				1.78			
A * B		2.22				3.09			
		Number of branches /plant							
	100:100:50	5.20	5.97	7.07	6.08	8.78	10.56	11.33	10.22
NPK (kg/ fad.)	200:200:100	5.30	6.20	7.20	6.23	9.11	10.78	11.55	10.48
Active dry yeast	2	4.93	5.63	6.87	5.81	6.89	9.00	10.77	8.88
(g/L)	4	5.10	5.87	6.97	5.98	8.00	9.78	10.99	9.59
Vitamin B ₁ at	25	4.43	5.20	6.53	5.38	7.11	7.33	9.22	7.88
(ppm)	50	4.72	5.53	6.63	5.62	7.33	8.33	10.22	8.62
Nitrobein at	500	3.87	4.87	5.30	4.68	5.44	6.78	7.44	6.55
(g/ fad)	1000	4.20	4.93	6.30	5.14	5.77	6.89	7.89	6.85
Mean		4.71	5.52	6.60	----	7.30	8.68	9.93	----
L.S.D at 0.05 for: (A)		0.14				0.24			
(B)		0.22				0.40			
A x B		0.38				0.69			

Table 2. Effect of organic, chemical and bio-fertilizers treatments on leaves fresh and dry weights (g) at milky stage of *Foeniculum vulgare*, Mill plants during 2003/2004 and 2004 /2005 seasons.

Chemical and bio-fertilizers (B)		Organic fertilizers (m ³ / fad.) A							
		5	10	20	Mean	5	10	20	Mean
		2003 -2004				2004 - 2005			
Leaves fresh weight (g/ plant)									
	100:100:50	69.89	84.78	126.89	93.85	98.22	116.89	130.06	115.06
NPK (kg/fad.)	200:200:100	78.11	95.95	135.55	103.20	107.22	128.22	146.37	127.27
Active dry	2	47.12	81.45	115.23	81.27	92.77	109.56	123.45	108.59
yeast at (g/L)	4	55.93	93.89	25.87	91.90	94.67	113.22	131.78	113.22
Vitamin B ₁ at	25	38.11	53.55	01.55	64.40	88.22	92.89	117.89	99.67
(ppm)	50	44.33	69.00	112.50	75.28	91.78	95.00	121.00	102.59
Nitrobein at (g/	500	26.50	39.61	66.51	44.21	81.11	83.78	90.44	85.11
fad)	1000	32.66	45.55	81.52	53.24	85.11	90.78	94.56	90.15
Mean		49.08	70.47	108.20	----	92.39	103.79	119.44	----
L.S.D at 0.05 for: (A)					3.16		2.57		
(B)					1.59		2.02		
A * B					2.76		3.49		
		Leaves dry weight (gm/ plant)							
	100:100:50	29.33	44.78	56.55	43.55	63.33	78.77	80.21	74.10
NPK (kg/fad.)	200:200:100	33.78	46.89	57.94	46.20	72.33	81.95	87.44	80.57
Active dry	2	22.57	37.11	49.57	36.42	61.11	70.78	76.55	69.48
yeast at (g/L)	4	27.00	46.43	50.33	41.25	55.78	74.44	78.33	69.52
Vitamin B ₁ at	25	18.11	28.07	38.78	28.32	48.89	58.89	62.33	56.70
(ppm)	50	21.05	32.89	48.44	34.13	50.22	62.11	68.22	60.18
Nitrobein at (g/	500	12.28	21.11	29.33	20.91	40.22	50.67	58.55	49.81
fad)	1000	16.33	24.21	35.06	25.20	43.56	52.22	60.33	52.04
Mean		22.56	35.19	45.75	-----	54.43	66.23	71.50	-----
L.S.D at 0.05 for: (A)					0.60		1.01		
(B)					0.97		1.66		
A * B					1.69		2.87		

Table 3. Effect of organic, chemical and bio-fertilizers treatments on fresh and dry weights of stems (g) at milky stage of *Foeniculum vulgare*, Mill plants at 2003/2004 and 2004 /2005 seasons.

