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Impact of Micronutrients Fertilizer (gillette crop boster) on Growth and Yield of Wheat (*Triticum aestivum* L.)

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ABSTRACT

To assess the response of micronutrients fertilizer (gillette crop boster) on the growth and yield of wheat crop. The application of micronutrients (gillette crop boster) T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette, produced maximum plant height (95 cm), tillers (317 m^{-2}), spike length (13 cm), spikeletes spike^{-1} (23), grains spike^{-1} (61), grains weight spike^{-1} (4 g), seed index (1000-grain weight) (42 g), biological yield (11192 kg ha^{-1}) and grain yield (5775 kg ha^{-1}) followed by plant height (77 cm), tillers (304 m^{-2}), spike length (12 cm), spikeletes spike^{-1} (21), grains spike (56), grains weight spike^{-1} (3 g), seed index (1000-grain weight) (41 g), biological yield (10536 kg ha^{-1}) and grain yield (5522 kg ha^{-1}) was observed under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette. Whereas as plant height (77 cm), tillers (296 m^{-2}), spike length (11 cm), spikeletes spike^{-1} (19), grains spike^{-1} (53), grains weight spike^{-1} (2 g), seed index (1000-grain weight) (41 g), biological yield (10522 kg ha^{-1}) and grain yield (5149 kg ha^{-1}) was observed under treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette respectively. The results further indicated that minimum plant height (70 cm), tillers (286 m^{-2}), spike length (10 cm), spikeletes spike^{-1} (16), grains spike^{-1} (51), grains weight spike^{-1} (2 g), seed index (1000-grain weight) (38 g), biological yield (9663 kg ha^{-1}) and grain yield (4920 kg ha^{-1}) under treatment T_1 = control (Recommended dose). This was observed that all the treatments of micronutrients (gillette crop boster) showed positively significant impact on growth and yield of wheat. Treatment T_3 application of NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette produced maximum grain yield (5775 kg ha^{-1}) of wheat variety "Kiran-95" proved most suitable treatment and as recommended for growers.

KEYWORDS: Wheat, Gillette, Micronutrients, Yield

INTRODUCTION

Wheat (*Triticum aestivum* L.) is the most popular food crop of Pakistan and its products are used in a number of ways. Being the staple diet of most of the people, it dominates all crops in acreage and production. Wheat accounts for 9.9 percent of the value added in agriculture and 2.0 percent of GDP of Pakistan during 2015-16, area under wheat cultivation has increased to 9260 thousand hectares from last year's area of 9204 thousand hectares which shows an increase of 0.6 percent. While production of wheat stood at 25.482 million tons during 2015-16, showing an increase of 1.6 percent over the last year's production of 25.086 million tons. The production increased as crop was sown at appropriate time and available moisture particularly in Barani Track supported germination growth and availability and use of inputs remained adequate (GOP, 2016).

Human beings mostly receive food directly from plants. *Gramineae* family is no doubt the most diverse and important family of plant kingdom. The cereal crops belonging to *Gramineae* family producing large edible grains and provides about one half of man's food calories and large part of his nutrients requirements. Wheat *(Triticum aestivum* L.) is foremost among cereals and indeed among all food crops, as direct source of food and energy for human beings [1].

Fertilizers are basic need of crops for enhancing production in crops especially in wheat, increasing use of trace minerals leading to an imbalance of soil elements. Proper use of fertilizes with the macronutrients and micronutrients in the plant nutrition is very beneficial for the high level of production and yield. So there is the need

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of balance used of fertilizers to increase yield of the crop. The role of both nutrients macronutrients and micronutrients is vital in crop nutrition for improved yield [2],Trace nutrients such as Fe and B have essential the vital roles in plant's life cycle and very beneficial for normal growth plants [3;4], Iron (Fe) is the most impotant for the respiration and photosynthesis processes. Iron play basic role in the many plant functions. These functions include the chlorophyll development, energy transfer, Fe an ingredient of enzymes and proteins, and involved in the nitrogen fixation. It plays avital role in the nucleic acid metabolism [5;6;7;8], Boron (B) is a micronutrient essential for all the plant nutrition. B involves at least in 16 functions of plants. These functions are including cell wall formation, membrane integrity, cell wall syntheses, carbohydrate metabolism, calcium uptake, flowering, RNA metabolism, respiration, indole acetic acid, (IAA) metabolism, membranes, root growth, pollination and may help in the translocation of sugar [9; 10; 7; 11] , The foliar fertilization (or the foliar feeding) is a military new and contentious technique of the feeding plants by applying liquid fertilizer directly to the leaves [12], Present research has investigate that small amount of trace elements, particularly B and Fe either solitary or association with the other micronutrients, used by foliar spraying significantly promote growth and increased yield, the yield components and the grain quality of wheat crop[13], reported that Zn, Fe, Mn and Cu fertigation directly increased the grain yield, straw yield, 1000-grain weight, and the number of grains per spikelet. As well as showed that application of Fe significantly increased the concentration and total uptake of Fe in grain, flag leaves grain protein contents as well[14], founded that utilization of trace nutrients increased wheat dry matter, grain yield and the straw yield significantly over an untreated control. Foliar application of trace nutrients (Fe, Mn, Zn, Cu and the B) at various growth stages of wheat increased the plants height, grains per spike, 1000-grain weight, biological yield, harvest index, straw and the grain yield [15;16], Indicate that foliar application of Fe at the various growth stages promote plant height, spike length, 1000-grain weight, grain weight per spike, grain yield, grain protein content and protein yield of the wheat plant in both growing seasons as the compared to control.

