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Effect of post-monsoon foliar nutrition on assessment of flowering and fruit set of mango (*Mangifera Indica* L.) cv Ratna

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Abstract

Post-monsoon foliar nutrition plays a crucial role in regulating flowering and improving productivity in mango under tropical conditions. The present study evaluated the effect of different post-monsoon foliar nutrient applications on flowering, fruit set and fruit retention of mango (*Mangifera indica* L.) cv. Ratna during 2021–2023 under the humid tropical conditions of the Konkan region, India. The experiment was conducted in a randomized block design with nine treatments comprising foliar applications of urea, potassium nitrate, ortho-phosphoric acid, and monopotassium phosphate at different concentrations. Flowering parameters, including days to flowering, hermaphrodite flower (%), flowering intensity, fruit set, fruit retention were assessed. Foliar nutrient application significantly influenced flowering and fruit set attributes. Among the treatments, potassium nitrate (3%) consistently promoted earlier flowering, higher flowering intensity, improved fruit set and retention, and produced the highest fruit yield compared with the control. The indicating enhanced physiological conditions for reproductive development. The findings demonstrate that post-monsoon foliar application of potassium nitrate (3%) is an effective foliar nutrient for enhancing flowering, fruit retention, and productivity of Mango cv. Ratna under Konkan conditions.

Keywords: Mango, Ratna, post-monsoon foliar nutrition, flowering and fruit set

Introduction

Mango (*Mangifera indica* L.), belonging to the family Anacardiaceae, is one of the most important tropical fruit crops cultivated worldwide owing to its excellent flavour, nutritional value and economic importance. India is recognized as the largest producer of mango, contributing a major share to global production. The fruit is highly valued for fresh consumption as well as processing into juice, pulp, nectar, squash, jam, pickle and other value-added products. Among the commercially cultivated cultivars, cv. Ratna, a hybrid developed from a cross between 'Neelum' and 'Alphonso' at Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, has gained considerable importance in the Konkan region because of its regular bearing habit, attractive fruit appearance, fibreless pulp, superior keeping quality and comparatively lower incidence of spongy tissue disorder than Alphonso.

Successful mango production largely depends on regular flowering and efficient fruit retention, which ultimately determine yield. Flowering in mango is a complex physiological process influenced by genotype, environmental conditions, shoot maturity and the nutritional status of the tree. Since mango is a terminal-bearing species, flowering occurs only on physiologically mature shoots. The transition from vegetative to reproductive growth is regulated by favorable environmental conditions, including low temperature, mild moisture stress and cessation of vegetative growth, whereas continuous vegetative flushing adversely affects floral induction and reduces flowering intensity. In cv. Ratna, delayed flowering and prolonged fruit development are major production constraints, resulting in delayed harvesting and reduced market advantage. Among various nutrient management approaches, foliar nutrition has emerged as an efficient method for supplying nutrients directly to plant tissues during critical stages of crop growth. Foliar application ensures rapid nutrient absorption and utilization compared with soil application,

particularly under conditions where nutrient availability from soil is restricted. Essential macronutrients such as nitrogen, phosphorus and potassium play vital roles in regulating physiological and biochemical processes associated with flowering and fruit development. Nitrogen promotes chlorophyll synthesis and vegetative metabolism, phosphorus is involved in energy transfer and reproductive development, while potassium regulates enzyme activation, carbohydrate translocation and osmotic balance. Potassium nitrate has been widely reported as an effective foliar nutrient capable of promoting floral induction through enhanced nitrate metabolism and ethylene production, whereas phosphorus-containing compounds support reproductive growth by improving energy metabolism within plant tissues.

The nutritional status of shoots also influences carbohydrate accumulation and the carbon-to-nitrogen ratio, both of which are closely associated with floral induction in mango. Proper shoot maturity accompanied by adequate carbohydrate reserves favours the formation of floral stimuli, whereas immature shoots generally exhibit poor flowering. Previous investigations have demonstrated the beneficial effects of foliar nutrient application on flowering and productivity in mango. Foliar application of potassium nitrate has been reported to increase flowering intensity, panicle development, fruit set and yield, while post-flowering nutrient sprays have improved fruit retention and overall productivity under Konkan conditions. These findings indicate that timely post-monsoon foliar nutrition can effectively improve reproductive performance in mango orchards.

