

Original Research Article

<https://doi.org/10.20546/ijcmas.2021.1004.060>

## Effect of some Bio and Organic Nutrient Compounds Application on Vegetative Growth Measurements on Shoot and Root of some Kashmiri Plum

Imtiyaz Ahmad Malik<sup>1</sup>, Shabir Ahmad<sup>2</sup> and Rohie Hassan<sup>1</sup>

<sup>1</sup>OPGS University Rajasthan, Churu-3002004, India

<sup>2</sup>Zanskar Research And Extension, SKUAST, Ladakh-194302, India

\*Corresponding author

### ABSTRACT

#### Keywords

Plum Fruits, Bio fertilizers, bio magic, Amino acids, Humic acid

#### Article Info

##### Accepted:

18 March 2021

##### Available Online:

10 April 2021

The current study was conducted on fruit trees and chest kernels on Kashmiri Plum cv. on two consecutive occasions throughout 2018 and 2019. Two experiments were performed to address: the effect of other biological and environmental factors on fruit trees (experiments, I) and the bio- effect of other Plum roots on new growing plants (trial, II). In initial foliar spray with Bio magic, Hammer and peptone treatment (such as bio and organic nutritive compounds): 1- foliar spray with Bio magic 7.5g / L, 2- foliar spray with pepper drop 0.5g / L, 3- foliar spray with Hammer 1.5g / L, 4- drench application drain with Hammer 1.5g / L, 5- Bio magic foliar spray (7.5g / L) + Hammer soil drench (1.5g / L) and 6 - Peptone foliar spray (0.5g / L) + Hammer ground water (1.5g / L), with the exception of tap water as a control force is investigated for its impact on vegetable growth, fruit and nutritional status. The data obtained showed that all the treatments that investigated increased growth limits (number, height, thickness of developed shoots, number of leaves / area and leaf), and percentage of fruit (set, storage and rot), yield / tree and fruit & chemical properties were also improved.

### Introduction

Plum (*Prunus* spp.) is one of the most important fruit crops grown in many temperate lands? Currently there are 1.50 million hectares of plum fruit grown at commercial level in a country that produces about 25 million tons of metals in Kashmiri, Plum, central, vineyards etc. (Anonymous, 2018).

This is largely due to its importance in local use or as a major source of foreign exchange in Europe. The Plum plant grown in Egypt is rapidly growing with the restoration of new desert land on 35.59 hectares (Anonymous, 2019).

Slight growth in Plum production for the 2018/2019 season, Kashmiri Plum area and

production is expected to grow. This expected increase in production is due to the growing number of trees that increase the large increase in new cultivated land in the newly acquired land. The increase can be caused by the constant absence of strong winds, which can be a major factor in determining the total production and production as it often causes fruit damage. In 2018/2019, the Kashmiri Plum planting area covered 130,000 hectares compared to 150,000 hectares in 2014/2 (Isaac, 2014 and Saber, 2015 b). and 147,000 hectares in 2008/09 Production in 2018/2019 is expected to increase to 1.65 million MT, from 3.57 million MT 2009/10 compared to 3.5 million MT in 2018/2019. The expected increase in total production of Kashmiri Plum is mainly due to the increase in the number of bearing trees. Kashmiri Plums are a summer fruit suitable for cool weather. Bio-fertilizers have been shown to eliminate sometimes the use of pesticides, as well as to balance the balance of soil nutrients in the soil. It is easier and safer to manage field applications that have improved performance by increasing yields and reducing the cost of other farming methods. Significantly, bio fertilizers do not replace mineral fertilizers, but significantly reduce their rate of application

Therefore, this study aims to investigate the use of other nutrients in growth, nutritional status and tree production in Centrose Plum, Silver plum and chogandra Plum to a lesser extent. In addition, the suitability of certain Plum roots was also assessed in terms of their physical birth and the impact on the growth and nutritional value of the same Kashmiri Plum

### **Materials and Methods**

The current dissertation was made on fruit trees and the newly installed sour cream of Kashmiri Plum owned by Kashmiri Plum grower during two consecutive testing seasons

between 2018 and 2019. Therefore, two experiments were included, the first of which involved the investigation of the response of Kashmiri Plum trees that yielded other uses of organic chemicals and bio. While the second was devoted to studying the relationship between Kashmiri Plum transplants as a scion from one hand and other Plum roots from the other.

