ANNEXURE -VI

1. Institute Project Code : **NRMACSSRISIL201500300879**
1. Project Title: **Evaluation of commercial vegetable crops under protected cultivation structure in saline environments**
2. Key Words: Polyhouse, capsicum, chilli, tomato, plant height, fruit yield, saline water irrigation
3. (a) Name of the Lead Institute: ICAR-CSSRI, Karnal

   (b) Name of Division/ Regional Center/ Section: Project Coordinating Unit
4. Priority Area: Use of saline water for vegetables in polyhouse structures
5. Project Duration: Date of Start – August 2015 Date of Completion – July 2018
6. **a. Objectives :**

   (i) To study the effect (s) of saline water on production of high value vegetable crops under protected cultivation structures.

   (ii) To evaluate the production potential of vegetable crops with saline water under protected cultivation structures

   (iii) To suggest suitable modification/mechanism for potential vegetable production under protected cultivation structures.

   a. Practical utility

   (i) Polyhouse cultivation of commercial vegetables in saline environments could pave the way for farmers livelihood security in these problematic and resource poor areas.

   (ii) It would provide the technique for small or marginal farmers to adopt polyhouse cultivation of high value vegetable crops under saline environments.

   (iii) Adoption of polyhouse cultivation in saline environments would be helpful for round the year cultivation of quality vegetables as in case of normal conditions.

   (iv) Information would be generated to produce under these environments with limited available resources.

7. **Final Report on the Project (materials and methods used, results and discussion, objective wise achievements and conclusions)**

Table 1. Parameters of water used for irrigation/dilution for polyhouse vegetables

Parameter	Karnal	Nain Farm
pH	7.93	8.72
EC	0.8	15.5 - 17.5
Ca+Mg (meq/l)	5	67

CO_3 (meq/l)	Nil	2
HCO_3 (meq/l)	6.2	7
Na (meq/l)	3.47	172
Chloride (meq/l)	0.8	94
SO_4 (meq/l)	1	105.5
RSC	1.2	Nil
SAR	2.2	29.7

Table 2. Plant growth and fruit yield in saline irrigated Capsicum (2015-16)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	112.83	2.22^{C}	22.08^{ABC}	66.13^{A}	630.95^{A}
2	104.58	2.30^{BC}	18.15^{C}	58.88^{B}	459.00^{B}
4	106.78	2.37^{ABC}	20.33^{BC}	60.05^{B}	522.75^{AB}
6	121.13	2.46^{AB}	25.15^{A}	57.83^{BC}	623.42^{A}
8	120.28	2.52^{A}	23.80^{AB}	57.18^{BC}	583.75^{A}
10	106.73	2.26^{C}	19.43^{C}	53.10^{C}	441.05^{B}
CV (%)	8.98	5.30	12.88	5.65	14.63

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 3. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Capsicum (2015-16)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.18^{C}	0.44	0.43^{B}	0.77^{C}	0.84	0.94^{D}
2	0.19^{BC}	0.43	0.45^{B}	0.82^{BC}	0.83	1.00^{CD}
4	0.23^{AB}	0.41	0.59^{AB}	0.83^{BC}	0.81	1.02^{BCD}
6	0.23^{AB}	0.42	0.58^{AB}	0.86^{B}	0.81	1.05^{BC}
8	0.24^{A}	0.39	0.66^{A}	0.89^{AB}	0.83	1.09^{AB}
10	0.25^{A}	0.40	0.70^{A}	0.93^{A}	0.80	1.14^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 4. Plant growth and fruit yield in saline irrigated Green Chilli (2015-16)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	111.65	1.83	99.53^{D}	8.47^{A}	361.34
2	122.33	1.84	124.48^{C}	8.00^{B}	428.61
4	117.20	1.72	146.28^{ABC}	7.21^{CD}	453.36
6	121.15	1.71	150.75^{AB}	7.53^{C}	486.20
8	112.25	1.69	130.90^{BC}	7.03^{D}	393.98
10	113.18	1.81	156.38^{A}	6.83^{D}	457.00
CV (%)	8.28	6.11	11.66	3.79	12.49

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 5. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Green Chilli (2015-16)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.37^{D}	0.87^{C}	0.42^{CD}	0.45^{D}	0.86^{A}	0.53^{D}
2	0.37^{D}	0.90^{BC}	0.41^{D}	0.62^{C}	0.85^{A}	0.73^{C}
4	0.30^{E}	1.06^{A}	0.28^{E}	0.69^{C}	0.83^{B}	0.83^{C}
6	0.42^{C}	0.92^{B}	0.46^{C}	0.99^{B}	0.83^{BC}	1.20^{B}
8	0.45^{B}	0.71^{D}	0.64^{B}	1.25^{A}	0.82^{C}	1.52^{A}
10	0.52^{A}	0.69^{D}	0.75^{A}	1.28^{A}	0.82^{C}	1.55^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 6. Plant growth and fruit yield in saline irrigated Tomato (2015-16)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	472.35	1.21	21.11^{B}	68.86	624.70^{B}
2	438.38	1.25	20.59^{B}	68.49	606.57^{B}
4	495.30	1.27	37.34^{A}	69.29	1109.53^{A}
6	464.18	1.25	38.50^{A}	71.07	1163.18^{A}
8	520.10	1.19	34.23^{A}	68.02	999.83^{A}
10	509.20	1.29	38.72^{A}	66.21	1111.15^{A}
CV (%)	12.99	7.21	15.27	8.24	13.55

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 7. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Tomato (2015-16)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.76^{D}	2.06^{A}	0.37^{D}	0.66^{C}	2.05^{A}	0.32^{D}
2	0.85^{CD}	1.28^{B}	0.66^{C}	0.89^{AB}	1.25^{B}	0.72^{BC}
4	0.91^{BC}	1.30^{B}	0.70^{C}	0.80^{B}	1.26^{B}	0.68^{C}
6	0.93^{BC}	1.16^{B}	0.81^{C}	0.96^{A}	1.09^{B}	0.89^{B}
8	1.01^{B}	0.98^{C}	1.05^{B}	0.94^{A}	1.17^{B}	0.81^{BC}
10	1.16^{A}	0.93^{C}	1.24^{A}	0.92^{A}	0.77^{C}	1.20^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

