

**Table 7:** Effect of mineral nitrogen levels, N<sub>2</sub> fixing bacteria and cold storage periods on weight loss (%) of green onion plants during 2012/2013 and 2013/2014 seasons

Mineral N (Kg/fed.)	N <sub>2</sub> fixing bacteria	Season 2012/2013						Season 2013/2014					
		Cold storage period (days)											
		0	5	10	15	20	Mean	0	5	10	15	20	Mean
Weight loss%													
50% (45) N	Control (Without)	-	3.17	9.70	11.11	11.67	8.92	-	3.79	8.67	11.00	12.36	8.96
	<i>Azospirillum</i>	-	4.34	8.39	9.06	11.45	8.31	-	4.18	7.89	10.36	11.64	8.52
	<i>Azotobacter</i>	-	2.70	6.17	7.95	11.45	7.07	-	4.35	8.12	11.40	12.52	9.10
	<i>Azosp. + Azotob.</i>	-	4.92	5.96	8.86	12.95	8.17	-	4.83	8.55	12.05	13.06	9.62
	Mean	-	3.78	7.56	9.25	11.88	8.12	-	4.29	8.31	11.20	12.40	9.05
75% (67.5) N	Control (Without)	-	4.60	9.28	12.38	13.91	10.04	-	4.42	8.64	9.56	10.87	8.37
	<i>Azospirillum</i>	-	3.81	5.70	9.73	13.46	8.17	-	4.78	7.91	10.20	11.52	8.60
	<i>Azotobacter</i>	-	3.12	7.19	10.72	11.43	8.12	-	5.11	8.40	10.48	11.06	8.76
	<i>Azosp.+ Azotob.</i>	-	5.18	6.92	11.54	14.28	9.48	-	5.25	7.88	11.67	12.70	9.38
	Mean	-	4.18	7.27	11.09	13.27	8.95	-	4.89	8.21	10.48	11.54	8.77
100% (90) N	Control (Without)	-	5.35	7.43	11.89	17.60	10.57	-	4.26	7.61	9.78	11.66	8.33
	<i>Azospirillum</i>	-	4.77	8.05	13.74	14.47	10.26	-	4.55	8.00	11.36	13.03	9.24
	<i>Azotobacter</i>	-	5.35	7.76	10.51	12.47	9.02	-	4.78	8.03	10.67	12.12	8.90
	<i>Azosp.+ Azotob.</i>	-	3.93	8.32	12.91	13.72	9.72	-	5.00	8.43	12.72	14.11	10.07
	Mean	-	4.85	7.89	12.26	14.57	9.89	-	4.65	8.02	11.13	12.73	9.13
Mean		-	4.27	7.57	10.87	13.24	-	-	4.61	8.18	10.94	12.22	-
Control (Without)		-	4.37	8.80	11.80	14.39	9.84	-	4.16	8.31	10.11	11.63	8.55
<i>Azospirillum</i>		-	4.30	7.38	10.84	13.13	8.91	-	4.50	7.93	10.64	12.06	8.79
<i>Azotobacter</i>		-	3.72	7.04	9.73	11.78	8.07	-	4.75	8.18	10.85	11.90	8.92
<i>Azosp.+ Azotob.</i>		-	4.68	7.07	11.10	13.65	9.12	-	5.03	8.29	12.15	13.29	9.69
L.S.D at 5%			1 <sup>st</sup> Season		2 <sup>nd</sup> Season			1 <sup>st</sup> Season		2 <sup>nd</sup> Season			
Mineral N (A)			0.36		0.44			A x B		0.41		0.50	
N <sub>2</sub> fixing bacteria (B)			0.31		0.37			A x C		0.41		0.50	
Storage period (C)			0.31		0.37			B x C		0.44		0.53	
								A x B x C		0.71		0.86	

**Table 8:** Effect of mineral nitrogen levels, N<sub>2</sub> fixing bacteria and cold storage periods on total chlorophyll of green onion plants during 2012/2013 and 2013/2014 seasons