### **Preliminary experimental results of "other organic and organic compounds in the fruitful trees of Kashmiri Plum"**

In this experiment seven-year-old Kashmiri Plum trees bloom on the sour root of Kashmiri Plum and grow in clay soil at the Faculty of Agricultural Station, Wadura. plant materials used in this regard to investigate the effect of three compounds of living and organic elements namely a) - bio stimulants CBC Bio magic), b) - Hammer (humic source) and C) - peptone. Bio stimulant (Bio magic) was produced by the microbiology unit, the desert research center (D.R.C), with a Ph.D. 5.5 and contains the following.

Amino acids (2.45%): Arginine, cysteine, glycine, histamine, isoleucine, leucine, lysine, Phenylalanine, threonine, tryptophan, - tyrosine and valise.

A complete randomized design with four markers was used to design the seven investigated treatments, while each duplication was represented by a single tree. As a result, 28 Kashmiri Plum trees have been carefully selected for healthy, healthy, disease-free and seasonal. Selected trees were divided according to their growth potential into four stages (blocks) each comprising seven identical trees for the seven treatments being investigated (one tree underwent one treatment at random). Considering that the medicinal properties have been used to cover all the leaf blades of each tree, and the 3 liters

sufficiency in this concern. In addition, the inclusion of soil in the compound of the supplied compounds mainly Hammer was also provided with the same dosage (3 liters / tree) and filter solution. The method as reported in this study to evaluate the response to the various investigated treatments was performed by finding changes in the various dosages of the following tested factors: By the end of March 2018 and early April 2019 four large branches (organs / scaffolding) were well distributed around each carefully selected tree and marked during the first and second seasons respectively. In addition, 20 newly sprouted shoots are also labeled

### **Vegetable growth estimates**

Between October 2018 and 2019 years the following categories of vegetable growth were determined in the first 1 and second periods, respectively. In this regard, the average number of freshly formed shoots in one meter for each marked limb, the average (length and size) and number of leaves, for each shoot with a label is estimated. In addition, the size of a normal leaf (cm) in weight was also found. Therefore, twenty mature leaves from the previously labeled shoots on each member are collected randomly. Then 20 disks is one centimeter. the place was taken and dried in the oven with some 80 ° C leaves until a permanent weight. Depending on the dry weight of the surface of the known surface of the leaves, that is, 20 leaf discs from one hand and a total weight of 20 leaves from the other side, then the area of the leaves is cm. calculated. In early and mid-December 2018 and 2019 in the first and 2nd season, respectively, one-year-old seedlings of three species of Plum rootstocks each grew individually in a black plastic bag (10 kg mixture for planting sand: clay: peat MOs in proportions volume equal) are carefully selected as healthy and disease-free. Therefore, the seedlings of the entire Plum

stem were divided according to their strength into four segments (blocks) each comprising 25 seedlings (20 each repeated and five additional as stored).The Kashmiri Plum (scion) reaction to 3 different types of Plum rootstocks (sour Kashmiri Plum, Volkamer lemon and Balady lime) was tested by determining certain limits on the growth of the scion and the chemical properties of one-sided leaves, as well as the next scion.

### **Morphological parameters: percentage of success**

The success rate of the Kashmiri Plum shield consisting of three investigated varieties of Plum plants was recorded once every three months after emergence, i.e., early and mid-March 2018 and 2019 during the first and second test periods, respectively.

### **Scion growth rates**

In this regard four distinctly investigated parameters for cluster growth, namely, the length of the scion (cm), the scion size (5 mm) to 5 cm above the union area, the number of leaves and the normal weight of the leaves were suspended 9 months after the shoe planting process i.e. 1st and 15th 2018 and 2019 years during 1 and 2 test periods, respectively. Considering that the scion growth parameter was randomly recorded at 10 inputs per block given the average number of these selected variables was estimated at one repetitive representation. In addition, scion growth rates are determined as stated earlier in 1 post-test (AOCA, 1990).