Chemical and Bio-fertilizers (B)		Organic fertilizers (m ³ /fad.) (A)							
		5	10	20	Mean	5	10	20	Mean
		2003 -2004				2004 - 2005			
Fresh weight (g/ plant)									
	100:100:50	133.33	160.41	280.56	191.33	183.67	227.45	340.78	250.63
NPK (kg/fad.)	200:200:100	139.78	172.77	292.23	201.59	186.00	236.89	349.33	257.41
Active dry yeast	2	108.89	147.22	244.45	166.85	166.22	222.00	331.11	239.78
at (g/L)	4	124.31	155.33	261.11	180.25	176.67	218.22	338.33	244.41
Vitamin B1 at	25	96.12	120.11	214.45	143.56	153.44	202.00	319.56	225.00
(ppm)	50	103.78	130.44	226.11	153.44	158.78	211.11	322.44	230.78
Nitrobein at	500	76.67	90.56	179.90	115.71	130.45	191.66	276.34	199.48
(g/fad)	1000	85.33	106.11	194.66	128.70	143.22	198.33	296.56	212.70
Mean		108.53	135.37	236.68		162.31	213.46	321.81	
L.S.D at 0.05 for: (A)					2.74	3.92			
(B)					4.47	6.41			
A * B					7.74	11.10			
Dry weigh (g/ plant)									
	100:100:50	71.61	112.78	150.78	117.72	107.87	124.67	170.11	134.22
NPK (kg/fad.)	200:200:100	84.89	119.22	159.77	121.29	116.07	134.70	183.26	144.68
Active dry yeast	2	52.44	91.96	142.24	95.55	97.19	118.21	162.21	125.87
at (g/L)	4	64.99	95.33	145.49	101.94	103.50	131.57	167.97	134.35
Vitamin B1 at	25	42.17	73.89	122.89	79.65	93.84	106.90	156.86	119.20
(ppm)	50	46.11	83.33	131.33	86.92	95.36	115.43	159.71	123.50
Nitrobein at	500	31.16	61.06	101.13	64.45	62.94	70.19	148.26	93.80
(g/fad)	1000	37.28	65.99	116.44	73.24	65.35	72.03	152.22	96.53
Mean		53.83	87.95	133.76	----	92.77	109.21	162.58	----
L.S.D at 0.05 for: (A)					1.43	1.41			
(B)					2.34	2.30			
A * B					4.05	4.00			

Table 4. Effect of organic, chemical and bio-fertilizers treatments on number of umbels/ plant and fruit yield (g/ plant) of *Foeniculum vulgare*, Mill plants at 2003/2004 and 2004 /2005 seasons.

Chemical and bio-fertilizers (B)		Organic fertilizers (m ³ /fad.) (A)							
		5	10	20	Mean	5	10	20	Mean
		2003 -2004				2004 - 2005			
Number of umbels/plant									
	100:100:50	34.22	39.89	44.67	39.59	56.10	70.22	82.00	69.44
NPK (kg/fad.)	200:200:100	35.55	40.44	47.28	41.09	57.33	73.33	85.22	71.96
Active dry	2	31.50	38.00	42.33	37.28	47.78	63.78	77.89	63.15
yeast at (g/L)	4	33.89	40.11	44.11	39.37	54.55	67.67	70.00	64.07
Vitamin B1 at	25	25.66	34.34	40.61	33.54	41.11	52.22	65.33	52.89
(ppm)	50	27.11	36.89	41.78	35.26	45.67	57.00	67.22	56.63
Nitrobein at	500	21.67	28.11	34.44	28.07	28.00	34.89	49.56	37.48
(g/fad)	1000	23.44	31.55	38.22	31.07	33.11	44.45	58.11	45.22
Mean		29.13	36.17.	41.68	----	45.46	57.95	69.42	----
L.S.D at 0.05 for (A)		0.70				0.63			
(B)		1.15				1.03			
A * B		1.99				1.78			
Fruit yield (g/ plant)									
	100:100:50	55.28	65.78	68.59	63.22	57.30	70.01	76.67	67.99
NPK (kg/fad.)	200:200:100	56.78	67.83	70.56	65.06	58.62	73.33	80.72	70.89
Active dry	2	50.94	57.55	62.78	59.09	51.36	63.71	68.59	61.22
yeast at (g/L)	4	53.99	62.04	67.33	61.12	54.49	65.78	73.56	64.61
Vitamin B1 at	25	45.22	52.44	58.50	52.05	48.44	55.44	62.78	55.55
(ppm)	50	48.04	54.77	60.18	54.33	50.89	57.47	65.22	57.86
Nitrobein at	500	39.88	44.91	51.15	45.31	43.22	48.61	56.61	49.48
(g/fad)	1000	42.33	49.51	54.49	48.78	45.65	50.89	58.50	51.68
Mean		49.05	56.85	61.70	----	51.25	60.66	67.83	----
L.S.D at 0.05 for: (A)		0.86				1.24			
(B)		1.34				1.28			
A * B		NS				2.22			

Table 5. Effect of organic, chemical and Bio-fertilizers treatments on essential oil percentage (%) and oil yield (ml/ plant) of *Foeniculum vulgare*, Mill plants at 2003/2004 and 2004 /2005 seasons.