Although several studies have reported the beneficial effects of foliar nutrient application in mango, limited information is available regarding suitable post-monsoon foliar nutrition schedules for mango cv. Ratna under the lateritic soils and humid climatic conditions of the Konkan region. Considering the regular bearing habit of this cultivar and its tendency towards delayed flowering, optimizing nutrient supply during the post-monsoon period may enhance flowering, improve fruit retention and increase yield. Therefore, the present investigation was undertaken to evaluate the influence of post-monsoon foliar nutrition on flowering, fruit set and yield-attributing characters of mango (*Mangifera indica* L.) cv. Ratna under Konkan conditions.

Materials and Methods

The present investigation entitled “Effect of Post-Monsoon Foliar Nutrition on Assessment of Flowering and Fruit Set of Mango (*Mangifera indica* L.) cv. Ratna. The experiment was conducted during 2021–2023 at the Mother Orchard of mango (*Mangifera indica* L.) cv. Ratna, Department of Fruit Science, College of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Ratnagiri, Maharashtra, India. The experimental orchard is located at 17°45' N latitude and 73°12' E longitude, at an altitude of 240 m above mean sea level. The region experiences a humid tropical climate characterized by an average annual rainfall of approximately 3500 mm, mean relative humidity of about 78%, and lateritic sandy clay loam soil with a pH ranging from 5.6 to 6.5. The experiment was carried out on 30-year-old healthy and uniformly maintained mango trees of cv. Ratna planted at a spacing of 10 × 10 m. The experiment was laid out in a Randomized Block Design (RBD) consisting of nine treatments with three replications, each replication comprising two trees, resulting in a total of 54 experimental trees. The experiment consisted of nine treatments: T₁ (control), T₂ (urea 1%), T₃ (urea 3%), T₄ (potassium nitrate 1%), T₅ (potassium nitrate 3%), T₆ (ortho-phosphoric acid 0.5%), T₇ (ortho-phosphoric acid 1%), T₈ (monopotassium phosphate 1%), and T₉ (monopotassium phosphate 3%). The first foliar spray was applied after the emergence of the post-monsoon vegetative flush during October–

November, followed by a second spray 15 days later. Nutrient solutions were freshly prepared on the day of application and sprayed uniformly using a power-operated sprayer. Approximately 10 L of spray solution per tree was applied according to the respective treatment. Trees under the control treatment received no foliar nutrient application.

All experimental trees were maintained under uniform orchard management practices throughout the study period following the recommended package of practices of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth. Farmyard manure at 50 kg tree⁻¹ and the recommended fertilizer dose of 1.5 kg N, 0.5 kg P₂O₅ and 1.0 kg K₂O tree⁻¹ were applied during July in circular trenches opened at half the canopy radius. Standard intercultural operations, including weed management, orchard sanitation, plant protection measures and irrigation during fruit development, were uniformly adopted for all treatments.

Flowering behaviour was assessed by recording the number of days to panicle emergence, flowering intensity (%), panicle length (cm), panicle width (cm), percentage of hermaphrodite flowers, fruit set per panicle and fruit retention (%).

The experimental data were statistically analyzed by the methods suggested by Panse and Sukhatme (1995) ^[10].

