Effect of Foliar Application of Nutrients with Plant Growth Regulators on Fruit Yield and Quality of Winter Season of Guava (Psidium Guajava L.) Cv. L-49.

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Abstract: The current study was conducted between the research year 2023-2024 and 2024-25 in research centre Janta College, Bakewar, Etawah, Department of Horticulture. The investigation was carried out in RBD (Randomized Block Design) with 3 replications, 26 treatments with 78 total number of combination. A field experiment was escort to assess the effect of foliar application of nutrients with plant growth regulators with 26 treatment combination T_1 = Urea, T_2 = K_2SO_4, T_3 = $CaSO_4$, T_4 = GA_3, T_5 = NAA, T_6= Urea + K_2SO_4, T_7= Urea + $CaSO_4$, T_8= Urea + GA_3, T_9= Urea + NAA, T_{10}= K_2SO_4+ $CaSO_4$, T_{11}= K_2SO_4 + GA_3, T_{12}= K_2SO_4 + NAA, T_{13}= $CaSO_4$ + GA_3, T_{14}= $CaSO_4$ + NAA, T_{15}= Urea + K_2SO_4 + $CaSO_4$, T_{16}= Urea + K_2SO_4 + GA_3, T_{17}= Urea + K_2SO_4 + NAA, T_{18}= Urea + $CaSO_4$ + GA_3, T_{19}= Urea + $CaSO_4$ + NAA, T_{20}= Urea + GA_3 + NAA, T_{21}= K_2SO_4 + $CaSO_4$ + GA_3, T_{22}= K_2SO_4 + $CaSO_4$ + NAA, T_{23}= $CaSO_4$ + GA_3 + NAA, T_{24}= GA_3 + NAA + K_2SO_4, T_{25}= Urea + K_2SO_4 + $CaSO_4$ + GA_3 + NAA, T_{26}= Control (RDF) on yield attributes and quality of guava (Psidium guajava L.) cv. L-49. Foliar application of Urea + K_2SO_4+ $CaSO_4$+ GA_3+ NAA increasing fruit yield characteristics like length of fruit, width of fruit, number of seeds and fruit yield in kg/tree and chemical parameters like T.S.S., sugar contains like reducing, non- reducing, total sugars and ascorbic acid of fruits. The foliar application of Urea + K_2SO_4 + $CaSO_4$+ GA_3 + NAA concentrations given more superior flowering, fruit set and fruit yield in guava and followed by Urea+ K_2SO_4 + NAA whereas, the control (RDF) was recorded the lesser value in all the treatment on fruit yield attributes and quality of winter season of guava (Psidium guajava L.) Cv. L-49.

Keywords: K_2SO_4 – Potassium sulphate, $CaSO_4$ – Calcium Sulphate, NAA – Naphthalene Acetic Acid, GA_3 – Gibberellic acid and Guava, GLs – Guava Leaves.

Introduction

Guava holds a prominent place among the nation's commercial fruit crops owing to its exceptional nutraceutical potential. The fruit contains a wide spectrum of bioactive constituents, including vitamin C, lycopene, and carotenoids, which act as potent natural antioxidants. It is also enriched with essential minerals and dietary fibre.

Furthermore, guava is recognized for its hardy nature, regular and heavy bearing habit, low maintenance requirement, and suitability for cultivation in kitchen gardens. It is widely known as the "Apple of the Tropics." Belonging to the family **Myrtaceae**, the common guava carries a diploid chromosome number of 2n = 22, whereas natural and induced triploid (2n = 33) and aneuploid types are also found. The crop thrives in soils with a pH of 6.5–8.5 and exhibits strong tolerance to salinity and alkalinity.