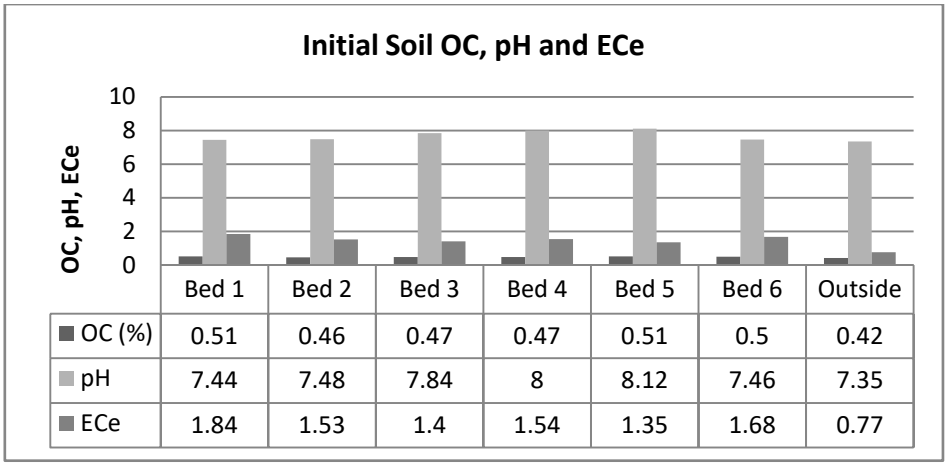

Table 8. Soil EC_2/pH_2 build-up with saline water irrigation in Capsicum –bed centre (2015-16)

EC_{iw} (dS/m)	Soil EC_2		Soil pH_2	
	0 -15 cm	15 -30 cm	0 -15 cm	15 -30 cm
BAW	0.6	0.3	7.5	7.7
2	1.5	1.2	7.8	7.9
4	2.3	1.4	7.4	7.6
6	2.0	1.4	7.9	8.0
8	3.8	2.8	7.5	7.6
10	4.3	3.5	7.8	7.9

Table 9. Soil EC_2/pH_2 build-up with saline water irrigation in Chilli -bed centre (2015-16)

EC_{iw} (dS/m)	Soil EC_2		Soil pH_2	
	0 -15 cm	15 -30 cm	0 -15 cm	15 -30 cm
BAW	0.3	0.2	7.8	7.9
2	1.7	1.4	8.1	8.1
4	3.4	2.1	7.6	7.7
6	2.2	1.8	7.9	7.9
8	2.4	1.6	7.9	8.1
10	5.1	2.8	8.0	8.0

Table 10. Soil EC_2/pH_2 build-up with saline water irrigation in Tomato –bed centre (2015-16)

EC_{iw} (dS/m)	Soil EC_2		Soil pH_2	
	0 -15 cm	15 -30 cm	0 -15 cm	15 -30 cm
BAW	0.4	0.3	8.0	8.1
2	1.4	1.0	8.1	8.2
4	1.3	0.9	8.0	7.9
6	2.3	1.8	8.0	7.9
8	1.7	1.2	8.0	8.0
10	2.3	1.9	8.1	8.1

Table 11. Plant growth and fruit yield in saline irrigated Capsicum (2016-17)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	165.38^{A}	2.35	18.65	62.33^{A}	499.08
2	148.50^{A}	2.22	18.53	59.55^{AB}	475.23
4	131.20^{B}	2.09	16.43	63.63^{A}	445.43
6	121.30^{BC}	2.11	19.00	56.20^{BC}	457.78
8	128.58^{B}	2.17	20.03	51.10^{C}	437.88
10	105.28^{C}	2.17	19.53	53.60^{C}	448.85
CV (%)	8.55	6.51	8.58	6.41	8.99

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 12. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Capsicum (2016-17)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.74^{E}	3.46^{B}	0.21^{D}	0.13^{F}	0.47^{A}	0.27^{D}
2	1.23^{D}	4.69^{A}	0.26^{D}	0.27^{E}	0.41^{B}	0.66^{C}
4	1.48^{CD}	4.48^{A}	0.33^{D}	0.37^{D}	0.39^{B}	0.97^{C}
6	1.79^{C}	2.83^{C}	0.63^{C}	0.45^{C}	0.28^{C}	1.58^{B}
8	3.00^{B}	2.70^{C}	1.12^{B}	0.52^{B}	0.28^{C}	1.89^{B}
10	5.38^{A}	2.26^{D}	2.40^{A}	0.69^{A}	0.24^{C}	2.84^{A}
CV(%)	11.24	8.33	22.19	9.83	9.80	15.80

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 13. Physiological parameters of Capsicum (2016-17)

EC_{iw} (dS/m)	Photosynthetic rate	Stomatal conductance	Internal CO_2	Transpiration rate	Vapour pressure	Leaf Temp	PAR_0
BAW	19.1	0.604	184.7	13.56	2.578	32.6	574.5
2	22.7	1.193	163.6	14.63	1.648	29.4	528.3
4	18.5	0.876	162.7	12.97	1.843	29.3	631.4
6	10.4	0.256	101.9	5.81	2.709	29.6	436.0
8	18.7	1.278	150.5	14.87	1.604	29.3	838.8
10	16.8	1.208	146.6	14.20	1.606	29.1	535.4

Table 14. Plant growth and fruit yield in saline irrigated Green Chilli (2016-17)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	155.63^{BC}	1.84^{B}	114.88^{D}	6.19^{A}	305.64^{B}
2	174.75^{AB}	2.00^{AB}	141.78^{BCD}	5.25^{B}	320.55^{B}
4	181.88^{A}	1.98^{AB}	162.55^{AB}	6.64^{A}	463.11^{A}
6	179.08^{A}	2.10^{A}	187.13^{A}	5.99^{A}	476.76^{A}
8	152.38^{C}	1.58^{C}	146.38^{BC}	5.11^{B}	318.21^{B}
10	151.68^{C}	1.61^{C}	124.60^{CD}	5.09^{B}	275.16^{B}
CV (%)	8.43	7.89	13.03	7.69	9.33