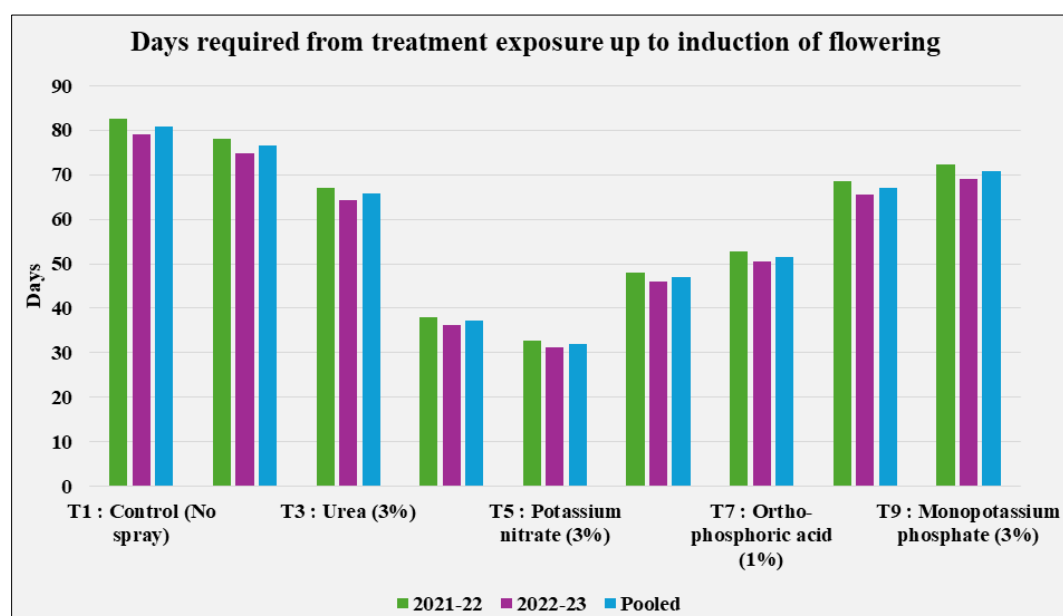
Results and Discussion

Days required from treatment exposure up to induction of flowering

The data on flowering parameters viz., days required from treatment exposure up to induction of flowering presented in table 1 and depicted in figure 1. The Pooled results across both years revealed that significantly minimum number of days required for induction of flowering was recorded in T₅ (Potassium nitrate 3%) (32.00 days) which was followed by T₄ (Potassium nitrate 1%) (37.13 days). Treatment T₇ (Ortho-phosphoric acid 1%) (51.63 days) also showed earlier flowering compared to T₃ (Urea 3%) (65.74 days) and T₈ (Monopotassium phosphate 1%) (67.02 days). In contrast the maximum number of days required for flowering induction was observed in control treatment T₁ (80.81 days). Among different treatments, foliar application of potassium nitrate (3%) recorded earliest flowering compared to other treatments and control. The promotive effect of potassium nitrate on early flowering might be attributed to its role in enhancing nitrate reductase activity and stimulating synthesis of flowering-related metabolites, which help in breaking bud dormancy and inducing early floral initiation in mango. Potassium nitrate is also known to improve accumulation and translocation of carbohydrates towards developing buds, thereby promoting early differentiation of vegetative buds into reproductive buds. Earlier flowering observed due to foliar application of potassium nitrate has also been reported by several workers in mango. Similar findings were reported by Davenport and Núñez-Elisea (1997) ^[1] who explained that nitrate compounds influence floral induction through regulation of endogenous physiological processes. Singh *et al.* (2010) ^[14] and Kumar *et al.* (2013) ^[6] also reported that foliar application of potassium nitrate significantly reduced the number of days required for flowering induction in mango. The earlier induction of flowering observed with foliar application of ortho-phosphoric acid (0.5%) might be due to the role of phosphorus in hastening maturity of post-monsoon vegetative flushes and improving energy transfer processes required for floral differentiation. Phosphorus plays an important role in synthesis of nucleic acids and ATP, which are essential for floral bud initiation. Similar results were earlier reported by Reddy and Majumdar (1983) ^[12] in mango cv. Langra, Kumar and Reddy (2008) ^[5] in mango cv. Baneshan, Pilli *et al.* (2025) ^[11] in mango and Thiruezhirselvan *et al.* (2025) ^[15] in mango cv. Benganpalli.

Table 1: Effect of foliar application of nutrients on days required from treatment exposure up to induction of flowering in mango cv. Ratna.

