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Effect of soil application of potassium and foliar spray of zinc and boron on yield, yield contributing character and quality of watermelon [*Citrullus lanatus* (thunb.)] in lateritic soils of Konkan

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Abstract
The present studies was conducted on the lateritic soil of *Konkan* region to study the “Effect of soil application of potassium and foliar spray of zinc and boron on yield and quality of watermelon [*Citrullus lanatus* (Thunb)]. The field experiment was comprised sixteen treatment combinations replicated thrice was laid out in factorial randomized block design. The treatments included basal application of FYM @15 t ha^{-1}, nitrogen @ 150 kg ha^{-1} and phosphorus @ 50 kg ha^{-1} with different levels of potassium i.e. K_0, K_1, K_2 and K_3 @ 0, 25, 50 and 75 kg ha^{-1}, respectively and foliar application of micronutrients i.e. M_0, M_1, M_2, M_3 @ 0, 0.5% Zn, 0.1 % B and 0.5% Zn + 0.1 % B at flowering, respectively. Result showed that the application of 75 kg K_2O ha^{-1} through soil along with 0.5% Zn and 0.1% B through foliar application found effective to increased yield and yield attributing characters as well as quality of watermelon in terms of TSS and anthocyanin content in *lateritic* soils of Konkan

Keywords: Watermelon, potassium, zinc, boron, yield, quality

Introduction

Watermelon [*Citrullus lanatus* (Thunb.)] is an important fruit crop among the various cucurbits grown in MH, for its sweet juicy fruits for quenching the thirst especially during summer. It is commonly known by various names *tarbuj, kalindi, kalingada, matira* or *paniphal, mathan, thannir, palam panna* and *kalingaddi* in different parts of country (Inamdar, 2009) [6]. Even though, tropical Africa is considered to be the place of origin of watermelon, in India it is in cultivation since thousands of years hence India is often considered as secondary place of origin (Fursa, 1973) [5].

Konkan is narrow belt in between Arabian sea and Western Ghat having warm and humid climate. The region is characterized by high annual rainfall (3500 mm) received during June to September. Agroclimatic condition during *rabi* season of Konkan region is ideal for watermelon cultivation. So that watermelon is grown popularly in Konkan during *rabi* season due to its short duration, minimum tillage and water requirement, better profitability within a short period. As the labour availability for agriculture sector is decreasing at a drastic rate therefore, in comparison with the other *solanaceae* vegetables, watermelon needs less amount of labour for its cultivation. The area under watermelon cultivation in Konkan region was about 936 ha (230 ha in Thane, 400 ha in Raigad, 260 ha in Ratnagiri, 46 ha in Sindhudurga (Anonymous, 2009) [3].

Among several factors controlling the yield and profit of crops, plant nutrient is an important factor. Potassium helps to translocation of carbohydrates, increases disease resistance in plants and contract the injurious effect of nitrogen. These nutrient elements are necessary not only for crop yield but for the maintenance of soil nutrient and quality of produce. Foliar feeding is an effective method of supplying nutrients during the period of intensive plant growth when it can improve plants mineral status and increase crop yield. Zinc is main composition of ribosome and is essential for their development. Zinc required for chlorophyll production, pollen function and fertilization. Boron is important in pollen germination and pollen tube growth, which is likely to increase fruit set. Watermelon flowers are viable for a short period so that it is most important that supply of boron are not limiting during pollination.

By considering above point an optimum NPK and micronutrients nutrition is essential for the good growth of watermelon. Fruit size is the main yield contributing factor in watermelon (Karchi *et al*, 1977) [3]. Besides yield in terms of the weight of fruit, quality aspect of fruit is also equally important. Fruit yield and quality of watermelon could be boosted by providing proper dose of macro and micronutrients.