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 15. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Chilli (2016-17)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.12^{E}	2.32^{A}	0.05^{E}	1.22^{D}	0.69^{A}	1.78^{D}
2	0.15^{DE}	2.21^{A}	0.07^{DE}	1.34^{C}	0.67^{A}	2.02^{D}
4	0.18^{D}	1.93^{B}	0.09^{D}	1.91^{B}	0.45^{B}	4.21^{C}
6	0.28^{C}	1.89^{B}	0.15^{C}	1.93^{B}	0.45^{B}	4.34^{C}
8	0.40^{B}	1.70^{C}	0.24^{B}	2.30^{A}	0.38^{C}	6.08^{B}
10	0.46^{A}	1.39^{D}	0.33^{A}	2.32^{A}	0.31^{D}	7.71^{A}
CV(%)	10.06	4.73	11.93	4.25	7.89	13.28

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 16. Physiological parameters of Chilli (2016-17)

EC_{iw} (dS/m)	Photosynthetic rate	Stomatal conductance	Internal CO_2	Transpiration rate	Vapour pressure	Leaf Temp	PAR_0
BAW	18.2	0.534	175.3	11.61	2.443	31.3	475.9
2	10.7	0.272	165.1	6.32	2.612	29.5	185.7
4	15.7	0.689	176.5	11.44	2.013	29.2	523.9
6	10.4	0.281	134.1	6.27	2.576	29.4	493.7
8	14.5	0.361	124.8	8.19	2.477	29.6	579.6
10	8.6	0.155	92.0	4.46	3.011	30.2	574.0

Table 17. Plant growth and fruit yield in saline irrigated Tomato (2016-17)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit weight (g)	Fruit yield (q/ha)
BAW	638.28	0.92^{B}	40.16^{D}	38.89^{D}	670.68^{C}
2	653.68	0.84^{C}	39.79^{D}	39.44^{D}	674.98^{C}
4	664.75	1.06^{A}	51.23^{BC}	45.04^{AB}	991.95^{B}
6	674.50	1.04^{A}	49.75^{C}	44.70^{BC}	954.98^{B}
8	650.65	1.02^{A}	53.63^{AB}	42.33^{C}	973.10^{B}
10	631.73	1.04^{A}	55.86^{A}	47.51^{A}	1139.87^{A}
CV (%)	5.56	5.40	4.59	4.06	6.53

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 18. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Tomato (2016-17)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.73^{F}	2.06^{A}	0.35^{F}	1.37^{E}	1.13^{A}	1.22^{E}
2	1.11^{E}	1.88^{B}	0.59^{E}	1.38^{E}	1.06^{A}	1.31^{E}
4	1.34^{D}	1.54^{C}	0.87^{D}	1.88^{D}	0.83^{B}	2.27^{D}
6	1.60^{C}	1.48^{C}	1.09^{C}	2.07^{C}	0.81^{B}	2.55^{C}
8	1.76^{B}	1.17^{D}	1.51^{B}	2.22^{B}	0.77^{B}	2.88^{B}
10	2.06^{A}	1.02^{E}	2.02^{A}	2.71^{A}	0.69^{C}	3.96^{A}
CV(%)	4.06	5.02	8.76	2.62	5.54	4.77

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 19. Physiological parameters of Tomato (2016-17)

EC_{iw} (dS/m)	Photosynthetic rate	Stomatal conductance	Internal CO_2	Transpiration rate	Vapour pressure	Leaf Temp	PAR_0
BAW	14.6	0.413	159.6	9.74	2.576	31.1	329.3
2	18.3	0.720	159.9	12.76	2.119	30.3	554.3
4	17.8	0.566	153.1	10.53	2.142	29.5	413.1
6	15.5	0.661	155.2	11.36	2.011	29.3	554.0
8	17.7	0.864	138.6	12.58	1.799	29.2	686.1
10	15.8	0.776	139.8	12.07	1.881	29.3	663.2

Table 20. Proline and chlorophyll content of vegetables (2016-17)

EC_{iw} (dS/m)	Capsicum		Chilli		Tomato	
	Proline (µg/g FW)	Chlorophyll (mg/g FW)	Proline (µg/g FW)	Chlorophyll (mg/g FW)	Proline (µg/g FW)	Chlorophyll (mg/g FW)
BAW	376.6	0.40	336.2	0.77	302.5	0.40
2	424.5	0.38	374.6	0.53	362.7	0.38
4	479.5	0.37	399.0	0.43	356.1	0.36
6	520.4	0.34	433.2	0.37	352.9	0.37
8	586.3	0.27	477.7	0.35	375.4	0.33
10	527.7	0.26	594.2	0.34	422.5	0.35

Table 21. Soil EC_2/pH_2 build-up with saline irrigation in Capsicum –bed centre (2016-17)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.24	0.18	0.08	7.79	7.69	7.42
2	1.17	1.75	1.41	8.46	7.15	7.40
4	2.83	1.83	0.87	7.40	7.40	7.31
6	2.86	1.74	1.06	7.70	7.85	7.82
8	2.84	1.51	1.09	7.38	7.41	7.20
10	2.88	1.80	1.12	7.33	7.68	7.83

Table 22. Soil EC_2/pH_2 build-up with saline water irrigation in Chilli –bed centre (2016-17)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.22	0.19	0.16	8.41	8.26	7.65
2	1.09	1.05	0.78	7.86	7.46	7.26
4	2.20	1.85	1.36	7.60	7.80	7.57
6	2.35	2.25	1.63	8.50	7.70	7.30
8	2.93	2.37	1.15	8.55	8.00	7.95
10	3.55	2.48	1.99	7.74	7.45	7.56

Table 23. Soil EC_2/pH_2 build-up with saline water irrigation in Tomato –bed centre (2016-17)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.24	0.19	0.13	7.45	7.75	7.22
2	1.06	0.57	0.37	7.85	7.95	8.18
4	1.22	0.84	0.57	7.56	7.54	7.52
6	1.28	1.01	0.60	7.70	8.03	7.91
8	2.45	1.33	1.04	7.40	7.66	8.18
10	2.55	1.64	1.29	7.60	7.65	7.70