Treatment	Days required from treatment exposure up to induction of flowering		
	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	82.59	79.03	80.81
T ₂ : Urea (1%)	78.16	74.77	76.46
T ₃ : Urea (3%)	67.15	64.33	65.74
T ₄ : Potassium nitrate (1%)	37.92	36.33	37.13
T ₅ : Potassium nitrate (3%)	32.69	31.30	32.00
T ₆ : Ortho-phosphoric acid (0.5%)	48.01	45.90	46.96
T ₇ : Ortho-phosphoric acid (1%)	52.73	50.53	51.63
T ₈ : Monopotassium phosphate (1%)	68.48	65.57	67.02
T ₉ : Monopotassium phosphate (3%)	72.37	69.10	70.73
Mean	60.01	57.43	58.72
S.E. $\pm$	1.35	1.29	1.32
C.D.at 5%	4.04	3.86	3.95

**Fig 1:** Effect of foliar application of nutrients on days required from treatment exposure up to induction of flowering in mango cv. Ratna.

Flowering intensity (%)

Data pertaining to the effect of post-monsoon foliar application of nutrients on flowering intensity (%) in Mango cv. Ratna are presented in Table 2 and depicted in Fig 2. The pooled results across both years revealed that significantly higher flowering intensity was recorded in T₅ (Potassium nitrate 3%) (69.00%), which was superior over all other treatments. It was followed by T₃ (Urea 3%) (58.67%), T₄ (Potassium nitrate 1%) (58.19%) and Treatment T₁ (Control) (53.67%), T₇ (Ortho-phosphoric acid 1%) (51.67%), T₉ (Monopotassium phosphate 3%) (50.83%) and T₈ (Monopotassium phosphate 1%) (50.67%) recorded comparatively moderate flowering intensity, whereas the minimum flowering intensity was observed in T₆ (Ortho-phosphoric acid 0.5%) (49.67%). Among different treatments, foliar application of potassium nitrate (3%) recorded the highest flowering intensity on pooled basis compared to other treatments and control. The increased flowering intensity observed with potassium nitrate treatments might be attributed to its role in enhancing nitrate reductase activity and improving nitrogen metabolism, which promotes synthesis and translocation of carbohydrates towards developing buds and accelerates floral bud differentiation. Potassium also plays an important role in regulation of stomatal activity and assimilates transport, thereby improving physiological efficiency of shoots and enhancing

flowering response under post-monsoon conditions. Higher flowering intensity due to foliar application of potassium nitrate has also been reported in mango by Katwesige *et al.* (2022) [3] and Thiruezhirsvelan *et al.* (2024) [16], who observed that, nitrate-based foliar sprays significantly improved flowering behavior and reproductive efficiency of mango trees.

Table 2: Effect of foliar application of nutrients on flowering intensity (%) in mango cv Ratna.

Treatment	Flowering intensity (%)		
	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	58.67	48.67	53.67
T ₂ : Urea (1%)	55.33	56.67	56.00
T ₃ : Urea (3%)	53.33	64.00	58.67
T ₄ : Potassium nitrate (1%)	46.00	70.00	58.19
T ₅ : Potassium nitrate (3%)	57.33	80.67	69.00
T ₆ : Ortho-phosphoric acid (0.5%)	40.00	59.33	49.67
T ₇ : Ortho-phosphoric acid (1%)	48.00	55.33	51.67
T ₈ : Monopotassium phosphate (1%)	54.00	47.33	50.67
T ₉ : Monopotassium phosphate (3%)	52.00	49.67	50.83
Mean	51.63	59.07	55.37
S.E. $\pm$	1.53	1.82	1.66
C.D.at 5%	4.57	5.45	4.98