### **Results and Discussion**

The first experimental result "of other organic and organic compounds in the fruit trees of Kashmiri Plum Centro's, and Silver plum. In this experiment the Kashmiri Plum fruit-bearing trees are tested on the sour fruits of

Kashmiri Plum for foliar spraying and / or aqueous treatment containing three nutritional compounds namely: a- Bio magic (bio stimulant); B-Peptone and c-Hammer (humic source) used alone or combined were investigated during both the 2018 and 2019 experiments. The effect was assessed by the difference shown in the following scales:

### **Vegetable growth estimates**

In this measure the number of developed shoots per meter of each branch marked (organ / scaffold), the average shoot length and width, the number of leaves per shoot and the general location of the leaf were the growth thresholds in response to Bio magic, Peptone and Hammer treatment. Details obtained during the 2018 and 2019 inspection periods were presented in Table (1)

### **Number of shoots per leg length of one meter**

With regard to the response of the number of shoots / one-leg meter to the differences observed in the therapeutic components, Table (1) shows significant differences in this. Here, a very large number of shoots were strongly associated with Kashmiri Plum trees being treated for the sixth time, while Bio magic 7.5g / L foliar and Hammer 1.5g / L water canal were used together each in 3liters / tree 6 times / a season. In addition, seven treatments (peptone 0.5g / L foliar spray + Hammer 1.5g / L wet soil) and 2 one (Bio magic only 7.5 g / L foliar spray) both drugs showed similar efficacy that led to (18.5 & 19.25)) and (19.0 & 18.5) shoots per meter sufficiency in this concern. In addition, the inclusion of soil in the compound of the supplied compounds mainly Hammer was also provided with the same dosage (3 liters / tree) and filter solution. The method as reported in this study to evaluate the response to the various investigated treatments was performed

by finding changes in the various dosages of the following tested factors: By the end of March 2018 and early April 2019 four large branches (organs / scaffolding) were well distributed around each carefully selected tree and marked during the first and second seasons respectively. In addition, 20 newly sprouted shoots are also labeled

### **Vegetable growth estimates**

Between October 2018 and 2019 years the following categories of vegetable growth were determined in the first 1 and second periods, respectively. In this regard, the average number of freshly formed shoots in one meter for each marked limb, the average (length and size) and number of leaves, for each shoot with a label is estimated. In addition, the size of a normal leaf (cm) in weight was also found. Therefore, twenty mature leaves from the previously labeled shoots on each member are collected randomly. Then 20 disks is one centimeter. The place was taken and dried in the oven with some 80 ° C leaves until a permanent weight. Depending on the dry weight of the surface of the known surface of the leaves, that is, 20 leaf discs from one hand and a total weight of 20 leaves from the other side, then the area of the leaves is cm. calculated. In early and mid-December 2018 and 2019 in the first and 2nd season, respectively, one-year-old seedlings of three species of Plum rootstocks each grew individually in a black plastic bag (10 kg mixture for planting sand: clay: peat MOs in proportions volume equal) are carefully selected as healthy and disease-free. By designing three investigated treatments (3 Plum rootstocks), a complete block structure was designed with four responses. Each treatment had to be fitted with 20 shoe shields, with the exception of five additional shields, so it would be reserved for this position. As a result, 100 seedlings from each of the Plum stems (Sour Kashmiri Plum, were needed. The

seedlings of each stem, the species were almost identical in terms of their growth potential on one side and their stems had a suitable size (more than 0.5 cm. In diameter) at a high distance to achieve years of grafting (shield protection) on the other.

Therefore, the seedlings of the entire Plum stem were divided according to their strength into four segments (blocks) each comprising 25 seedlings (20 each repeated and five additional as stored). The Kashmiri Plum (scion) reaction to 3 different types of Plum rootstocks (sour Kashmiri Plum, Volkamer lemon and Balady lime) was tested by determining certain limits on the growth of the scion and the chemical properties of one-sided leaves, as well as the next scion.

### **Morphological parameters: percentage of success**

The success rate of the Kashmiri Plum shield consisting of three investigated varieties of Plum plants was recorded once every three months after emergence, i.e., early and mid-March 2018 and 2019 during the first and second test periods, respectively.