Material and Methods

The experiment was conducted during Rabi 2013 at the Department of Agronomy, College of Agriculture, Dapoli. The experiment was laid out in factorial randomized block design with three replications and sixteen treatments based on different treatment combinations of potassium and micronutrient viz., K0M0 (control), K1M0 (25kg K2O ha-1, No foliar spray), K2M0 (50 kg K2O ha-1, No foliar spray), K3M0 (75 kg K2O ha-1, No foliar spray), K0M1 (0 kg K2O ha-1, 0.5% Zn foliar spray), K1M1 (25 kg K2O ha-1, 0.5% Zn foliar spray), K2M1 (50 kg K2O ha-1, 0.5% Zn foliar spray), K3M1 (75 kg K2O ha-1, 0.5% Zn foliar spray), K0M2 (0 kg K2O ha-1, 0.1 % B foliar spray), K1M2 (25 kg K2O ha-1, 0.1 % B foliar spray), K2M2 (50 kg K2O ha-1, 0.1 % B foliar spray), K3M2 (75 kg K2O ha-1, 0.1 % B foliar spray), K0M3 (0 kg K2O ha-1, 0.5% Zn + 0.1 % B foliar spray), K1M3 (25 kg K2O ha-1, 0.5% Zn + 0.1 % B foliar spray), K2M3 (50 kg K2O ha-1, 0.5% Zn + 0.1 % B foliar spray), K3M3 (75 kg K2O ha-1, 0.5% Zn + 0.1 % B foliar spray). Recommended dose of nitrogen @ 150 kg ha-1 and phosphorus @ 50 kg ha-1 along with FYM @15 t ha-1 was applied uniformly to all treatments and micronutrient was sprayed at flower initiation stage. Nitrogen @ 150 kg ha-1 was applied in three splits viz., first dose was applied at the time of sowing and second dose at 30 DAS and third dose at 60 DAS. Phosphorus @ 50 kg ha-1 applied in single dose at the time of sowing and potassium @ 0, 25, 50, 75 kg ha-1 were applied in single dose at the time of sowing, in the corresponding treatments. 0.5% zinc and 0.1% boron spraying was taken at the flower initiation stage according to treatments.

Watermelon (variety-NS-295)was sown during 10th December, 2013 with the spacing 2 m x 0.5m. The field experiment was conducted in the lateritic soil. The initial experimental soil was acidic in reaction and showed low electrical conductivity. The soil found high in organic carbon whereas, low in available N, P2O5, K2O. DTPA extractable Zn and hot water extractable B were 2.16 and 0.20 mg kg-1 respectively in initial soil sample. For recording biometric observations five plants from each treatment plot wise were randomly selected, the selected plants were labeled with proper notations. Total soluble solids were recorded with the help of hand refractometer and values were worked out and expressed in 0B (A.O.A.C.1975) [1]. Anthocyanin from watermelon fruit estimated by using ethanolic HCL.95% ethanol: 1.5 N HCL (85:15) method mentioned by Ranganna (1986) [15]. The total sugar and reducing sugar were estimated on fresh weight basis using Lane and Eynon (1923) [11]. Organoleptic evaluation of watermelon fruit of different treatments under study was done with help of panel of 10 judges for assessing the colour, taste and texture by using nine point hedonic scale (Amerine et at.,1965) [2]. The score was recorded as detailed below.

Name of the evaluater:
Date of evaluation:

Table 1: Sensory evaluation score form

Sr. No.	Sample No.	Sensory score for			Average
		Colour	Taste	Texture	
1	A				
2	B				

Table 2: Nine point hedonic scale for sensory evaluation

Sensory score	Ratings
9	Like extremely
8	Like very much
7	Like moderately
6	Like slightly
5	Neither like nor dislike
4	Dislike slightly
3	Dislike moderately
2	Dislike very much
1	Dislike extremely

Note: the score of 5.5 above indicates acceptability within the score 1 to 9

The data were subjected to statistical analysis following Panse and Sukhatme (2000).