Guava performs well in soils with alkaline conditions; however, as soil pH rises, the availability of micronutrients such as boron and zinc declines, which ultimately lowers yield and fruit quality **(Preet et al., 2021).** The ideal temperature range for guava cultivation is 23–26 °C, although the crop can tolerate temperatures as high as 46 °C. Owing to this adaptability, guava is considered a highly profitable crop for growers and contributes significantly to the nation's nutritional security. The consumption and demand for guava are steadily increasing because of its numerous health benefits. Over the past decade, both the cultivation area and production of guava have expanded substantially. It remains one of the most widely consumed tropical fruits worldwide. The elevated levels of Mg, Na, S, Mn, and B in guava leaves (GLs) make them highly suitable for human nutrition as well as for use as livestock feed. Additionally, guava leaves are rich in various macro- and micronutrients along with diverse bioactive compounds **(Shabbir et al., 2020).**Its sweet, juicy fruit is healthful and tasty, and it can be eaten by itself or combined with a variety of other foods. The area dedicated to guava commercial agriculture is growing daily, necessitating the use of high-quality planting materials. Guava leaf polysaccharides (GLPs) can be utilized as an antioxidant additive in food and for diabetes treatment.

The presence of a unique variety of bioactive polyphenolic compounds, like quercetin and other flavonoids and ferulic, caffeic, and gallic acids, present in guava leaves primarily determine their bioactive and therapeutic properties **Farag et al., 2020**. Increasing total sugar is due to either speedily converted into sugars and their derivatives by reactions involving reverse glycolytic pathways or might have been used in respiration or both **Jatav et al., 2016.**

Materials and Methods

The current investigation was carried out in horticulture research orchard in Janta college bakewar, Etawah (U.P.) during the **research** year 2023-2024 and 2024-25 to find out the "effect of foliar application of nutrients with plant growth regulators on flowering, fruit set and fruit yield in winter season of guava (Psidium guajava L.) Cv. L-49". In this experiment there were three nutrients and two PGR (plant growth regulators) are namely urea, potassium sulphate, calcium sulphate, gibberellic acid and naphthyl acetic acid with concentrations for each (1.0%, 0.3%, 0.4%, 20 ppm and 30 ppm) along with water spray and control. There were 78 plants were chosen and planted at 6m X 6m apart. The plants were 20 years old replicated three time and randomized block design were used to set up the experiments. Documents of the data were made fruit yield attributes characteristics like length of fruit, width of fruit, number of seeds, seed percent, fruit yield in kg/tree and chemical parameters like T.S.S., acidity, sugar contains like reducing, non- reducing, total sugars and ascorbic acid of fruits in variety L-49 selected for research work.

Results and Discussion

In present investigation the foliar application of nutrients with PGR proved significantly efficient in raising the percentage of all the observations like length of fruit, width of fruit, number of seeds, seed percent, fruit yield in kg/tree. An assessment of the presented data highlighted notable variation, while the results shown in Table -1 revealed that the minimum fruit length (5.48 and 5.69 cm) was recorded in T_{26} (control) followed by (5.58 and 5.77 cm) with T_3 ($CaSO_4$) and the maximum length of fruit (7.70 and 7.71 cm) appeared in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) followed by (7.60 and7.58 cm) with T_{17} (Urea+ K_2SO_4 + NAA) at all the stages of observation during both the year 2023-24 and 2024-25.The pooled data shown, the minimal length of fruit (5.58 cm) appeared in T_{26} (control) afterward, (5.67 cm) with T_3 ($CaSO_4$) and the maximum length of fruit (7.70 cm) was recorded under T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) followed by (7.58 cm) with T_{17} (Urea+ K_2SO_4 + NAA). The findings nearly corroborated with the results of **Prajapati et al., (2018).**

Table-1: Effect of foliar application of nutrients with plant growth regulators on fruit yield characteristics in both the year 2023-24 and 2024-25 in winter season of guava Cv. L-49