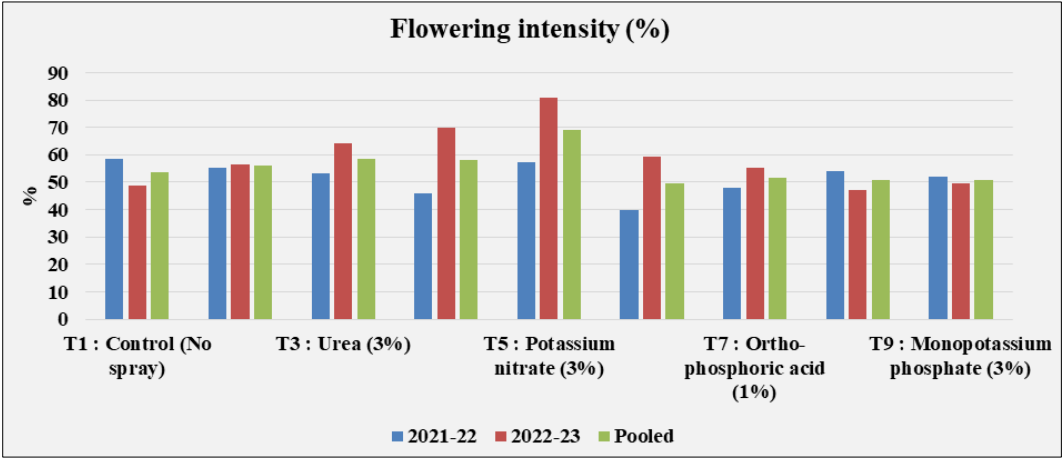


Fig 2: Effect of foliar application of nutrients on flowering intensity (%) in mango cv. Ratna.

Length and width of panicle

The pooled analysis revealed that, significantly maximum panicle length was recorded in T₄ (Potassium nitrate 1%) (26.09 cm) were significantly superior over remaining treatments, whereas the minimum panicle length was recorded in T₉ (Monopotassium phosphate 3%) (21.20 cm), followed by T₁ (Control) (21.78 cm). The significantly maximum panicle width was recorded in T₄ (Potassium nitrate 1%) (20.44 cm), followed by T₇ (Ortho-phosphoric acid 1%) (20.08 cm) and T₅ (Potassium nitrate 3%) (19.76 cm). The minimum panicle width was recorded in T₆ (Ortho-phosphoric acid 0.5%) (17.52 cm). The increase in panicle

length observed under potassium nitrate treatment might be attributed to enhanced nitrogen metabolism and improved availability of potassium, which plays an important role in cell elongation, enzyme activation and translocation of photosynthates towards developing reproductive shoots. Potassium also regulates osmotic balance and improves physiological efficiency of flowering shoots, thereby promoting better panicle development. Similar; enhancement in panicle length following foliar application of potassium nitrate has been reported by Katwesige *et al.* (2022) ^[3] and Thiruezhirselvan *et al.* (2024) ^[16] in mango.

Table 3: Effect of post-monsoon foliar nutrition on panicle length and panicle width in mango cv. Ratna

Treatment	Length (cm)			Width (cm)		
	2021-22	2022-23	Pooled	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	21.50	22.05	21.78	17.03	19.21	18.12
T ₂ : Urea (1%)	23.57	24.13	23.85	17.91	20.52	19.21
T ₃ : Urea (3%)	25.30	25.92	25.61	19.27	18.84	19.05
T ₄ : Potassium nitrate (1%)	25.77	26.42	26.09	19.61	21.27	20.44
T ₅ : Potassium nitrate (3%)	24.55	25.16	24.85	20.33	19.19	19.76
T ₆ : Ortho-phosphoric acid (0.5%)	22.87	23.40	23.13	16.86	18.19	17.52
T ₇ : Ortho-phosphoric acid (1%)	23.18	23.71	23.45	19.29	20.86	20.08
T ₈ : Monopotassium phosphate (1%)	22.98	23.51	23.25	17.84	19.77	18.80
T ₉ : Monopotassium phosphate (3%)	20.95	21.44	21.20	18.22	19.54	18.88
Mean	23.41	23.97	23.69	18.48	19.71	19.1
S.E. ±	0.52	0.53	0.53	0.37	0.34	0.24
C.D.at 5%	1.56	1.6	1.58	1.12	1.01	0.73

Hermaphrodite flowers (%)

The pooled analysis revealed that the significantly high percentage of hermaphrodite flowers was recorded in T₅ (Potassium nitrate 3%) (15.46%), which was followed by T₄ (Potassium nitrate 1%) (14.70%) and T₇ (Ortho-phosphoric acid 1%) (13.74%). The minimum percentage of hermaphrodite flowers was recorded in T₁ (Control) (12.36%) The results of the present investigation indicated that post-monsoon foliar application of nutrients significantly influenced the percentage of hermaphrodite flowers in mango cv. Ratna. Among different treatments, foliar application of potassium nitrate (3%) recorded the high proportion of hermaphrodite flowers on pooled basis compared to other treatments. The increase in percentage of hermaphrodite flowers under potassium nitrate treatments might