Mineral N (Kg/fed.)	N <sub>2</sub> fixing bacteria	Season 2012/2013					Season 2013/2014						
		Cold storage period (days)											
		0	5	10	15	20	Mean	0	5	10	15	20	Mean
<b>Chlorophyll (SPAD unit)</b>													
50% (45) N	Control (Without)	63.2	52.4	50.8	45.7	47.0	51.8	58.4	54.3	51.2	47.3	45.8	51.4
	<i>Azospirillum</i>	63.2	58.5	52.6	49.3	48.9	54.5	62.5	56.1	50.9	45.9	43.2	51.7
	<i>Azotobacter</i>	65.4	59.6	52.0	50.7	48.8	55.3	64.8	57.3	53.4	50.0	46.3	54.4
	<i>Azosp.+ Azotob.</i>	66.6	59.9	57.0	54.2	51.1	57.8	69.4	62.0	57.6	52.2	48.7	58.0
	Mean	64.6	57.6	53.1	50.0	49.0	54.9	63.8	57.4	53.3	48.9	46.0	53.9
75% (67.5) N	Control (Without)	64.6	57.1	54.7	52.3	51.1	56.0	61.9	53.9	50.0	48.6	43.5	51.6
	<i>Azospirillum</i>	69.3	62.0	57.4	55.6	53.1	59.5	66.5	59.4	52.8	49.3	46.7	54.9
	<i>Azotobacter</i>	68.1	62.3	56.2	55.6	53.6	59.2	68.2	60.8	55.5	52.5	48.6	57.1
	<i>Azosp.+ Azotob.</i>	69.5	63.4	58.2	57.5	55.3	60.8	70.3	62.6	57.8	53.9	49.3	58.8
	Mean	67.9	61.2	56.6	55.3	53.4	58.9	66.7	59.2	54.0	51.0	47.0	55.6
100% (90) N	Control (Without)	64.8	58.8	55.5	54.6	53.0	57.3	60.1	55.7	50.4	48.2	43.5	51.6
	<i>Azospirillum</i>	68.0	63.3	57.1	54.0	52.2	58.9	65.5	58.4	54.4	50.1	48.0	55.3
	<i>Azotobacter</i>	68.7	64.2	59.5	57.7	54.3	60.9	67.3	60.2	56.6	53.7	49.3	57.4
	<i>Azosp.+ Azotob.</i>	70.5	65.1	62.6	58.3	56.2	62.5	72.2	64.8	57.2	52.3	47.9	58.9
	Mean	68.0	62.9	58.7	56.2	53.9	59.9	66.3	59.8	54.7	51.1	47.2	55.8
Mean		66.8	60.6	56.1	53.8	52.1	-	65.6	58.8	54.0	50.3	46.7	-
Control (Without)		64.2	56.1	53.7	50.9	50.4	55.0	60.1	54.6	50.5	48.0	44.3	51.5
<i>Azospirillum</i>		66.8	61.3	55.7	53.0	51.4	57.6	64.8	58.0	52.7	48.4	46.0	54.0
<i>Azotobacter</i>		67.4	62.0	55.9	54.7	52.2	58.5	66.8	59.4	55.2	52.1	48.1	56.3
<i>Azosp.+ Azotob.</i>		68.9	62.8	59.3	57.7	54.2	60.4	70.6	63.1	57.5	52.8	48.6	58.6
L.S.D at 5%		1 <sup>st</sup> Season			2 <sup>nd</sup> Season		2 <sup>nd</sup> Season			1 <sup>st</sup> Season			
Mineral N (A)		2.3			N.S		A x B			2.6			
N <sub>2</sub> fixing bacteria (B)		2.0			2.7		A x C			2.8			
Storage period (C)		1.9			2.0		B x C			3.2			
							A x B x C			4.9			
										5.2			



**Table 9:** Effect of mineral nitrogen levels, N<sub>2</sub> fixing bacteria and cold storage periods on TSS% of green onion plants during 2012/2013 and 2013/2014 seasons