Table 24. Plant growth and fruit yield in saline irrigated Capsicum (2017-18)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit wt (g)	Fruit yield (q/ha)	Fruit length (cm)	Fruit width (cm)	Plant Fresh wt (g)	Plant Dry wt (g)
BAW	135.7^{A}	2.03^{A}	11.6^{B}	74.0^{A}	369.1^{B}	9.0^{AB}	6.0^{A}	254.4^{A}	70.2^{A}
2	123.5^{A}	1.85^{A}	13.5^{A}	72.8^{A}	418.3^{A}	9.2^{A}	6.3^{A}	260.0^{A}	63.3^{A}
4	99.4^{B}	1.93^{A}	11.7^{B}	65.0^{B}	324.5^{C}	8.9^{AB}	6.3^{A}	165.4^{B}	33.2^{B}
6	80.5^{C}	1.58^{B}	10.4^{B}	59.2^{C}	262.5^{D}	8.5^{AB}	6.3^{A}	128.5^{B}	32.2^{BC}
8	75.5^{C}	1.55^{B}	10.3^{B}	54.0^{CD}	237.7^{D}	8.2^{B}	6.2^{A}	142.8^{B}	30.6^{BC}
10	55.1^{D}	1.20^{C}	4.7^{C}	48.8^{D}	98.5^{E}	7.2^{C}	5.5^{B}	68.8^{C}	14.7^{C}
CV (%)	9.4	8.67	9.7	5.6	9.9	6.9	4.5	18.2	29.5
LSD (5%)	13.5	0.22	1.52	5.30	42.67	0.89	0.41	46.69	18.07

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 25. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Capsicum (2017-18)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.14^{F}	0.66^{A}	0.21^{E}	0.92^{D}	1.79^{A}	0.52^{E}
2	0.21^{E}	0.60^{B}	0.34^{DE}	1.03^{CD}	1.69^{B}	0.61^{E}
4	0.24^{D}	0.50^{C}	0.49^{D}	1.08^{C}	1.38^{C}	0.78^{D}
6	0.44^{C}	0.33^{D}	1.32^{C}	1.28^{B}	1.25^{D}	1.02^{C}
8	0.66^{B}	0.32^{D}	2.08^{B}	1.33^{B}	1.14^{E}	1.16^{B}
10	0.70^{A}	0.23^{E}	3.10^{A}	1.52^{A}	0.87^{F}	1.75^{A}
CV (%)	4.22	5.46	9.76	7.80	3.39	7.77

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 26. Plant growth and fruit yield in saline irrigated Green Chilli (2017-18)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit length (cm)	Fruit width (cm)	Fruit wt (g)	Fruit yield (q/ha)	Plant fresh wt (g)	Plant dry wt (g)
BAW	151.8^{A}	1.3^{A}	99.1^{A}	15.9^{A}	1.6^{A}	9.2^{A}	391.6^{A}	188.8	66.2^{A}
2	150.4^{A}	1.1^{AB}	100.0^{A}	16.0^{A}	1.5^{A}	8.6^{AB}	368.4^{AB}	199.0	55.2^{AB}
4	138.1^{AB}	1.0^{BC}	92.6^{A}	15.2^{B}	1.6^{A}	8.5^{B}	338.0^{B}	174.3	48.2^{B}
6	126.0^{B}	0.8^{CD}	77.6^{B}	14.6^{C}	1.4^{B}	7.8^{C}	259.5^{C}	151.2	44.5^{B}
8	117.8^{B}	0.9^{BCD}	66.3^{C}	14.6^{C}	1.5^{A}	7.7^{C}	220.3^{C}	183.5	22.8^{C}
10	93.0^{C}	0.8^{D}	52.8^{D}	13.7^{D}	1.4^{B}	6.8^{D}	155.3^{D}	137.4	24.5^{C}
CV (%)	11.0	14.4	8.2	2.6	6.4	5.7	9.5	19.3	18.2
LSD (5%)	21.4	0.21	10.05	0.59	0.14	0.69	41.25	NS	11.92

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 27. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Chilli (2017-18)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.41^{D}	0.95^{A}	0.43^{E}	0.40^{E}	1.30^{A}	0.31^{E}
2	0.52^{C}	0.95^{A}	0.55^{DE}	0.47^{E}	1.07^{B}	0.44^{DE}
4	0.54^{C}	0.71^{B}	0.76^{D}	0.61^{D}	0.91^{C}	0.68^{D}
6	1.09^{B}	0.55^{C}	1.97^{C}	0.98^{C}	0.74^{D}	1.34^{C}
8	1.18^{AB}	0.49^{D}	2.43^{B}	1.71^{B}	0.59^{E}	2.92^{B}
10	1.26^{A}	0.24^{E}	5.17^{A}	1.90^{A}	0.56^{E}	3.43^{A}
CV (%)	7.08	4.41	9.56	5.54	7.02	10.98

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 28. Plant growth and fruit yield in saline irrigated Tomato (2017-18)

EC_{iw} (dS/m)	Plant height (cm)	Stem Girth (cm)	Fruit/plant (no.)	Fruit length (cm)	Fruit width (cm)	Fruit wt (g)	Fruit yield (q/ha)	Fresh wt/plant (g)	Plant dry wt (g)	TSS (%)
BAW	651.2^{A}	0.65	49.4^{D}	5.4^{A}	5.8^{A}	49.2^{B}	1042.5^{D}	610.5^{A}	87.3^{A}	4.75
2	660.9^{A}	0.58	63.3^{BC}	4.8^{B}	5.3^{BC}	50.8^{A}	1383.9^{BC}	575.5^{AB}	68.5^{BC}	5.00
4	611.4^{AB}	0.75	68.6^{A}	4.8^{B}	5.3^{AB}	50.6^{A}	1490.3^{A}	609.0^{A}	81.0^{AB}	5.18
6	626.3^{AB}	0.72	65.3^{AB}	4.5^{BC}	5.0^{BC}	50.8^{A}	1424.1^{AB}	431.0^{C}	81.3^{AB}	5.19
8	584.6^{BC}	0.75	60.5^{C}	4.3^{C}	4.8^{C}	50.1^{AB}	1301.3^{C}	484.6^{BC}	64.8^{C}	5.16
10	554.3^{C}	0.83	63.3^{BC}	4.7^{B}	5.3^{AB}	51.0^{A}	1385.8^{BC}	530.3^{AB}	73.3^{ABC}	5.18
CV (%)	5.7	14.7	4.3	4.3	5.9	1.4	4.7	12.0	13.1	4.2
LSD (5%)	53.35	NS	4.05	0.31	0.47	1.09	95.54	97.95	15.02	NS