Result and Discussion

Effect on girth of watermelon fruits

From the table (3) regarding the application of different levels of potassium, it was observed that maximum girth (43.19 cm) of watermelon fruit was recorded in K3 treatment in which 75 kg K2O ha-1 was applied which found non significant. In respect to the foliar spray of Zn and B, it was revealed that maximum girth (42.56 cm) of watermelon fruit was recorded in the M1 treatment in which the 0.5 % Zn was applied through foliar application which also found non significant.

The interaction effect of soil application of potassium and foliar spray of zinc and boron showed non significant results with respect to girth of watermelon fruits. The application of nutrients increased the girth of the various vegetable fruit crop and cucurbits. Narayanamma *et al*. (2009) [12] reported the similar results related to the girth of the various vegetable fruit crop and cucurbits.

Effect on weight of fruits per vine

The weight of fruits is one of the important yields attributing character in the watermelon. From the data presented in table (3) in the application of the different levels of potassium treatment K3 i.e. 75 kg K2O ha-1 showed the highest weight of fruit per vine (8.49 kg) which was found significantly superior among all the treatments. It was observed that in respect to foliar application of micronutrients, the maximum weight of watermelon fruit per vine (7.73 kg) was recorded in M3 treatment in which the 0.5% Zn+0.1% B was applied, which was also found superior over rest of all the treatments.

The interaction effect between soil application of potassium and foliar spray of zinc and boron showed non significant result with respect to weight of watermelon fruits per vine. But numerically, it was observed that the K3M3 treatment combination i.e. 75 kg K2O ha-1 and 0.5% Zn + 0.1% B showed highest weight of watermelon fruits per vine (9.25 kg) as compare to other treatment combinations. Similar result showed by Deswal and Patil (1984) [4], concluded that (8.40 kg) weight of fruit vine-1 was obtained by application of 50 Kg K2O ha-1 in watermelon vine. Vasanthkumar *et al*. (2012)

[18] reported same result that genotype NS-200 and NS-295 showed maximum fruit weight 6.53 kg and 6.27 kg, respectively in watermelon.

Effect on average weight fruits per plot

It was observed from the data presented in table (3) in the application of the different levels of potassium treatment K3 (75 kg K2O ha-1) showed the highest average weight of fruit per plot (4.43 kg), which was statistically superior over rest of all treatments. It was observed that in respect to the foliar spray of micronutrient, the maximum average weight of watermelon fruit per plot (4.29 kg) was recorded in the M1 treatment in which the 0.5% Zn was applied which was also found significantly superior over rest of the treatments.

The interaction effect between soil application of potassium and foliar spray of zinc and boron showed significant result with respect to the average weight of watermelon fruits per plot at harvest. The treatment combination K3M1 i.e. application of K2O @ 75 kg ha-1 along with 0.5 % zinc sulphate showed the highest (5.30 kg) average weight of fruit per plot which was found significantly superior over rest of the treatment combinations. Okur and Yagmur (2004) [13] showed similar result in watermelon that highest fruit weight (4.63 kg) obtain by 120:80:240 kg N: P2O5: K2O ha-1 along with micronutrient application. Kolekar *et al.* (2013) [10] showed average weight of fruit (3.27 kg) in watermelon was obtained by treatment drip irrigation, 125% RDF and 125 % manure

Effect on number of fruits per vine

From the data presented in table (4) it was recorded that in the application of the different levels of potassium treatment K3 (75 kg K2O ha-1) showed maximum number of fruits per vine (2.06) which was found at par with treatment K2 (50 kg K2O ha-1) which showed (1.95) number of fruits per vine. In relation to the foliar spray of micronutrients application maximum number of watermelon fruit per vine (1.99) was observed in M3 treatment in which 0.5 % Zn + 0.1% B was applied through foliar spray which was at par with M2 treatment in which 0.1% B was applied.