Notation	Length of Fruit (cm)			Width of Fruit (cm)			No. of Seed			Fruit yield (kg/tree)		
	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled
T_1	5.52	5.93	5.72	5.40	5.05	5.22	215.33	227.00	221.16	52.78	55.93	54.35
T_2	5.70	5.84	5.77	5.27	4.92	5.09	220.33	232.33	226.33	47.97	52.36	50.16
T_3	5.58	5.77	5.67	5.19	4.78	4.98	224.67	235.33	230.00	46.87	51.42	49.14
T_4	5.80	5.99	5.89	5.33	5.14	5.23	211.00	224.67	217.83	47.53	53.89	50.71
T_5	5.70	6.09	5.89	5.24	5.19	5.21	215.00	224.67	219.83	47.58	56.32	51.95
T_6	6.18	6.17	6.17	6.18	5.38	5.78	211.67	223.33	217.50	47.39	61.23	54.31
T_7	6.27	6.04	6.15	5.92	5.34	5.63	208.67	221.00	214.83	49.68	59.73	54.70
T_8	6.27	6.07	6.16	5.95	5.38	5.66	215.33	227.67	221.50	48.82	60.13	54.47
T_9	6.40	6.47	6.43	6.01	5.61	5.80	219.67	224.00	221.83	50.62	60.75	55.68

T_{10}	5.85	6.18	6.01	5.47	5.45	5.46	214.67	222.67	218.66	53.72	57.27	55.49
T_{11}	6.15	6.26	6.20	5.82	5.46	5.63	213.67	230.67	222.16	53.45	58.62	56.03
T_{12}	6.23	6.32	6.27	5.81	5.37	5.59	218.33	227.00	222.66	53.07	59.05	56.05
T_{13}	5.97	6.59	6.28	5.50	5.43	5.46	220.00	216.00	218.00	48.47	57.77	53.12
T_{14}	6.52	7.24	6.87	6.13	6.07	6.09	219.33	222.67	221.00	50.11	58.55	54.33
T_{15}	7.42	7.35	7.38	6.95	6.48	6.71	220.33	218.00	219.16	63.39	66.61	64.99
T_{16}	7.52	7.45	7.48	7.03	6.58	6.80	219.67	215.00	217.33	64.48	67.27	65.87
T_{17}	7.60	7.58	7.58	7.09	6.75	6.92	217.33	213.00	215.16	65.13	67.84	66.48
T_{18}	7.15	7.08	7.11	6.65	6.13	6.38	225.00	223.67	224.33	59.62	64.49	62.05
T_{19}	7.01	7.14	7.07	6.71	6.21	6.45	222.00	221.00	221.50	61.18	65.68	63.43
T_{20}	7.00	7.23	7.11	6.80	6.34	6.56	219.00	222.67	220.83	62.32	66.45	64.38
T_{21}	6.58	6.59	6.58	6.26	5.71	5.98	223.67	219.33	221.50	56.25	61.84	59.04
T_{22}	6.71	6.75	6.73	6.36	5.82	6.09	218.33	216.00	217.16	55.86	62.53	59.19
T_{23}	6.88	6.91	6.89	6.45	5.95	6.20	220.00	217.67	218.83	56.04	63.42	59.72
T_{24}	7.01	6.96	6.98	6.73	6.03	6.38	208.67	210.00	209.33	56.97	64.20	60.58
T_{25}	7.70	7.71	7.70	6.89	7.19	7.04	214.67	209.33	212.00	66.98	68.32	67.65
T_{26}	5.48	5.69	5.58	5.07	4.64	4.85	222.67	232.67	227.66	46.54	48.30	47.41
C.D. at 5%	0.46	0.22	0.34	0.26	0.25	0.25	N/A	N/A	N/A	2.50	1.39	1.94
SE(m)	0.16	0.08	0.12	0.09	0.09	0.08	5.08	6.12	5.60	0.88	0.49	0.68

The table-1reflected that the maximum width of fruit (6.89 and 7.19 cm) was identified in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (7.09 and 6.75 cm) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum width of fruit (5.07 and 4.64 cm) was recorded in T_{26} (control) followed by (5.19 and 4.78 cm) with T_3 ($CaSO_4$). The consolidated pooled data indicated a trend aligned with the outcomes documented in both experimental seasons. It was observed that the superior treatment (7.04 cm) was identified in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (6.92cm) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum width of fruit (4.85 cm) was recorded in T_{26} (control) followed by (4.98 cm) with T_3 ($CaSO_4$) exhibited the greatest efficacy among the treatments. These results agree with those reported by **Meenaet al., (2024).**