be attributed to improved nitrogen metabolism and enhanced availability of potassium, which play an important role in regulating hormonal balance and assimilate partitioning towards reproductive organs. Potassium is known to enhance carbohydrate translocation and enzyme activation, which favour differentiation of bisexual flowers and improve reproductive efficiency of mango panicles. The comparatively higher percentage of hermaphrodite flowers observed with orthophosphoric acid treatments might be attributed to the role of phosphorus in energy transfer reactions and synthesis of nucleic acids required for floral organ differentiation. Adequate phosphorus availability improves reproductive development and enhances formation of perfect flowers in mango inflorescences. Similar findings were reported by Devi *et al.* (2023) ^[2].

Table 4: Effect of post-monsoon foliar nutrition on hermaphrodite flowers (%) in mango cv. Ratna

Treatment	Hermaphrodite flowers (%)		
	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	12.75	11.97	12.36
T ₂ : Urea (1%)	12.83	12.45	12.64
T ₃ : Urea (3%)	12.95	14.05	13.50
T ₄ : Potassium nitrate (1%)	13.53	15.87	14.70
T ₅ : Potassium nitrate (3%)	14.94	15.99	15.46
T ₆ : Ortho-phosphoric acid (0.5%)	13.13	13.88	13.51
T ₇ : Ortho-phosphoric acid (1%)	13.98	13.49	13.74
T ₈ : Monopotassium phosphate (1%)	11.68	12.92	12.30
T ₉ : Monopotassium phosphate (3%)	12.84	13.43	13.13
Mean	13.18	13.78	13.48
S.E. $\pm$	0.34	0.40	0.26
C.D.at 5%	1.03	1.21	0.79

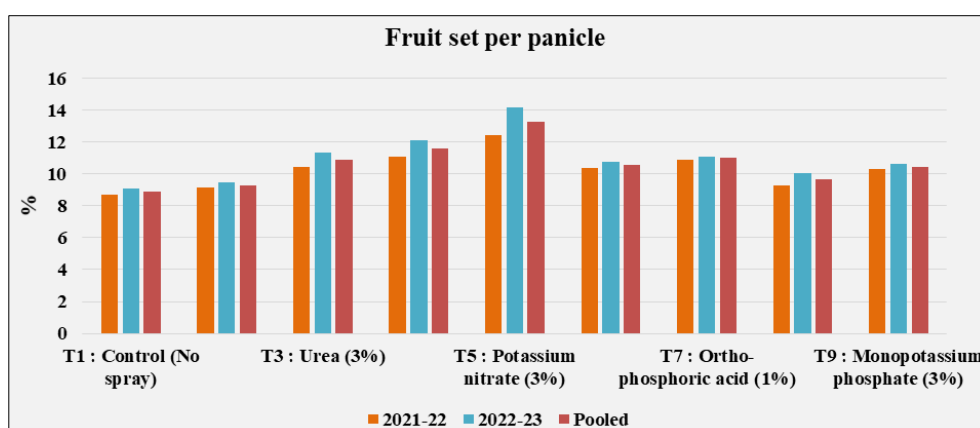
Fruit set per panicle

The pooled analysis revealed that the significantly high number of fruit set per panicle was recorded in T₅ (Potassium nitrate 3%) (13.28), which was followed by T₄ (Potassium nitrate 1%) (11.60) and T₇ (Ortho-phosphoric acid 1%) (10.98). The treatment T₈ (Monopotassium phosphate 1%) (9.65) and T₂ (Urea 1%) (9.30) recorded comparatively lower fruit set per panicle, whereas the minimum fruit set per panicle was recorded in T₁ (Control) (8.90). represented in (Table 5 and Fig. 3) The foliar application of potassium nitrate (3%) recorded the high number of fruit set per panicle on pooled basis compared to other treatments and control. The increased fruit set observed under potassium nitrate treatments might be attributed to improved nitrogen assimilation and enhanced potassium-mediated carbohydrate translocation towards developing reproductive sinks. Adequate availability of nitrate nitrogen during the post-monsoon period promotes synthesis of proteins and enzymes associated with floral organ development, while potassium improves pollen viability, stigma receptivity and fertilization success, ultimately resulting in higher fruit set per panicle. Similar improvement in fruit set following foliar application of potassium nitrate has been reported by Muddanesha *et al.* (2022) [8] in mango cv. Kesar, who observed enhanced reproductive efficiency and increased fruit set with nitrate-based foliar nutrition. The comparatively higher fruit set recorded under orthophosphoric acid treatments might be