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 29. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Tomato (2017-18)

EC_{iw} (dS/m)	Shoot			Root		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.51^{E}	1.20^{A}	0.42^{F}	0.60^{F}	0.88^{A}	0.68^{F}
2	1.00^{D}	0.99^{B}	1.01^{E}	0.79^{E}	0.64^{B}	1.24^{E}
4	1.28^{C}	0.86^{C}	1.49^{D}	0.96^{D}	0.60^{B}	1.60^{D}
6	1.41^{B}	0.76^{D}	1.86^{C}	1.08^{C}	0.47^{C}	2.30^{C}
8	1.43^{B}	0.63^{E}	2.28^{B}	1.17^{B}	0.45^{C}	2.60^{B}
10	1.76^{A}	0.47^{F}	3.72^{A}	1.34^{A}	0.38^{D}	3.57^{A}
CV (%)	6.03	3.06	6.87	5.65	7.50	6.96

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 30. Proline and chlorophyll content in vegetables during 2017-18

EC_{iw} (dS/m)	Capsicum		Chilli		Tomato	
	Proline (µg/g FW)	Chlorophyll (mg/g FW)	Proline (µg/g FW)	Chlorophyll (mg/g FW)	Proline (µg/g FW)	Chlorophyll (mg/g FW)
BAW	95.4	1.01	142.3	1.06	65.6	1.12
2	106.7	0.88	184.2	0.98	68.4	1.08
4	191.6	0.83	246.6	0.90	71.1	1.01
6	236.7	0.74	330.9	0.80	65.8	1.05
8	268.5	0.38	457.5	0.79	60.6	1.09
10	486.3	0.31	533.2	0.29	72.3	1.08

Table 31. Soil EC_2/pH_2 build-up with saline water irrigation in Capsicum bed (2017-18)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.48	0.30	0.54	8.83	8.70	8.48
2	1.94	0.75	0.59	8.24	8.25	8.26
4	4.01	1.63	1.28	8.26	8.38	8.29
6	4.82	1.71	1.39	8.22	8.36	8.26
8	4.91	3.24	1.35	8.22	8.16	8.17
10	5.40	4.54	1.86	8.25	8.32	8.14

Table 32. Soil EC_2/pH_2 build-up with saline water irrigation in Chilli bed (2017-18)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.45	0.36	0.29	8.38	8.34	8.18
2	1.96	1.35	0.56	8.29	8.18	8.05
4	1.87	1.48	1.33	8.16	8.28	8.15
6	4.04	2.15	1.40	8.16	8.17	8.14
8	4.46	2.55	1.47	8.08	8.10	8.06
10	6.26	4.58	1.74	8.18	8.18	8.19

Table 33. Soil EC_2/pH_2 build-up with saline water irrigation in Tomato –bed centre (2017-18)

EC_{iw} (dS/m)	Soil EC_2 (dS/m)			Soil pH_2		
	0-15 cm	15-30 cm	30-45 cm	0-15 cm	15-30 cm	30-45 cm
BAW	0.41	0.28	0.21	8.46	8.44	8.37
2	0.76	0.48	0.34	8.19	8.39	8.27
4	1.71	0.83	0.66	8.07	8.15	8.23
6	1.24	1.04	0.73	8.24	8.42	8.34
8	2.44	1.74	0.99	8.20	8.29	8.23
10	3.55	3.08	1.95	8.11	8.17	8.25

Light intensity (x 100 Lux) at Capsicum bed surface

ECiw	Without Al covering									After Al covering			
	15 Jan	22 Jan	30 Jan	5 Feb	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	119	123	217	144	270	205	286	236	288	50	63	50	33
2	190	200	332	175	322	275	335	300	337	73	92	71	63
4	238	243	354	228	386	344	401	338	402	139	240	140	117
6	181	206	303	283	343	328	375	329	373	92	108	97	61
8	197	235	158	163	188	203	214	289	217	79	103	85	65
10	220	246	255	223	258	216	266	225	268	156	164	159	76

Light intensity (x 100 Lux) at Capsicum plant height

ECiw	Without Al covering					After Al covering			
	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	364	323	383	353	384	105	122	110	140
2	408	354	402	355	404	120	144	128	131
4	422	387	413	397	416	264	344	281	164
6	407	394	418	389	422	114	129	131	88
8	357	335	376	374	381	100	115	97	81
10	271	256	292	238	295	161	143	161	84

Light intensity (x 100 Lux) at Chilli bed surface

ECiw	Without Al covering									After Al covering			
	15 Jan	22 Jan	30 Jan	5 Feb	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	125	117	181	139	235	201	238	173	244	42	52	53	22
2	195	172	239	218	302	268	305	211	308	36	61	44	30
4	254	242	382	296	355	332	378	293	378	163	233	168	125
6	160	189	312	185	308	305	324	275	325	69	105	70	65
8	215	227	151	99	217	214	244	278	243	76	98	79	58
10	244	238	285	115	273	252	305	229	307	174	127	175	129

Light intensity (x 100 Lux) at Chilli plant height

ECiw	Without Al covering					After Al covering			
	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	340	304	338	277	342	88	121	89	129
2	373	377	395	333	397	108	131	116	135
4	417	392	403	351	406	221	322	228	171

6	435	426	446	388	450	115	140	119	90
8	388	408	397	392	397	121	144	121	85
10	309	306	330	278	330	151	138	156	121