Mineral N (Kg/fed.)	N <sub>2</sub> fixing bacteria	Season 2012/2013					Season 2013/2014						
		Cold storage period (days)											
		0	5	10	15	20	Mean	0	5	10	15	20	Mean
		TSS%											
50% (45) N	Control (Without)	10.7	10.3	9.6	9.2	8.9	9.7	10.4	10.3	9.8	9.6	9.0	9.8
	<i>Azospirillum</i>	10.7	10.1	9.5	9.2	8.9	9.7	10.3	10.1	10.0	9.4	9.1	9.8
	<i>Azotobacter</i>	11.0	10.8	10.3	10.0	9.6	10.3	10.9	10.6	10.2	10.0	9.8	10.3
	<i>Azosp.</i> + <i>Azotob.</i>	11.3	11.1	10.6	10.2	9.7	10.6	11.0	10.7	10.5	10.1	9.8	10.4
	Mean	10.9	10.6	9.9	9.7	9.3	10.1	10.7	10.4	10.1	9.7	9.4	10.1
75% (67.5) N	Control (Without)	11.3	11.0	10.5	10.1	9.8	10.5	11.1	10.8	10.5	10.3	10.0	10.6
	<i>Azospirillum</i>	11.3	10.9	10.4	10.1	9.7	10.5	11.2	10.8	10.3	10.1	10.0	10.5
	<i>Azotobacter</i>	11.7	11.5	10.1	10.0	9.5	10.6	11.5	11.0	10.6	10.3	9.9	10.6
	<i>Azosp.</i> + <i>Azotob.</i>	12.7	12.3	11.9	11.5	11.1	11.9	12.5	12.1	11.8	11.5	10.8	11.7
	Mean	11.6	11.4	10.7	10.5	10.0	10.8	11.6	11.2	10.8	10.6	10.2	10.8
100% (90) N	Control (Without)	10.7	10.4	9.9	9.6	9.2	9.9	10.4	10.0	9.7	9.5	9.2	9.7
	<i>Azospirillum</i>	12.0	11.7	11.0	10.7	10.3	11.1	11.8	11.6	11.0	10.5	10.3	11.0
	<i>Azotobacter</i>	12.7	12.3	11.1	10.7	10.4	11.5	12.5	12.1	11.6	11.2	10.6	11.6
	<i>Azosp.</i> + <i>Azotob.</i>	12.0	11.7	11.1	10.9	10.5	11.2	11.9	11.6	11.1	10.8	10.4	11.1
	Mean	11.8	11.5	10.8	10.5	10.1	10.9	11.7	11.3	10.8	10.5	10.1	10.9
Mean	11.4	11.7	10.5	10.2	9.8	-	11.3	11.0	10.6	10.2	9.9	-	
	Control (Without)	10.9	10.6	10.0	9.6	9.3	10.1	10.6	10.4	9.9	9.6	9.5	10.0
	<i>Azospirillum</i>	11.3	10.9	10.3	10.0	9.6	10.4	11.1	10.8	10.5	10.0	9.8	10.4
	<i>Azotobacter</i>	11.8	11.6	10.5	10.2	9.8	10.8	11.6	11.2	10.8	10.5	10.1	10.8
	<i>Azosp.</i> + <i>Azotob.</i>	12.0	11.7	11.2	10.9	10.4	11.2	11.8	11.5	11.1	10.8	10.3	11.1
	L.S.D at 5%			1 <sup>st</sup> Season	2 <sup>nd</sup> Season				1 <sup>st</sup> Season	2 <sup>nd</sup> Season			
	Mineral N (A)			N.S	N. S		A x B		1.26	1.22			
	N <sub>2</sub> fixing bacteria (B)			0.95	0.92		A x C		1.33	1.29			
	Storage period (C)			0.92	0.89		B x C		1.45	1.40			
							A x B x C		2.37	2.30			