The interaction effect between soil application of potassium and foliar spray of zinc and boron showed non significant results with respect to number of fruits per vine at harvest. But in general it was observed that the K3M3 (75 kg K2O ha-1 and 0.5% Zn + 0.1% B) treatment combination showed maximum number (2.17) fruits per vine. Similar result obtained by Deswal and Patil (1984) [4] revealed that 50 Kg K2O ha-1 showed 2.10 fruits vine-1 in watermelon. Kolekar *et al.* (2013) [10] showed that in treatment drip irrigation, 100 % RDF and 100 % manure showed 2.22 fruits vine-1 in watermelon.

Effect on yield of watermelon fruits

The data presented in table (4) revealed that the highest fruit yield (42.5 t ha-1) were recorded by the treatment K3 receiving 75 kg K2O ha-1, which found significantly superior over rest of the treatments. However, minimum yield (29.1 t ha-1) were registered in the treatment K0 receiving no potash.

With respect to foliar spray of micronutrient, it was observed that the maximum yield of watermelon fruits (36.3 t ha-1) were obtained in the M2 treatment receiving 0.1% B through foliar application which was found at par with treatment M3 in which 0.5% Zn + 0.1% B was applied. The interaction effect between soil application of potassium and foliar spray of zinc and boron was also showed significant result with respect to yield of watermelon fruits. It was observed that the K3M3 (75 kg K2O ha-1and 0.5% Zn + 0.1% B) treatment combination showed highest yield (43.8 t ha-1) which was found at par with K3M1 and K3M2 treatment combinations.

From the foregoing result, it was concluded that the use of higher level of potash fertilizer with foliar spray of micronutrient Zn and B exhibited favorable effect on the yield of watermelon. The reason for obtaining higher yield of fruits was to application of potash and foliar spray of micronutrient Zn and B. There was a beneficial interaction between major nutrient potash and foliar spray of Zn and B. Similar result obtained by Vasanthkumar *et al.* (2012) [18] in which genotype NS-246 and NS-295 recorded 38.60 and 36.01 t ha-1 fruits yield in watermelon, respectively. Okur and Yagmur (2004) [13] reported that yield increased as the potassium dose increased in watermelon crop.

Effect of soil application of potassium and foliar spray of zinc and boron on quality of watermelon fruits.

Effect on Total Soluble Solids of watermelon

The data pertaining to TSS of fruits is given in table (5). In the application of different levels of potassium, the highest TSS of watermelon fruit (10.42 0Brix) was recorded in the treatment K3 in which 75 kg K2O ha-1 was applied in soil, which was found superior over rest of treatments. Regarding the foliar spray of micronutrient, it was observed that maximum TSS of watermelon fruit i.e. 10.00 0Brix was recorded in M3 treatment in which the 0.5% Zn + 0.1% B was applied through foliar spray which was also found superior over rest of all the treatments.

The interaction effect of soil application of potassium and foliar spray of zinc and boron showed non significant result with respect to TSS of watermelon fruit. In general it was observed that the application of different levels of potassium and foliar spray of Zn and B significantly increased the TSS of fruits. Similar results showed by Khade *et al.* (1995) [8] in which the application of potash @100 kg K2O ha-1 recorded maximum TSS of fruit was 9.92 0Brix along with 120 kg N ha-1. Higher amount of available soil nutrients increased absorption of plant nutrients, hence, increased the value of total soluble solids in fruit juice. Vasanthkumar *et al.* (2012) [18] studied on different type of genotype in watermelon and reported that genotype NS -295 showed 9.69 0Brix TSS.

Effect on reducing sugar content of watermelon

The reducing sugar content in the fruit influenced significantly due to both factors i.e. soil application of potassium and foliar spray of zinc and boron. The data pertaining to reducing sugar is given in table (5). In the application of different levels potassium, it was observed that the maximum reducing sugar content in watermelon fruit (6.05 %) was recorded in the treatment K3 in which 75 kg K2O ha-1 through soil was applied. Maximum reducing sugar content in watermelon fruit i.e. (5.96 %) was observed in the M3 treatment in which 0.5% Zn + 0.1% B was applied through foliar spray found statistically significant result. It was observed that the K3M3 treatment combinations i.e. 75 kg K2O ha-1 through soil and 0.5% Zn+0.1% B was applied through foliar spray showed maximum reducing sugar (6.18 %) as compare to other treatment combination but showed non significant effect. Rastogi and Abidi (2006) [16] reported that reducing sugar content in hybrid strain NDM -21 of watermelon was 4.52 %.