Light intensity (x 100 Lux) at Tomato bed surface

ECiw	Without Al covering									After Al covering			
	15 Jan	22 Jan	30 Jan	5 Feb	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	71	77	101	94	143	145	172	194	174	45	75	73	89
2	106	123	153	153	208	196	246	239	245	56	83	84	107
4	218	208	307	219	334	304	410	345	410	228	308	309	315
6	118	102	177	175	227	254	262	269	285	56	83	82	99
8	83	95	97	110	167	199	217	234	222	56	80	83	89
10	233	160	240	173	225	227	294	189	302	137	139	141	118

Light intensity (x 100 Lux) at 1 m above Tomato bed surface

ECiw	Without Al covering					After Al covering			
	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	292	251	313	240	315	69	107	114	122
2	348	314	338	312	341	96	125	127	134
4	375	352	404	333	409	221	364	368	264
6	393	376	410	373	410	96	123	123	126
8	380	375	409	329	407	100	122	125	135
10	256	260	274	216	280	158	132	138	228

Light intensity (x 100 Lux) at 2 m above Tomato bed surface

ECiw	Without Al covering					After Al covering			
	15 Feb	21 Feb	26 Feb	5 Mar	12 Mar	20 Mar	27 Mar	5 Apr	10 Apr
BAW	330	304	355	261	358	85	118	122	132
2	375	373	411	339	414	107	141	142	137
4	400	396	419	370	424	158	293	298	200
6	437	444	494	386	493	111	139	138	134
8	420	450	493	383	492	110	134	135	141
10	189	313	373	230	376	105	142	147	218

Table 37a. Na^+ and K^+ (%DW) partitioning in shoot tissues of Capsicum

EC_{iw} (dS/m)	Capsicum Shoot								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.18^{C}	0.44	0.43^{B}	0.74^{E}	3.46^{B}	0.21^{D}	0.14^{F}	0.66^{A}	0.21^{E}
2	0.19^{BC}	0.43	0.45^{B}	1.23^{D}	4.69^{A}	0.26^{D}	0.21^{E}	0.60^{B}	0.34^{DE}
4	0.23^{AB}	0.41	0.59^{AB}	1.48^{CD}	4.48^{A}	0.33^{D}	0.24^{D}	0.50^{C}	0.49^{D}
6	0.23^{AB}	0.42	0.58^{AB}	1.79^{C}	2.83^{C}	0.63^{C}	0.44^{C}	0.33^{D}	1.32^{C}
8	0.24^{A}	0.39	0.66^{A}	3.00^{B}	2.70^{C}	1.12^{B}	0.66^{B}	0.32^{D}	2.08^{B}
10	0.25^{A}	0.40	0.70^{A}	5.38^{A}	2.26^{D}	2.40^{A}	0.70^{A}	0.23^{E}	3.10^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 37b. Na^+ and K^+ (%DW) partitioning in root tissues of Capsicum

EC_{iw} (dS/m)	Capsicum Roots								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.77^{C}	0.84	0.94^{D}	0.13^{F}	0.47^{A}	0.27^{D}	0.92^{D}	1.79^{A}	0.52^{E}
2	0.82^{BC}	0.83	1.00^{CD}	0.27^{E}	0.41^{B}	0.66^{C}	1.03^{CD}	1.69^{B}	0.61^{E}
4	0.83^{BC}	0.81	1.02^{BCD}	0.37^{D}	0.39^{B}	0.97^{C}	1.08^{C}	1.38^{C}	0.78^{D}
6	0.86^{B}	0.81	1.05^{BC}	0.45^{C}	0.28^{C}	1.58^{B}	1.28^{B}	1.25^{D}	1.02^{C}
8	0.89^{AB}	0.83	1.09^{AB}	0.52^{B}	0.28^{C}	1.89^{B}	1.33^{B}	1.14^{E}	1.16^{B}
10	0.93^{A}	0.80	1.14^{A}	0.69^{A}	0.24^{C}	2.84^{A}	1.52^{A}	0.87^{F}	1.75^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 38. Plant growth of green chilli grown in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Plant height (cm)				Stem Girth (cm)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	111.6	155.6^{BC}	151.8^{A}	139.7^{B}	1.83	1.84^{B}	1.30^{A}	1.65^{A}
2	122.3	174.8^{AB}	150.4^{A}	149.1^{A}	1.84	2.00^{AB}	1.10^{AB}	1.64^{A}
4	117.2	181.9^{A}	138.1^{AB}	145.7^{AB}	1.72	1.98^{AB}	1.00^{BC}	1.57^{A}
6	121.2	179.1^{A}	126.0^{B}	142.1^{AB}	1.71	2.10^{A}	0.80^{CD}	1.55^{A}
8	112.3	152.4^{C}	117.8^{B}	127.5^{C}	1.69	1.58^{C}	0.90^{BCD}	1.40^{B}
10	113.2	151.7^{C}	93.0^{C}	119.3^{C}	1.81	1.61^{C}	0.80^{D}	1.40^{B}
CV (%)	8.3	8.4	11.0	4.3	6.1	7.9	14.4	4.84

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 39a. Yield attributes of green chilli in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Fruits per plant (No.)				Fruit weight (g)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled

EC_{iw} (dS/m)	Fruits per plant (No.)				Fruit weight (g)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	99.5^{D}	114.9^{D}	99.1^{A}	104.5^{A}	8.5^{A}	6.2^{A}	9.2^{A}	8.0^{A}
2	124.5^{C}	141.8^{BCD}	100.0^{A}	122.1^{BC}	8.0^{B}	5.3^{B}	8.6^{AB}	7.3^{BC}
4	146.3^{ABC}	162.6^{AB}	92.6^{A}	133.8^{AB}	7.2^{CD}	6.6^{A}	8.5^{B}	7.5^{B}
6	150.8^{AB}	187.1^{A}	77.6^{B}	138.5^{A}	7.5^{C}	6.0^{A}	7.8^{C}	7.1^{C}
8	130.9^{BC}	146.4^{BC}	66.3^{C}	114.5^{CD}	7.0^{D}	5.1^{B}	7.7^{C}	6.6^{D}
10	156.4^{A}	124.6^{CD}	52.8^{D}	111.3^{CD}	6.8^{D}	5.1^{B}	6.8^{D}	6.3^{E}
CV (%)	11.7	13.0	8.2	7.3	3.8	7.7	5.7	3.1