attributed to the role of phosphorus in energy transfer reactions and ATP synthesis, which are essential for pollen germination, pollen tube growth and successful fertilization processes. Improved phosphorus availability enhances reproductive sink strength and supports early fruit development. Similar observations were reported by Malshe *et al.* (2022) [7] in mango cv. Alphonso.

Table 5: Effect of foliar application of nutrients on fruit set per panicle in mango cv. Ratna

Treatment	Fruit set per panicle		
	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	8.71	9.08	8.90
T ₂ : Urea (1%)	9.16	9.44	9.30
T ₃ : Urea (3%)	10.42	11.30	10.86
T ₄ : Potassium nitrate (1%)	11.08	12.12	11.60
T ₅ : Potassium nitrate (3%)	12.40	14.15	13.28
T ₆ : Ortho-phosphoric acid (0.5%)	10.37	10.78	10.57
T ₇ : Ortho-phosphoric acid (1%)	10.85	11.10	10.98
T ₈ : Monopotassium phosphate (1%)	9.24	10.06	9.65
T ₉ : Monopotassium phosphate (3%)	10.29	10.61	10.45
Mean	10.28	10.96	10.62
S.E. $\pm$	0.10	0.25	0.11
C.D.at 5%	0.32	0.75	0.34

**Fig 3:** Effect of foliar application of nutrients on fruit set per panicle in mango cv. Ratna.

Fruit Retention (%)

Post-monsoon foliar nutrition significantly influenced fruit retention in mango cv. Ratna (Table 6 and Fig. 4) The pooled result across both years revealed that highest fruit retention was recorded in T₅ (Potassium nitrate 3%) (0.93%), which was followed by T₆ (Ortho-phosphoric acid 0.5%) (0.84%) and T₄

(Potassium nitrate 1%) (0.82%) and these treatments were significantly superior over remaining treatments. Treatment T₉ (Monopotassium phosphate 3%) (0.61%) and T₈ (Monopotassium phosphate 1%) (0.57%) recorded comparatively lower fruit retention, whereas the minimum fruit retention was recorded in T₁ (Control) (0.53%). The foliar application of potassium nitrate

(3%) recorded the highest fruit retention on pooled basis compared to other treatments and control. The increased fruit retention observed under potassium nitrate treatments might be attributed to improved carbohydrate availability and enhanced potassium-mediated assimilate translocation towards developing fruits, which strengthens sink activity and reduces premature fruit drop. Potassium plays an important role in regulating stomatal function, enzyme activation and maintenance of cellular turgor, thereby improving physiological efficiency of developing fruits and enhancing their retention on trees.

Improved fruit retention following foliar application of potassium nitrate has also been reported by Sarker and Rahim (2018) [13] in mango, who observed that, nitrate-based nutrient sprays enhanced assimilate supply and reduced fruit drop during early fruit development stages. The comparatively higher fruit retention recorded under orthophosphoric acid (0.5%) treatment might be attributed to improved phosphorus availability, which supports ATP synthesis and enhances metabolic activities associated with early fruit growth and development. Adequate phosphorus nutrition improves reproductive sink strength and reduces abscission of young fruits. Similar observations were reported by Ngullie *et al.* (2017) [9] in mango. The improvement in fruit retention observed with urea treatments might be due to enhanced nitrogen availability supporting synthesis of proteins and enzymes required for early fruit development and maintenance of

hormonal balance between auxins and abscisic acid, which plays an important role in reducing fruit drop. Similar findings were reported by Yadav *et al.* (2016) [17] in mango. The comparatively lower fruit retention recorded under control treatment might be attributed to limited availability of nutrients required during the critical period of early fruit development, resulting in weaker sink strength and increased fruit abscission. Similar observations were also reported by Kumar *et al.* (2021) [4] in mango.