**Table 10:** Effect of mineral nitrogen levels, N<sub>2</sub> fixing bacteria and cold storage periods on leaf extension of green onion plants during 2012/2013 and 2013/2014 seasons

Mineral N (Kg/fed.)	N <sub>2</sub> fixing bacteria	Season 2012/2013						Season 2013/2014					
		Cold storage period (days)											
		0	5	10	15	20	Mean	0	5	10	15	20	Mean
		Leaf extension (cm)											
50% (45) N	Control (Without)	-	0.32	0.90	1.46	2.68	1.34	-	0.33	1.00	1.42	2.53	1.32
	<i>Azospirillum</i>	-	0.33	1.10	1.50	2.49	1.36	-	0.30	1.00	1.53	2.48	1.33
	<i>Azotobacter</i>	-	0.38	1.07	1.97	3.50	1.73	-	0.39	1.13	2.00	3.00	1.63
	<i>Azosp.+ Azotob.</i>	-	0.38	0.73	1.33	3.55	1.50	-	0.36	1.17	1.97	2.67	1.54
	Mean	-	0.35	0.95	1.57	3.06	1.48	-	0.35	1.08	1.73	2.67	1.46
75% (67.5) N	Control (Without)	-	0.37	1.00	2.00	3.18	1.64	-	0.38	0.97	2.08	3.00	1.61
	<i>Azospirillum</i>	-	0.34	1.00	2.05	3.29	1.67	-	0.38	1.13	1.96	3.01	1.62
	<i>Azotobacter</i>	-	0.35	1.25	1.88	3.00	1.62	-	0.36	1.07	1.68	2.97	1.52
	<i>Azosp.+ Azotob.</i>	-	0.38	1.13	2.00	3.56	1.77	-	0.35	1.20	2.15	3.26	1.74
	Mean	-	0.36	1.10	1.98	3.26	1.67	-	0.37	1.09	1.97	3.06	1.62
100% (90) N	Control (Without)	-	0.47	1.50	2.67	3.67	2.08	-	0.45	1.33	2.66	3.33	1.94
	<i>Azospirillum</i>	-	0.45	1.09	2.17	3.87	1.90	-	0.45	1.50	2.25	3.78	2.00
	<i>Azotobacter</i>	-	0.40	1.27	2.00	3.33	1.75	-	0.46	1.36	2.18	3.63	1.91
	<i>Azosp.+ Azotob.</i>	-	0.43	1.33	2.50	3.17	1.86	-	0.40	1.24	2.55	3.20	1.85
	Mean	-	0.44	1.30	2.34	3.51	1.90	-	0.44	1.36	2.41	3.49	1.92
Mean	-	0.38	1.11	1.96	3.27	-	-	0.38	1.18	2.04	3.07	-	
	Control (Without)	-	0.39	1.13	2.04	3.18	1.69	-	0.39	1.10	2.05	2.95	1.62
	<i>Azospirillum</i>	-	0.37	1.06	1.91	3.22	1.64	-	0.38	1.21	1.91	3.09	1.65
	<i>Azotobacter</i>	-	0.38	1.20	1.95	3.28	1.70	-	0.40	1.19	1.95	3.20	1.69
	<i>Azosp.+ Azotob.</i>	-	0.40	1.06	1.94	3.43	1.71	-	0.37	1.20	2.22	3.04	1.71
L.S.D at 5%	1 <sup>st</sup> Season	2 <sup>nd</sup> Season	1 <sup>st</sup> Season		2 <sup>nd</sup> Season								
Mineral N (A)	0.23	0.28	A x B		0.26		0.32						
N <sub>2</sub> fixing bacteria (B)	N.S	N.S	A x C		0.26		0.32						
Storage period (C)	0.20	0.24	B x C		0.28		0.34						
			A x B x C		0.45		0.55						

**Table (11):** Effect of mineral nitrogen levels, N<sub>2</sub> fixing bacteria and cold storage periods on curvature of green onion plants during 2012/2013 and 2013/2014 seasons