[17], showed that the utilization of foliar spray Fe and B directly increased the plant height, no of tillers and root depth as compared to the control treatment (no Fe and B application)[18], revealed that application of foliar spray of (Zn + Fe) produce the highest grain yield of wheat. Foliar application of B and Zn had admired results on the yield and yield components of wheat [19;20;21] , found that the foliar application of B was directly affected on grain yield, number of grains per spike and 1000-grain weight. Aim of the this experiment were to study the effect of foliar application of (Fe + B) at two growth stages.

[22] , found that Zn, Fe, Cu, and Mn contents of wheat grain increased with application of micronutrient fertilizers. More to the point, application methods for macro and trace elements, also, affect the yield. For instance,[23], reported that micronutrients (Cu + Fe + Mn + Zn) produced the highest values of plant height (cm), tillers number (m^{-2}), spikes number (m^{-2}), spike length(cm), number of spikelet $spike^{-1}$, number of grains $spike^{-1}$, 1000-grain weight (g), grain yield (kg ha^{-1}), straw yield (kg ha^{-1}), biological yield (kg ha^{-1}) and harvest index (%), respectively, in both seasons followed by Zn, Mn, Fe and Cu foliar application respectively Further[24], recommended foliar sprays of nutrient solution at tillering ,jointing and booting stage in conjunction with half of the endorsed dose of N and P to growth and yield of wheat, To evaluate the impact of gillette crop boster micronutrients fertilizer on growth and yield of wheat, To assess the proper dose of gillette crop boster micronutrients fertilizer to maximize the wheat production.

MATERIAL AND METHODS

The trial was conducted at the Soil Chemistry Section, (ARI) Agriculture research Institute, Tandojam to assess the impact of micronutrients fertilizer (gillette crop boster) on the growth and yield of wheat. The trial was laid out in the three replicated randomized complete block design (RCBD) having net plot size of 5 m x 5 m (25 m^2) during Rabi, season 2016-17. Sowing was done with the help of single row hand drill at the recommended seed rate of 125 kg ha^{-1} of variety Kiran-95. The details of treatments are as under:

Treatments:

T_1 = Control (Recommended dose)

T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette (30-45 DAS)

T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette (30-45-60 DAS)

T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette (30-45-60-75 DAS)

The foliar application of gillette crop boster (Zn 300 mg), (B 100 mg), (Mn 50 mg), (Fe 500 mg) was applied at 500 ml per acre with 100 liter of water. In all treatments (12.5 mL) of gillette crop boster was applied with 2.5 liters of water at per plot. The recommended dose of NPK fertilizers was applied as usual in all the experimental units.Urea was applied for nitrogen, SSP applied for phosphours and SOP was applied for potassium. All P and K along with 1/3 of N was applied at the time of sowing; while remaining N was divided into two equal splits at 1st and 2nd

irrigation. For recording data, five plants at random was selected and tagged in each plot to measure the following parameters:

RESULT

Plant height (cm)

Result regarding plant hight (cm) of wheat Kiran-95 variety as affected by micronutrients (gillette crop boster) is presented in Table-1 and its analysis of variance as Appendix-I. The analysis of variance suggested that the impact of micronutrients on plant height (cm) was significant ($P<0.05$).

The results revealed that maximum plant height (95 cm) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (77 cm) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (77 cm). Whereas, the minimum plant height (70 cm) was observed under treatment T_1 = Control (recommended dose)

Table 1. Plant height (cm) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	68	70	71	70 C
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	76	79	75	77 B
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	92	97	95	95 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 sprays of gillette crop boster	77	79	76	77 B

S.E ± = 1.1547
LSD $_{0.05}$ = 2.8255
CV% = 1.78

Tillers (m^{-2})

The data regarding tillers (m^{-2}) of wheat Kiran-95 variety as affected by micronutrients (gillette crop boster) is presented in Table-2 and its analysis of variance as Appendix-II. The analysis of variance suggested that the impact of micronutrients on tillers (m^{-2}) was significant ($P<0.05$).