Effect on non-reducing sugar content of watermelon

The data pertaining to the effect of soil application of tassium and foliar spray of zinc and boron on non-reducing sugar of watermelon fruit is presented in table (5). From the data, it was concluded that regarding to the application of different levels potassium, the highest non reducing sugar content (2.81%) in watermelon fruit was recorded in the treatment K0 i.e. in control but found non significant. The highest non reducing sugar of watermelon fruit i.e. 2.84 % was recorded in the M1 treatment in which the 0.5 % Zn was applied through foliar spray which was found at par with treatment M2 in which 0.1% B was applied through foliar spray. The interaction effect showed non significant result with respect to non-reducing sugar content in fruits. The non reducing sugar content varies from 2.29 to 2.89 % in various treatment combinations.

Effect on total sugar content of watermelon

Highest total sugar content (8.93%) in watermelon fruit was recorded in treatment K3 receiving 75 kg K2O ha-1 found significant (Table 6). Regarding the foliar spray of Zn and B highest total sugar content in fruits i.e. 8.88 % was recorded in M3 treatment in which the 0.5 % Zn+ 0.1% B was applied through foliar spray which was significantly superior over rest of all treatments.

The interaction effect showed significant result with respect to total sugar content in fruits. Highest total sugar content (9.23 %) was observed in K3M3 treatment combination which was found at par with K2M3 and K3M2 treatment combinations. The total sugar content varied from 8.24 to 8.98 % in various treatment combinations. Vasanthkumar *et al*. (2012) [18] reported that genotype NS -295 showed 8.27 per cent total sugar in watermelon fruits. Kolekar *et al.* (2013) [10] reported that 7.11 per cent total sugar present in watermelon fruits. Shivashankaramurthy *et al*. (2007) [17] found that increased potassium levels significantly increased the total sugar content in leaves and fruits in gherkin

Effect on anthocyanin content of watermelon

From the data presented in table (6) it was concluded that regarding to the application of different levels potassium, the highest anthocyanin content (3.41 mg /100 g) in watermelon fruit was recorded in the treatment K3 in which 75 kg K2O ha-1 was applied found superior amongst all treatments. Regarding foliar spray of micronutrient maximum anthocyanin in watermelon fruit (3.16 mg/100 g) was recorded in M3 treatment in which the 0.5% Zn + 0.1% B was applied through foliar spray which was at par with treatment M2 in which 0.1% B was applied. The interaction effect showed significant results with respect to anthocyanin content in fruits. The anthocyanin content varied from 2.46 to 3.90 mg/100 g in various treatment combinations and highest anthocyanin (3.90 mg/100 g) was observed in K3M3 treatment combination, this might be due to the higher application of potash to the crop. Potash plays important role in activation of several enzymes which promotes the anthocyanin pigmentation. Similar result obtained by Khyadagi *et al*. (2012) [9] in chilli cultivars, found that anthocyanin content in chilli cultivars at dry stage ranged between 0.54 to 3.21 mg.

Effect on Colour, taste and texture of watermelon fruits

Organoleptic evaluation of watermelon fruit of different treatments under study was done with help of panel of 10 judges for assessing the colour, taste and texture by using nine point hedonic scale (Amerine et at.,1965) [2]. The score obtained for organoleptic evaluation of fruits which were supplied with different levels of potassium through soil and foliar spray of Zn and B presented in table (7)

Regarding to the application of different levels of potassium highest score for colour (7.89), taste (8.20), texture(7.78) and 7.94 in average of sensory evaluation of fruits was recorded in K3 treatment in which 75 kg K2O ha-1 was applied which was found significantly superior over all the treatments. Regarding the foliar spray of micronutrient, highest score was obtained for colour (7.74), taste (7.93), texture (7.68) and 7.77 for average of sensory evaluation was obtained in the M3 treatment in which the 0.5 % Zn + 0.1% B was spray through foliar application which was also superior amongst all the treatments.