Table 6: Effect of foliar application of nutrients on fruit retention (%) in mango cv. Ratna

Treatment	Fruit Retention (%)		
	2021-22	2022-23	Pooled
T ₁ : Control (No spray)	0.51	0.55	0.53
T ₂ : Urea (1%)	0.61	0.67	0.64
T ₃ : Urea (3%)	0.68	0.66	0.67
T ₄ : Potassium nitrate (1%)	0.79	0.84	0.82
T ₅ : Potassium nitrate (3%)	0.93	0.94	0.93
T ₆ : Ortho-phosphoric acid (0.5%)	0.84	0.84	0.84
T ₇ : Ortho-phosphoric acid (1%)	0.66	0.69	0.68
T ₈ : Monopotassium phosphate (1%)	0.57	0.58	0.57
T ₉ : Monopotassium phosphate (3%)	0.58	0.64	0.61
Mean	0.69	0.71	0.70
S.E. $\pm$	0.01	0.02	0.01
C.D.at 5%	0.04	0.06	0.04

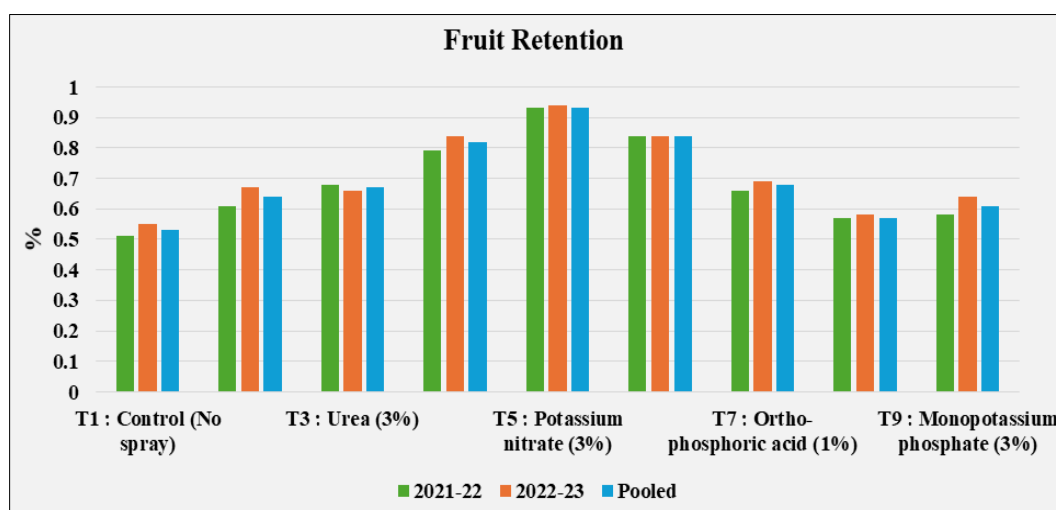


Fig 4: Effect of foliar application of nutrients on fruit retention (%) in mango cv. Ratna

Treatment Details

- T₁: Control (No spray)
- T₂: Urea (1%)
- T₃: Urea (3%)
- T₄: Potassium nitrate (1%)
- T₅: Potassium nitrate (3%)
- T₆: Ortho-phosphoric acid (0.5%)
- T₇: Ortho-phosphoric acid (1%)
- T₈: Monopotassium phosphate (1%)
- T₉: Monopotassium phosphate (3%)

Conclusion

The result of the present investigation clearly indicated that the post-monsoon foliar application of nutrients significantly influenced flowering, fruit set, fruit retention of mango cv. Ratna. Among different nutrient treatments, foliar application of potassium nitrate at 3 per cent recorded minimum days required for flowering induction from treatment exposure along with

maximum flowering intensity, hermaphrodite flowers, fruit set, fruit retention, Improved reproductive performance under potassium nitrate treatment might be attributed to enhanced nitrate metabolism, better carbohydrate translocation and improved physiological efficiency of flowering shoots. the study established that post-monsoon foliar application of potassium nitrate at 3% is an effective for improving flowering, fruit set and fruit retention in mango cv. Ratna under the agro-climatic conditions of the Konkan region.

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