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 39b. Yield attributes of green chilli in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Fruit length (cm)				Fruit breadth (cm)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	11.4^{AB}	11.5^{A}	15.9^{A}	12.9^{A}	1.9^{A}	1.7	1.6^{A}	1.71^{A}
2	11.9^{A}	10.9^{AB}	16.0^{A}	13.0^{A}	1.8^{A}	1.7	1.5^{A}	1.69^{A}
4	11.1^{B}	11.2^{A}	15.2^{B}	12.5^{B}	1.8^{A}	1.7	1.6^{A}	1.71^{A}
6	11.0^{B}	11.6^{A}	14.6^{C}	12.4^{B}	1.6^{B}	1.8	1.4^{B}	1.58^{B}
8	11.1^{B}	10.3^{BC}	14.6^{C}	12.0^{C}	1.7^{AB}	1.8	1.5^{A}	1.68^{C}
10	10.9^{B}	9.9^{C}	13.7^{D}	11.5^{D}	1.8^{A}	1.7	1.4^{B}	1.60^{D}
CV (%)	4.0	4.0	2.6	1.6	5.9	8.0	6.4	1.61

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 40. Fruit yield of green chilli in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Chilli Fruit yield (t/ha)			
	2015-16	2016-17	2017-18	Mean
BAW	36.1	30.6^{B}	39.2^{A}	35.3^{B}
2	42.9	32.1^{B}	36.8^{AB}	37.3^{B}
4	45.3	46.3^{A}	33.8^{B}	41.8^{A}
6	48.6	47.7^{A}	25.9^{C}	40.8^{A}
8	39.4	31.8^{B}	22.0^{C}	31.1^{C}
10	45.7	27.5^{B}	15.5^{D}	29.6^{C}
CV (%)	12.5	9.3	9.5	6.1

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 41a. Na^+ and K^+ (%DW) partitioning in shoot tissues of Chilli

EC_{iw} (dS/m)	Chilli Shoot								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.37^{D}	0.87^{C}	0.42^{CD}	0.12^{E}	2.32^{A}	0.05^{E}	0.41^{D}	0.95^{A}	0.43^{E}
2	0.37^{D}	0.90^{BC}	0.41^{D}	0.15^{DE}	2.21^{A}	0.07^{DE}	0.52^{C}	0.95^{A}	0.55^{DE}
4	0.30^{E}	1.06^{A}	0.28^{E}	0.18^{D}	1.93^{B}	0.09^{D}	0.54^{C}	0.71^{B}	0.76^{D}
6	0.42^{C}	0.92^{B}	0.46^{C}	0.28^{C}	1.89^{B}	0.15^{C}	1.09^{B}	0.55^{C}	1.97^{C}
8	0.45^{B}	0.71^{D}	0.64^{B}	0.40^{B}	1.70^{C}	0.24^{B}	1.18^{AB}	0.49^{D}	2.43^{B}
10	0.52^{A}	0.69^{D}	0.75^{A}	0.46^{A}	1.39^{D}	0.33^{A}	1.26^{A}	0.24^{E}	5.17^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 41b. Na^+ and K^+ (%DW) partitioning in root tissues of Chilli

EC_{iw} (dS/m)	Chilli Roots								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.45^{D}	0.86^{A}	0.53^{D}	1.22^{D}	0.69^{A}	1.78^{D}	0.40^{E}	1.30^{A}	0.31^{E}
2	0.62^{C}	0.85^{A}	0.73^{C}	1.34^{C}	0.67^{A}	2.02^{D}	0.47^{E}	1.07^{B}	0.44^{DE}
4	0.69^{C}	0.83^{B}	0.83^{C}	1.91^{B}	0.45^{B}	4.21^{C}	0.61^{D}	0.91^{C}	0.68^{D}
6	0.99^{B}	0.83^{BC}	1.20^{B}	1.93^{B}	0.45^{B}	4.34^{C}	0.98^{C}	0.74^{D}	1.34^{C}
8	1.25^{A}	0.82^{C}	1.52^{A}	2.30^{A}	0.38^{C}	6.08^{B}	1.71^{B}	0.59^{E}	2.92^{B}
10	1.28^{A}	0.82^{C}	1.55^{A}	2.32^{A}	0.31^{D}	7.71^{A}	1.90^{A}	0.56^{E}	3.43^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 42. Plant growth of tomato grown in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Plant height (cm)				Stem Girth (cm)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	472.4	638.3	651.2^{A}	587.3	1.21	0.92^{B}	0.65	0.93^{BC}
2	438.4	653.7	660.9^{A}	584.3	1.25	0.84^{C}	0.58	0.89^{C}
4	495.3	664.8	611.4^{AB}	590.5	1.27	1.06^{A}	0.75	1.30^{A}
6	464.2	674.5	626.3^{AB}	588.3	1.25	1.04^{A}	0.72	1.00^{AB}
8	520.1	650.7	584.6^{BC}	585.1	1.19	1.02^{A}	0.75	0.99^{AB}
10	509.2	631.7	554.3^{C}	565.1	1.29	1.04^{A}	0.83	1.05^{A}
CV (%)	13.0	5.6	5.7	5.2	7.2	5.4	14.7	5.4

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 43a. Yield attributes of tomato in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Fruits per plant (No.)				Fruit weight (g)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	21.1^{B}	40.2^{D}	49.4^{D}	36.9^{D}	68.9	38.9^{D}	49.2^{B}	52.3
2	20.6^{B}	39.8^{D}	63.3^{BC}	41.2^{C}	68.5	39.4^{D}	50.8^{A}	52.9
4	37.3^{A}	51.2^{BC}	68.6^{A}	52.4^{A}	69.3	45.0^{AB}	50.6^{A}	55.0
6	38.5^{A}	49.8^{C}	65.3^{AB}	51.2^{AB}	71.1	44.7^{BC}	50.8^{A}	55.5
8	34.2^{A}	53.6^{AB}	60.5^{C}	49.5^{B}	68.0	42.3^{C}	50.1^{AB}	53.5
10	38.7^{A}	55.9^{A}	63.3^{BC}	52.6^{A}	66.2	47.5^{A}	51.0^{A}	54.9
CV (%)	15.3	4.6	4.3	4.0	8.2	4.1	1.4	3.6