It is obvious from the data noticed that the maximum number of seeds (224.67 and 235.33) with T_3 ($CaSO_4$) followed by (222.67 and 232.67) was found in T_{26} (control). While, minimum number of seeds (208.67) in T_7 in 2023-24 and (209.33) in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) 2024-25was recognized as the most superior treatment in number of seeds through all observational stages over the two study years, 2023–24 and 2024–25.The analysis of the pooled data revealed that the minimum number of seeds (209.33) was recorded under T_{24} followed by (212.00) with T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) yet, the maximum number of seeds (230.00) with T_3 ($CaSO_4$) and treatment (227.66) was found in T_{26} (control) was found to be most effective. The outcomes are comparable to the findings of **Kanwaljit Singh et al., (2017).**

The highest quantity of fruit yield (66.98 and 68.32 kg/tree) was recorded under T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (65.13 and 67.84kg/tree) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum fruit yield (46.54 and 48.30 kg/tree) was obtained in T_{26} (control) followed by (46.87 and 51.42 kg/tree) with T_3 ($CaSO_4$). The pooled analysis of the data reveals that the maximum fruit yield (67.65 kg/tree) was obtained in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (66.48 kg/tree) with T_{17} (Urea+ K_2SO_4 + NAA) the lowest possible fruit yield(47.41kg/tree) was recorded in T_{26} (control) followed by (49.14 kg/tree) with T_3 ($CaSO_4$).

Analysis of table -2indicated that the maximum T.S.S.(15.43 and 17.03°Brix) the value was observed inT_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (14.94 and 16.79 °Brix) with T_{17} (Urea+ K_2SO_4 + NAA). However, the minimum T.S.S.(8.57 and 8.86°Brix) was recorded in T_{26} (control) followed by (9.25 and 9.03°Brix) with T_3 ($CaSO_4$) was found to be most effective treatment in 2023-24 and 2024-25 which increasing the T.S.S. during every stage of evaluation in the experimental years.

Table-2: Effect of foliar application of nutrients with plant growth regulators on chemical parameters in both the year 2023-24 and 2024-25 in winter season of guava Cv. L-49.

Notation	T.S.S. (°Brix)			Reducing			Non- Reducing			Total Sugars			Ascorbic Acid		
	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled	2023-24	2024-25	Pooled
T_1	9.95	9.74	9.84	3.36	3.24	3.30	2.57	2.46	2.51	5.92	5.71	5.81	143.67	151.99	147.83
T_2	9.50	9.18	9.33	3.08	3.09	3.08	2.05	2.14	2.09	5.16	5.23	5.19	141.44	147.23	144.33
T_3	9.25	9.03	9.14	2.94	3.02	2.98	1.97	1.98	1.97	4.86	5.00	4.93	140.76	146.03	143.39
T_4	9.59	9.40	9.49	3.09	3.15	3.12	2.23	2.25	2.24	5.32	5.40	5.36	142.67	149.46	146.06