Mineral N (K <sub>2</sub> O/Red)	N <sub>2</sub> fixing bacteria	Season 2012/2013					Season 2013/2014						
		Cold storage period (days)											
		0	5	10	15	20	Mean	0	5	10	15	20	Mean
Curvature (Score)													
50% (45)	Control (Without)	1.00	1.00	1.33	1.67	2.33	1.47	1.00	1.33	2.00	3.00	3.67	2.20
	<i>Azospirillum</i>	1.00	1.00	1.33	1.67	2.00	1.40	1.00	1.33	1.67	2.33	3.00	1.87
	<i>Azotobacter</i>	1.00	1.33	1.67	2.00	2.33	1.67	1.00	1.33	2.00	2.67	3.33	2.07
	<i>Azosp.</i> + <i>Azotob.</i>	1.00	1.33	1.67	2.00	2.33	1.67	1.00	1.67	1.67	2.33	3.00	1.93
	Mean	1.00	1.17	1.50	1.83	2.25	1.55	1.00	1.42	1.83	2.58	3.25	2.02
75% (67.5)	Control (Without)	1.00	1.00	1.33	1.67	2.33	1.47	1.00	1.67	2.00	3.33	4.00	2.40
	<i>Azospirillum</i>	1.00	1.33	1.67	2.00	2.67	1.73	1.00	1.33	1.67	2.33	3.33	1.93
	<i>Azotobacter</i>	1.00	1.33	1.67	2.00	2.33	1.67	1.00	1.67	2.00	2.67	3.67	2.20
	<i>Azosp.</i> + <i>Azotob.</i>	1.00	1.33	1.67	2.33	2.33	1.73	1.00	1.67	2.00	2.33	3.33	2.07
	Mean	1.00	1.25	1.58	2.00	2.15	1.65	1.00	1.58	1.92	2.67	3.58	2.15
100% (90)	Control (Without)	1.00	1.33	1.67	2.67	3.00	1.93	1.00	1.67	2.33	3.33	4.00	2.47
	<i>Azospirillum</i>	1.00	1.33	1.67	2.33	2.67	1.80	1.00	1.67	2.00	2.67	3.33	2.13
	<i>Azotobacter</i>	1.00	1.33	1.67	2.00	2.33	1.67	1.00	1.67	2.33	2.67	3.67	2.27
	<i>Azosp.</i> + <i>Azotob.</i>	1.00	1.33	1.67	2.33	2.67	1.80	1.00	1.67	2.33	3.00	3.67	2.33
	Mean	1.00	1.33	1.67	2.33	2.67	1.80	1.00	1.67	2.25	2.92	3.67	2.30
	Mean	1.00	1.25	1.58	2.06	2.44	-	1.00	1.56	2.00	2.72	3.50	-
	Control (Without)	1.00	1.11	1.44	2.00	2.56	1.62	1.00	1.56	2.11	3.22	3.89	2.36
	<i>Azospirillum</i>	1.00	1.22	1.56	2.00	2.44	1.64	1.00	1.44	1.78	2.44	3.22	1.98
	<i>Azotobacter</i>	1.00	1.33	1.67	2.00	2.33	1.67	1.00	1.56	2.11	2.67	3.56	2.18
	<i>Azosp.</i> + <i>Azotob.</i>	1.00	1.33	1.67	2.22	2.44	1.73	1.00	1.67	2.00	2.56	3.33	2.11

  

L.S.D at 5%		1 <sup>st</sup> Season	2 <sup>nd</sup> Season			1 <sup>st</sup> Season	2 <sup>nd</sup> Season
Mineral N (A)	N.S	N.S	N.S	A x B	0.46	0.50	
N <sub>2</sub> fixing bacteria (B)	N.S	0.38		A x C	0.49	0.53	
Storage period (C)	0.34	0.37		B x C	0.53	0.58	
				A x B x C	0.87	0.94	