The interaction effect of soil application of potassium and foliar spray of zinc and boron showed significant results with respect to colour of watermelon fruits. The treatment combination K3M3 i.e. soil application of 75 kg K2O ha-1 and foliar spray of 0.5 % Zn +0.1 % B recorded maximum score (8.43) regarding colour of fruit which found at par with K2M3 and K3M2 treatment combination

Conclusions

- The soil application of higher levels of potassium to the watermelon along with foliar application of Zn and B, significantly influenced the yield and yield attributing characters as well as quality of watermelon in terms of TSS and anthocyanin content.
- Based on the sensory evaluation of watermelon fruits, the fruits yielded by application of 75 kg K2O ha-1 along with 0.5% Zn and 0.1% B recorded maximum score with respect to colour, texture and taste of fruits.

In general, from the data obtained from the present investigation it was concluded that the application of 75 kg K2O ha-1 through soil along with 0.5% Zn and 0.1% B through foliar application found effective to increased the yield of watermelon and maintain the quality of fruits

Table 3: Effect of soil application of potassium and foliar spray of zinc and boron on yield and yield contributing characters.

Treatments	Girth of fruits vine^{-1} (cm)					Wt of fruits vine^{-1}(kg)					Average wt of fruits per plot (kg)				
	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean
K_0	39.59	41.23	42.48	41.68	41.24	5.92	5.98	5.99	6.29	6.05	3.50	3.50	3.84	3.55	3.60
K_1	39.42	42.31	40.12	41.96	40.95	7.02	7.19	7.41	7.43	7.26	3.83	4.14	3.67	3.81	3.86
K_2	40.91	42.91	41.32	41.16	41.58	7.60	7.91	7.87	7.94	7.83	4.00	4.23	3.98	3.87	4.02
K_3	42.75	43.80	43.19	43.00	43.19	8.02	8.32	8.36	9.25	8.49	4.22	5.30	4.03	4.17	4.43
Mean	40.67	42.56	41.78	41.95		7.14	7.35	7.41	7.73		3.89	4.29	3.88	3.85	
	M		K		MXK	M		K		MXK	M		K		MXK
S.E.±	0.67		0.67		1.34	0.29		0.10		0.20	0.07		0.07		0.15
C.D(P=0.05)	NS		NS		NS	0.29		0.29		NS	0.21		0.21		0.42

Table 4: Effect of soil application of potassium and foliar spray of zinc and boron on yield and yield contributing characters.

Treatments	No of fruits vine^{-1}					Yield (t ha^{-1})				
	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean
K_0	1.70	1.67	1.57	1.77	1.68	28.2	28.4	29.8	29.9	29.1
K_1	1.83	1.73	2.03	1.97	1.89	33.4	34.2	35.3	33.2	34.0
K_2	1.90	1.87	1.97	2.07	1.95	38.3	36.0	37.4	36.5	37.1
K_3	1.93	2.00	2.13	2.17	2.06	41.1	42.1	42.8	43.8	42.5
Mean	1.84	1.82	1.93	1.99		35.2	35.2	36.3	35.9	
	M	K	MXK			M	K	MXK		
S.E.$\pm$	0.04	0.04	0.09			0.3	0.3	0.6		
C.D(P=0.05)	0.13	0.13	NS			0.9	0.9	1.7		

Table 5: Effect of soil application of potassium and foliar spray of zinc and boron on quality parameters of fruits at harvest