T_5	9.79	9.70	9.74	3.30	3.22	3.26	2.33	2.37	2.34	5.63	5.59	5.61	144.80	150.72	147.75
T_6	12.81	13.81	13.31	4.19	3.85	4.01	3.38	2.94	3.16	7.57	6.79	7.17	148.96	158.72	153.83
T_7	12.23	13.48	12.85	3.70	3.58	3.64	3.27	3.19	3.23	6.98	6.78	6.87	143.60	154.72	149.15
T_8	12.24	12.78	12.51	3.85	3.79	3.81	3.36	3.37	3.36	7.21	7.16	7.18	146.77	160.09	153.43
T_9	12.45	14.00	13.22	4.14	3.72	3.93	3.62	3.23	3.42	7.76	6.96	7.36	151.16	160.73	155.94
T_{10}	10.31	13.07	11.69	3.63	3.38	3.50	3.16	2.81	2.98	6.79	6.19	6.48	142.59	155.08	148.83
T_{11}	10.90	10.93	10.91	3.90	3.52	3.70	3.00	2.98	2.99	6.90	6.50	6.69	141.82	154.22	148.01
T_{12}	11.40	12.17	11.78	3.92	3.67	3.79	3.05	3.34	3.19	6.97	7.01	6.99	144.99	158.24	151.61
T_{13}	10.64	12.47	11.55	3.70	3.44	3.57	2.93	2.99	2.95	6.63	6.43	6.52	140.83	159.91	150.37
T_{14}	11.01	14.73	12.87	4.03	3.46	3.74	3.81	3.82	3.81	7.85	7.28	7.56	152.10	166.00	159.04
T_{15}	14.04	16.38	15.20	4.65	4.58	4.61	4.40	4.46	4.43	9.05	9.03	9.04	172.59	173.17	172.88
T_{16}	14.72	16.56	15.63	4.73	4.68	4.70	4.51	4.61	4.55	9.24	9.29	9.26	174.10	174.97	174.53
T_{17}	14.94	16.79	15.86	4.79	4.79	4.79	4.61	4.72	4.66	9.40	9.52	9.46	175.58	177.77	176.67
T_{18}	14.32	15.77	15.04	4.49	4.47	4.48	4.03	4.07	4.05	8.52	8.55	8.53	165.09	166.06	165.57
T_{19}	13.98	15.91	14.94	4.50	4.39	4.44	4.21	4.19	4.20	8.71	8.58	8.64	166.97	167.92	167.44
T_{20}	14.17	16.08	15.12	4.58	4.47	4.52	4.30	4.30	4.30	8.89	8.77	8.83	170.02	170.12	170.07
T_{21}	13.51	13.54	13.52	4.25	3.48	3.86	3.93	3.60	3.76	8.18	7.08	7.63	155.68	160.93	158.30
T_{22}	13.07	14.25	13.66	4.36	4.23	4.29	3.79	3.74	3.76	8.15	7.97	8.06	155.33	162.77	159.05
T_{23}	13.29	15.06	14.17	4.39	4.11	4.25	3.88	3.88	3.88	8.28	7.99	8.13	157.57	164.40	160.98
T_{24}	13.61	15.55	14.57	4.37	4.22	4.29	3.92	3.92	3.92	8.28	8.14	8.21	160.27	166.97	163.61
T_{25}	15.43	17.03	16.23	4.85	4.90	4.87	4.73	4.86	4.79	9.58	9.76	9.67	178.48	180.56	179.52
T_{26}	8.57	8.86	8.71	2.91	2.98	2.94	1.60	1.86	1.73	4.53	4.82	4.67	138.31	144.30	141.30
C.D. at 5%	0.73	1.17	0.94	0.23	0.39	0.31	0.38	0.37	0.37	0.53	0.56	0.54	2.92	4.99	3.95
SE(m)	0.26	0.41	0.33	0.08	0.14	0.11	0.13	0.13	0.13	0.19	0.20	0.19	1.03	1.75	1.38

The pooled data analysis showed that the significant variations in the T.S.S. guava among all the treatments. The maximum T.S.S.(16.23°Brix) the value was observed in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) closely followed by (15.86°Brix) with T_{17} (Urea+ K_2SO_4 + NAA). However, the minimum T.S.S.(8.71°Brix) the value was observed in T_{26} (control) followed by (9.14°Brix) with T_3 ($CaSO_4$) it emerged as the best-performing treatment in the study. These results are in similar with the findings of **Carpenter S. et al., (2019).**