The results revealed that maximum tillers (317 m^{-2}) were observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (304 m^{-2}) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (296 m^{-2}). Whereas, the minimum tillers (286 m^{-2}) was observed under treatment T_1 = Control (recommended dose).

Table 2. Tillers (m^{-2}) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	283	287	289	286 D
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	291	297	301	296 C
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	311	320	319	317 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	305	299	308	304 B

S.E ± = 2.7655
LSD $_{0.05}$ = 6.7670
CV% = 1.13

Spike length (cm)

The data regarding spike lenght (cm) of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-3 and its analysis of variance as Appendix-III. The analysis of variance suggested that the impact of micronutrients on spike lenght (cm) was significant ($P<0.05$).

The results revealed that maximum spike lenght (13 cm) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (12 cm) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette

respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (11 cm). Whereas, the minimum spike lenght (10 cm) was observed under treatment T_1 = Control (recommended dose).

Table 3. Spike length (cm) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	9.5	10.1	9.1	10 D
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	10.0	10.5	10.9	11 C
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	12.8	12.9	13.0	13 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	11.9	11.5	12.0	12 B

S.E ± = 0.3277
LSD $_{0.05}$ = 0.8019
CV% = 3.59

Spikeletes spike^{-1}

The data regarding spikeletes spike^{-1} of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-4 and its analysis of variance as Appendix-IV. The analysis of variance suggested that the impact of micronutrients on spikeletes spike^{-1} was significant ($P<0.05$).

The results revealed that maximum spikeletes spike^{-1} (23) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (21) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (19). Whereas, the minimum spikeletes spike^{-1} (16) was observed under treatment T_1 = Control (recommended dose).

Table 4. Spikeletes spike^{-1} of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	15.1	16.8	15.5	16 D
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	17.3	19.1	18.5	18 C
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	23.7	23.1	22.1	23 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	19.1	21.5	21.7	21 B

S.E ± = 0.7632
LSD $_{0.05}$ = 1.8674
CV% = 4.80

Grains spike^{-1}

The data regarding grains spike^{-1} of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-5 and its analysis of variance as Appendix-V. The analysis of variance suggested that the impact of micronutrients on grains spike^{-1} was significant ($P<0.05$).

The results revealed that maximum grains spike^{-1} (61) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (56) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (53). Whereas, the minimum grains spike^{-1} (51) was observed under treatment T_1 = Control (recommended dose).

Table 5. Grains spike^{-1} of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	50.1	51.5	50.9	51 C
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	54.1	53.2	51.6	53 BC
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	58.3	61.5	63.1	61 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	56.7	56.1	55.3	56 B

S.E ±	=	1.3301
LSD $_{0.05}$	=	3.2546
CV%	=	2.95

Grains weight spike^{-1} (g)

The data regarding grains weight spike^{-1} (g) of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-6 and its analysis of variance as Appendix-VI. The analysis of variance suggested that the impact of micronutrients on grains weight spike^{-1} (g) was significant ($P<0.05$).

The results revealed that maximum grains weight spike^{-1} (g) (4) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (3) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (2). Whereas, the minimum grains weight spike^{-1} (g) (2) was observed under treatment T_1 = Control (recommended dose).

Table 6. Grains weight spike^{-1} (g) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	1.4	1.5	1.5	2 D
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	2.0	2.1	2.5	2 C
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	3.1	3.7	3.9	4 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	2.5	2.9	2.8	3 B

S.E ±	=	0.1473
LSD $_{0.05}$	=	0.3605
CV%	=	7.24

Seed index (1000-grain weight, g)

The data regarding seed index (1000-grain weight, g) of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-7 and its analysis of variance as Appendix-VII. The analysis of variance suggested that the impact of micronutrients on seed index (1000-grain weight, g) was significant ($P<0.05$).

The results revealed that maximum seed index (1000-grain weight, g) (42) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (41) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (41). Whereas, the minimum seed index (1000-grain weight, g) (38) was observed under treatment T_1 = Control (recommended dose).

Table 7. Seed index (1000-grain weight, g) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	38.1	37.2	38.7	38 C
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	40.1	41.2	40.5	41 B
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	42.1	41.5	42.5	42 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	41.4	40.5	41.7	41 AB

S.E ±	=	0.4613
LSD $_{0.05}$	=	1.1287
CV%	=	1.40

Biological yield (kg ha^{-1})

The data regarding biological yield (kg ha^{-1}) of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-8 and its analysis of variance as Appendix-VIII. The analysis of variance suggested that the impact of micronutrients on biological yield (kg ha^{-1}) was significant ($P<0.05$).