Treatments	TSS (^{0}B)					Reducing-sugar (%)					Non reducing-sugar (%)				
	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean
K_0	8.67	8.33	8.67	9.00	8.67	5.37	5.40	5.50	5.87	5.53	2.89	2.88	2.79	2.69	2.81
K_1	8.67	9.33	9.00	9.33	9.08	5.87	5.53	5.67	5.69	5.69	2.35	2.83	2.87	2.53	2.65
K_2	9.67	9.67	9.33	10.33	9.75	5.96	5.67	5.93	6.09	5.91	2.29	2.89	2.70	2.72	2.65
K_3	10.33	9.67	10.33	11.33	10.42	5.96	6.03	6.02	6.18	6.05	2.44	2.77	2.81	2.73	2.69
Mean	9.33	9.25	9.33	10.00		5.79	5.66	5.78	5.96		2.49	2.84	2.79	2.67	
	M	K	MXK			M	K	MXK			M	K	MXK		
S.E.$\pm$	0.16	0.16	0.32			0.05	0.05	0.09			0.05	0.05	0.10		
C.D (P=0.05)	0.46	0.46	NS			0.14	0.14	NS			0.14	NS	NS		

Table 6: Effect of soil application of potassium and foliar spray of zinc and boron on quality parameters and sensory evaluation of fruits at harvest.

Treatments	Total sugar (%)					Anthocyanin (mg /100 gm)				
	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean
K_0	8.24	8.45	8.44	8.70	8.45	2.46	2.54	2.63	2.54	2.54
K_1	8.35	8.52	8.70	8.64	8.55	2.97	2.71	2.80	2.97	2.86
K_2	8.38	8.72	8.78	8.96	8.71	3.14	2.97	3.05	3.22	3.09
K_3	8.54	8.95	8.98	9.23	8.93	3.14	3.22	3.39	3.90	3.41
Mean	8.38	8.66	8.73	8.88		2.92	2.86	2.97	3.16	
	M	K	MXK			M	K	MXK		
S.E.$\pm$	0.04	0.04	0.09			0.07	0.07	0.13		
C.D(P=0.05)	0.13	0.13	0.27			0.19	0.19	0.41		

Table 7: Effect of soil application of potassium and foliar spray of zinc and boron on score of sensory evaluation of fruits regarding colour, taste and texture

Treat	Colour of fruit					Taste of fruit					Texture of fruit					Average of sensory evaluation				
	M_0	M_1	M_2	M_3	Mean	M_0	M_1	M_2	M_3	Mean	M0	M1	M2	M3	Mean	M_0	M_1	M_2	M_3	Mean
K_0	6.03	6.07	6.40	6.87	6.34	6.37	6.30	7.00	7.27	6.73	5.97	6.10	6.53	6.63	6.31	6.12	6.16	6.64	6.92	6.46
K_1	6.00	6.63	6.67	7.60	6.73	6.27	7.23	6.90	7.70	7.03	6.20	7.33	7.10	7.50	7.03	6.16	7.07	6.89	7.60	6.93
K_2	6.53	7.00	7.60	8.07	7.30	7.30	7.53	7.90	8.20	7.73	6.70	7.30	7.20	8.10	7.33	6.92	7.34	7.66	8.16	7.51
K_3	7.30	7.70	8.13	8.43	7.89	7.73	8.13	8.40	8.53	8.20	7.17	7.37	8.07	8.50	7.78	7.40	7.73	8.20	8.41	7.94
Mean	6.47	6.85	7.20	7.74		6.92	7.30	7.55	7.93		6.51	7.03	7.23	7.68		6.60	7.08	7.35	7.77	
	M	K	MXK			M	K	MXK			M	K	MXK			M	K	MXK		
S.E.$\pm$	0.11	0.11	0.21			0.11	0.11	0.22			0.12	0.12	0.25			0.09	0.09	0.17		
C.D (P=0.05)	0.31	0.31	0.62			0.32	0.32	NS			0.35	0.35	NS			0.25	0.25	NS		

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