According to the values highlighted in Table-2, the peak reducing sugar content (4.85 and 4.90) the outcome was noted in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) proved significantly higher than rest of the treatments, T_{17} (Urea+ K_2SO_4 + NAA) (4.79) in both year gave same number in both the year. While, the minimum reducing sugar (2.91 and 2.98) the outcome was noted in T_{26} (control) closely followed by (2.94 and 3.02) with T_3 ($CaSO_4$). The difference between maximum and minimum reducing sugar are statistically observe during 2023-24 and 2024-25.The pooled analysis of the data obtained with the maximum reducing sugar (4.87) was recorded under T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) proved significantly higher than rest of the treatments, T_{17} (Urea+ K_2SO_4 + NAA) was (4.79). However, the minimum reducing sugar (2.94) the outcome was noted in T_{26} (control) closely followed by (2.98) with T_3 ($CaSO_4$). The outcomes are comparable to the findings of **Akshay Mehta (2024).**

From the table-2 concluded that the non-reducing sugar content the maximum non-reducing sugar (4.73 and 4.86) appeared in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) proved to be the most effective treatment in enhancing non-reducing sugar at every observation stage in both years, followed by (4.61 and 4.72) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum non-reducing sugar (1.60 and 1.86) appeared in T_{26} (control) closely followed by (1.97 and 1.98) with T_3 ($CaSO_4$) in 2023-24 and 2024-25 respectively. A keen observation of the pooled data depicts that the maximum non-reducing sugar (4.79) was recorded under T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) followed by (4.66) with T_{17} (Urea+ K_2SO_4 + NAA).The minimum non-reducing sugar (1.73) appeared in T_{26} (control) followed by (1.97) with T_3 ($CaSO_4$) in both year 2023-24 and 2024-25. The results are in conformably with the findings of **Garasiya et al., (2013).**

The data illustrated in tableand figure-2revealed that the maximum total sugar content (9.58 and 9.76) the value was observed in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) significantly superior to rest of the treatments during both the year, followed by (9.40 and 9.52) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum total sugar content (4.53 and 4.82) was recorded in T_{26} (control) closely followed by (4.86 and 5.00) with T_3 ($CaSO_4$) was found during both the year 2023-24 and 2024-25 respectively. The pooled analysis of the data revealed that the significant differences in the total sugar in guava among all the treatments. The maximum total sugar content (9.67) the value was observed in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) significantly superior to rest of the treatments during both the year in mean, followed by (9.46) with T_{17} (Urea+ K_2SO_4 + NAA) and the minimum total sugar content (4.67) was recorded in T_{26}

(control) closely followed by (4.93) with T_3 ($CaSO_4$) was found during both the year 2023-24 and 2024-25. These findings nearly corroborated with the results of **Singh and Tripathi (2023).**

It is evident from the data illustrated in table -2noticed that the maximum ascorbic acid (178.48 and 180.56) was identified in T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) followed by (175.58and 177.77) with T_{17} (Urea+ K_2SO_4 + NAA). However, the minimum ascorbic acid (138.31 and 144.30) was recorded in T_{26} (control) followed by (140.76 and 146.03) with T_3 ($CaSO_4$).The pooled analysis in ascorbic acid (179.52) was recorded under T_{25} (Urea + K_2SO_4+ $CaSO_4$+ GA_3 + NAA) followed by (176.67) with T_{17} (Urea+ K_2SO_4 + NAA). However, the minimum ascorbic acid (141.30) was identified in T_{26} (control) followed by (143.39) with T_3 ($CaSO_4$) to be most effective treatment in the ascorbic acid at all the stages of observation. The outcomes are comparable to the findings offered by **Shukla et al., (2019).**

Conclusion

On the basis of two year experimental data, it can be concluded that the foliar application of Urea + K_2SO_4 + $CaSO_4$+ GA_3 + NAA concentrations given more superior flowering character, fruit set and fruit yield in winter season of guava cv. L-49, as compared to other nutrients with plant growth regulators and followed by Urea+ K_2SO_4 + NAA whereas, the control (RDF) was recorded the lowest values in all the treatment fruit yield and quality characters of winter season of guava fruits.

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