Chemical and bio-fertilizers (B)		Organic fertilizers (m ³ /fad.) (A)							
		5	10.	20	Mean	5.	10	20	Mean
		2003 -2004				2004 - 2005			
Essential oil percentage									
NPK (kg/fad.)	100:100:50	1.693	1.787	1.880	1.787	1.773	1.853	1.933	1.853
	200:200:100	1.720	1.827	1.907	1.818	1.800	1.893	2.000	1.898
Active dry yeast(g/L)	2	1.400	1.600	1.720	1.573	1.480	1.747	1.773	1.667
	4	1.507	1.680	1.840	1.676	1.613	1.813	1.893	1.773
Vitamin B ₁ (ppm)	25	1.133	1.213	1.307	1.218	1.160	1.227	1.347	1.244
	50	1.293	1.573	1.627	1.498	1.373	1.640	1.693	1.569
Nitrobein (g/fad.)	500	1.040	1.107	1.160	1.102	1.067	1.133	1.187	1.129
	1000	1.093	1.147	1.197	1.146	1.120	1.173	1.240	1.178
Mean		1.360	1.492	1.580	-----	1.423	1.560	1.633	-----
L.S.D at 0.05 for: (A)		0.018				0.018			
(B)		0.030				0.030			
A x B		0.052				0.052			
Oil yield (ml/ plant)									
NPK (kg/fad.)	100:100:50	0.939	1.177	1.290	1.135	1.017	1.299	1.483	1.266
	200:200:100	0.978	1.241	1.348	1.189	1.057	1.390	1.617	1.354
Active dry yeast(g/L)	2	0.714	0.922	1.080	0.905	0.762	1.116	1.218	1.032
	4	0.816	1.043	1.240	1.033	0.880	1.196	1.395	1.157
Vitamin B ₁ (ppm)	25	0.514	0.638	0.766	0.639	0.565	0.681	0.847	0.698
	50	0.622	0.864	0.979	0.822	0.701	0.940	1.104	0.915
Nitrobein (g/fad.)	500	0.415	0.498	0.593	0.502	0.462	0.553	0.673	0.563
	1000	0.464	0.568	0.648	0.560	0.512	0.598	0.726	0.612
Mean		0.683	0.869	0.993	-----	0.745	0.972	1.133	-----
L.S.D at 0.05 for organic fertilizer (A)		0.040				0.036			
Chemical and Bio fertilizers (B)		0.030				0.030			
A * B		0.052				0.052			

Table7. Effect of organic, chemical and Bio-fertilizers treatments on total carbohydrates contents (%) in leaves, fruits and stems of *Foeniculum vulgare*, Mill plants in 2003/2004 and 2004 /2005 seasons.

Chemical and Bio-fertilizers(B)		Organic fertilizers (m³/fad.) (A)							
		5	10	20	Mean	5	10	20	Mean
		2003 -2004				2004 - 2005			
		In leaves							
NPK (kg/fad.)	100:100:50	34.50	35.50	36.00	35.33	35.00	36.00	37.00	36.00
	200:200:100	36.00	37.50	38.20	37.23	37.00	38.50	38.50	38.00
Active dry yeast (g/L)	2	33.00	34.00	34.50	33.83	34.00	34.50	35.00	34.50
	4	34.00	34.50	35.00	34.50	34.50	35.00	36.00	35.17
Vitamin B ₁ (ppm)	25	30.20	31.00	32.00	31.07	31.00	32.00	32.50	31.83
	50	31.50	32.50	33.00	32.33	32.00	33.00	33.50	32.83
Nitrobein (g/fad.)	500	29.50	30.00	30.50	30.00	30.00	30.50	31.00	30.50
	1000	30.00	30.50	31.50	30.67	31.00	31.00	32.00	31.33
Mean		32.34	33.19	33.84	----	33.06	33.81	34.44	----
In fruits									
NPK (kg/ fad.)	100:100:50	22.18	25.00	25.00	24.06	24.00	25.50	26.00	25.17
	200:200:100	25.00	26.00	26.20	25.73	25.50	27.00	27.50	26.67
Active dry yeast (g/L)	2	22.00	23.00	23.00	22.67	22.00	24.00	24.50	23.50
	4	22.60	24.10	24.10	23.60	23.00	25.00	25.20	24.40
Vitamin B ₁ (ppm)	25	19.40	19.90	20.80	20.03	21.00	21.20	21.50	21.23
	50	20.60	21.00	21.20	20.93	21.50	22.50	22.80	22.27
Nitrobein (g/ fad.)	500	19.00	19.20	19.50	19.23	19.10	20.00	20.20	19.77
	1000	19.10	19.60	20.00	19.57	20.00	20.50	20.80	20.43
Mean		21.24	22.23	22.48	----	22.01	23.15	23.56	----
In stems									
NPK (kg/ fad.)	100:100:50	22.20	24.50	24.80	23.83	23.00	25.00	25.00	24.33
	200:200:100	23.00	25.60	26.00	24.87	24.00	26.00	27.00	25.67
Active dry yeast (g/ L)	2	21.40	22.80	22.90	22.37	22.00	23.00	23.50	22.83
	4	22.00	23.80	24.00	23.27	22.50	24.00	24.00	23.50
Vitamin B ₁ (ppm)	25	19.20	19.90	20.20	19.77	20.50	20.90	21.00	20.80
	50	20.40	20.50	20.40	20.43	21.00	22.00	22.50	21.83
Nitrobein (g/ fad.)	500	18.90	19.10	19.20	19.07	19.00	19.50	19.60	19.37
	1000	19.00	19.40	19.70	19.37	20.00	20.20	20.50	20.23
Mean		20.76	21.95	22.15	----	21.50	22.58	22.89	----