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 43b. Yield attributes of tomato in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Fruit length (cm)				Fruit breadth (cm)			
	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
BAW	5.64^{A}	4.83	5.4^{A}	5.3A	6.48^{A}	4.82	5.8^{A}	5.69^{A}
2	5.30^{B}	4.70	4.8^{B}	4.9BC	6.20^{AB}	4.88	5.3^{BC}	5.44^{BC}
4	5.30^{B}	4.96	4.8^{B}	5.0B	6.32^{A}	5.08	5.3^{AB}	5.57^{AB}
6	5.03^{C}	4.53	4.5^{BC}	4.7D	5.96^{B}	4.80	5.0^{BC}	5.27^{CD}
8	4.95^{C}	5.03	4.3^{C}	4.8CD	5.60^{C}	5.24	4.8^{C}	5.22^{D}
10	5.33^{B}	4.75	4.7^{B}	4.9BC	6.35^{A}	5.03	5.3^{AB}	5.56^{AB}
CV (%)	2.85	6.55	4.3	2.3	3.26	5.78	5.9	2.55

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 44. Fruit yield of tomato in polyhouse under saline water irrigation

EC_{iw} (dS/m)	Tomato Fruit yield (t/ha)			
	2015-16	2016-17	2017-18	Pooled
BAW	62.5^{B}	67.1^{C}	104.3^{D}	77.9^{D}
2	60.6^{B}	67.5^{C}	138.4^{BC}	88.8^{C}
4	110.9^{A}	99.2^{B}	149.0^{A}	119.7^{A}
6	116.3^{A}	95.5^{B}	142.4^{AB}	118.2^{A}
8	100.0^{A}	97.3^{B}	130.1^{C}	109.1^{B}
10	111.1^{A}	114.0^{A}	138.6^{BC}	121.2^{A}
CV (%)	13.6	6.5	4.7	4.9

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 45. TSS (%) in fruits of tomato in polyhouse under saline water irrigation

EC_{iw} (dS/m)	TSS (Brix) in tomato			
	2015-16	2016-17	2017-18	Average
BAW	4.88	4.56	4.73	4.72
2	5.23	4.50	4.75	4.83
4	5.20	4.35	4.69	4.75
6	5.40	4.93	5.10	5.14
8	5.38	4.70	4.83	4.97
10	5.95	4.66	4.80	5.14

Means with at least one letter common are not statistically significant using DUNCAN's Multiple Range Test at 5% level of significance.

Table 46a. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Tomato

EC_{iw} (dS/m)	Tomato Shoot								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.76^{D}	2.06^{A}	0.37^{D}	0.73^{F}	2.06^{A}	0.35^{F}	0.51^{E}	1.20^{A}	0.42^{F}
2	0.85^{CD}	1.28^{B}	0.66^{C}	1.11^{E}	1.88^{B}	0.59^{E}	1.00^{D}	0.99^{B}	1.01^{E}
4	0.91^{BC}	1.30^{B}	0.70^{C}	1.34^{D}	1.54^{C}	0.87^{D}	1.28^{C}	0.86^{C}	1.49^{D}
6	0.93^{BC}	1.16^{B}	0.81^{C}	1.60^{C}	1.48^{C}	1.09^{C}	1.41^{B}	0.76^{D}	1.86^{C}
8	1.01^{B}	0.98^{C}	1.05^{B}	1.76^{B}	1.17^{D}	1.51^{B}	1.43^{B}	0.63^{E}	2.28^{B}
10	1.16^{A}	0.93^{C}	1.24^{A}	2.06^{A}	1.02^{E}	2.02^{A}	1.76^{A}	0.47^{F}	3.72^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 46b. Na^+ and K^+ (%DW) partitioning in shoot and root tissues of Tomato

EC_{iw} (dS/m)	Tomato Roots								
	2015-16			2016-17			2017-18		
	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio	Na^+	K^+	Na^+/K^+ ratio
BAW	0.66^{C}	2.05^{A}	0.32^{D}	1.37^{E}	1.13^{A}	1.22^{E}	0.60^{F}	0.88^{A}	0.68^{F}
2	0.89^{AB}	1.25^{B}	0.72^{BC}	1.38^{E}	1.06^{A}	1.31^{E}	0.79^{E}	0.64^{B}	1.24^{E}
4	0.80^{B}	1.26^{B}	0.68^{C}	1.88^{D}	0.83^{B}	2.27^{D}	0.96^{D}	0.60^{B}	1.60^{D}
6	0.96^{A}	1.09^{B}	0.89^{B}	2.07^{C}	0.81^{B}	2.55^{C}	1.08^{C}	0.47^{C}	2.30^{C}
8	0.94^{A}	1.17^{B}	0.81^{BC}	2.22^{B}	0.77^{B}	2.88^{B}	1.17^{B}	0.45^{C}	2.60^{B}
10	0.92^{A}	0.77^{C}	1.20^{A}	2.71^{A}	0.69^{C}	3.96^{A}	1.34^{A}	0.38^{D}	3.57^{A}

Means with at least one letter common are not statistically significant using Duncan's Multiple Range Test at 5% level of significance.

Table 47. Water use , water productivity, water harvesting potential of polyhouse structures

Items	2015-16	2016-17	2017-18
Plants / crop	336	336	336
Water applied/plant/ irrigation (Litre)	1.78	1.78	1.78
Irrigations	40	49	60
Water use/crop	23.9cum	29.3cum	35.8cum
Total water use/season	~ 72cum	~ 88cum	~ 107cum
Water harvesting potential of polyhouse (300 sqm area)	~ 164cum (Rainfall: 547mm)	~ 203cum (Rainfall: 675mm)	~ 210cum (Rainfall: 700mm)
Water productivity			
Capsicum (kg/cum)	17.78	12.3	6.23
Chilli (kg/cum)	14.06	9.6	6.31
Tomato (kg/cum)	30.6	24.10	29.2