The results revealed that maximum biological yield (kg ha^{-1}) (11192) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (10536) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (10522). Whereas, the minimum biological yield (kg ha^{-1}) (9663) was observed under treatment T_1 = Control (recommended dose).

Table 8. Biological yield (kg ha^{-1}) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	9850	9400	9740	9663 B
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	10225	10660	10680	10522 A
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	11385	11200	10990	11192 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	11233	10245	10131	10536 A

S.E ± = 303.06
LSD $_{0.05}$ = 741.56
CV% = 3.54

Grain yield (kg ha^{-1})

The data regarding grain yield (kg ha^{-1}) of wheat variety Kiran-95 as affected by micronutrients (gillette crop boster) is presented in Table-9 and its analysis of variance as Appendix-IX. The analysis of variance suggested that the impact of micronutrients on grain yield (kg ha^{-1}) was significant ($P<0.05$).

The results revealed that maximum grain yield (kg ha^{-1}) (5775) was observed in treatment T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette followed by (5522) under treatment T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette respectively. However, treatment T_2 = NPK (168 + 84 + 60 kg ha^{-1}) + 2 spray of gillette were ranked as 3rd with (5149). Whereas, the minimum grain yield (kg ha^{-1}) (4920) was observed under treatment T_1 = Control (recommended dose).

Table 9. Grain yield (kg ha^{-1}) of wheat as affected by micronutrients (gillette crop boster) application

Treatments	R-I	R-II	R-III	Mean
T_1 = Control (Recommended dose)	4925.0	4935.3	4900.1	4920 D
T_2 = NPK (168 + 84 + 60 kg ha^{-1}) +2 spray of gillette crop boster	5129.3	5168.0	5172..6	5149 C
T_3 = NPK (168 + 84 + 60 kg ha^{-1}) +3 spray of gillette crop boster	5767.7	5780.1	5775.9	5775 A
T_4 = NPK (168 + 84 + 60 kg ha^{-1}) +4 spray of gillette crop boster	5520.1	5535.2	5510.4	5522 B

S.E ± = 12.337
LSD $_{0.05}$ = 30.187
CV% = 0.28

DISCUSSION

The use of micronutrients is important because of increasing economic and environmental concerns [25,22] ,reported that Cu, Fe, Mn and Zn contents of grain of wheat increased with application of micro fertilizers. More to the point, application methods for macro and trace elements, also, affect the yield. For instance [23] ,reported that micronutrients (Cu + Fe + Mn + Zn) produced the highest values of plant height (85 and 87.2 cm), number of tillers (m^{-2}), spike length (cm), number of spikeletes spike^{-1}, number of grains spike^{-1}, grains weight spike^{-1} (g), seed index(1000-grain weight, g), biological yield (kg ha^{-1}), straw yield and harvest index, respectively, in both seasons followed by Zn foliar application followed by Mn foliar application followed by Fe foliar application then Cu foliar application. Further [24], recommended foliar sprays of nutrient solution at tilling, jointing and boot stage in

conjunction with half of the endorsed dose of N and P to growth yield and yield quantities of wheat [26] , the finding of the study showed that plant height (cm), tillers (m^{-2}), spike length (cm), spikeletes $spike^{-1}$, grains $spike^{-1}$, grain weight $spike^{-1}$ (g), seed index (1000-grain weight, g), biological yield (kg ha^{-1}) and grain yield (kg ha^{-1}) were significantly ($P<0.05$) effect by different level of micronutrients (gillette crop boster). While the application of integrated application of T_3 = NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette produced maximum value for growth and yield traits particularly grain yield (5774.6 kg ha^{-1}), followed by T_4 = NPK (168 + 84 + 60 kg ha^{-1}) + 4 spray of gillette (5521.9 kg ha^{-1}) grain yield. Therefore, the none the less growth and yield traits, particularly grain yield (4920.1 kg ha^{-1}) was tape in (control) [27] , reported that boom of 31.6 % in wheat grain yield over manipulate via the addition of five kg ha^{-1} Zn further, the yield parameters like wide variety of spike $plant^{-1}$, spike duration, plant height, biological yield and 1000- grain weight have been increased over control. Moreover, the extent of Zn content material became raised from 15.2 to 37.4 mg kg^{-1} by utility of 10 kg Zn ha^{-1} for that reason, substantial improvement in wheat productiveness may be harvested with simultaneous increased concentration of Zn nutrient in grain for relief of syndrome precipitated because of Zn deficiency across rural and peri-urban communities [26],

CONCLUSION

It is concluded from the results that all the treatments of micronutrients (gillette crop boster) showed positively significant effect on growth and yield of wheat. Application of NPK (168 + 84 + 60 kg ha^{-1}) + 3 spray of gillette produced maximum grain yield (5774.6 kg ha^{-1}) of wheat variety ”Kiran-95” proved most suitable treatment.

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