### **Scion growth rates**

In this regard four distinctly investigated parameters for cluster growth, namely, the length of the scion (cm), the scion size (5 mm) to 5 cm above the union area, the number of leaves and the normal weight of the leaves were suspended 9 months after the shoe planting process i.e. 1st and 15th 2018 and 2019 years during 1 and 2 test periods, respectively. Considering that the scion growth parameter was randomly recorded at 10 inputs per block given the average number of these selected variables was estimated at one repetitive representation. In addition, scion growth rates are determined as stated earlier in 1 post-test (AOCA, 1990).

The first experimental result "of other organic and organic compounds in the fruit trees of Kashmiri Plum Centros and Silver plum

In this experiment the Kashmiri native Plum fruit-bearing trees are tested on the sour fruits of Kashmiri Plum for foliar spraying and / or aqueous treatment containing three nutritional compounds namely: a- Bio magic (bio stimulant); B-Peptone and c-Hammer (humic source) used alone or combined were investigated during both the 2018 and 2019 experiments. The effect was assessed by the difference shown in the following scales:

### **Vegetable growth estimates**

In this measure the number of developed shoots per meter of each branch marked (organ / scaffold), the average shoot length and width, the number of leaves per shoot and the general location of the leaf were the growth thresholds in response to Bio magic, Peptone and Hammer treatment. Details obtained during the 2018 and 2019 inspection periods were presented in Table (1) Number of shoots per leg length of one meter: With regard to the response of the number of shoots / one-leg meter to the differences observed in the therapeutic components, Table (1) shows significant differences in this. Here, a very large number of shoots were strongly associated with Kashmiri Plum trees being treated for the sixth time, while Bio magic 7.5g / L foliar and Hammer 1.5g / L water canal were used together each in 3liters / tree 6 times / a season. In addition, seven treatments (peptone 0.5g / L foliar spray + Hammer 1.5g / L wet soil) and 2 one (Bio magic only 7.5 g / L foliar spray) both drugs showed similar efficacy that led to (18.5 & 19.25)) and (19.0 & 18.5) shoots per meter shoots per member of the meter during the first and second testing years, respectively. In contrast, a small number of developed shoots were usually associated with Kahmiri Plum

trees (control) sprayed with statistically final (13.5 & 14.5 shoots) for both 2018 and 2019, respectively. In addition, three other nutritional investigations were 3, 4 and 5, while peptone 0.5g / L and Hammer 1.5g / L each were used only as a foliar (3rd & 4) or drench treatment (5th) between the two things mentioned above. The three intermediate treatment modalities for nutrition were not significantly different, despite statistically significant differences compared to the top treatments listed above and below during the two study periods.

### **Shot length**

Considering the influence of computer-assisted therapeutic classification over the length of the shooting range, Table (1) clearly shows that the response was clearly indicated, and that all nutritional treatment management resulted in an increase in bullet length compared to control (water spray). Such a trend was true in both experiments. However, the sixth treatment (Bio magic 7.5g / L foliar spray + Hammer 1.5g / L wet soil) was statistically higher, and resulted in very long developed shoots (34.93 & 35.50cm).

Length of the Kashmiri Plum trees in the early period. & 2 seasons of testing, respectively. The opposite was true of water sprayed by Kashmiri Plum trees (control / no complements application), where short shoots (26.25 & 28.65cm.) We obtained during the first and second years, respectively. On the other hand, other treatments that can be investigated can be better organized as follows: 7 treatments (peptone 0.5g / L spray + Hammer 1.5g / L canal) came second, followed by second treatment (Biomagic 7.5g / L spray), 3 single (peptone 0.5g / L spray) and Hammer 1.5g / L foliar or in reach drench used) i.e., 4 and 5 treatments were calculated mathematically of 4, mainly during the second year.

### **Shoot thickness**

With regard to the response of the shoots' size to the computerized research of healthy foods, Table 1 shows that the differences were less pronounced, but the same practice was found in the length of the shoots. However, the height of the six treatments (Bio magic 7.5g / L foliar spray + Hammer 1.5 g / L wet soil) for attracting dense shoots on one hand and the dehydration of Kashmiri Plum trees (control / no application nutritive) has shown that small shoots most from the others were more common during both periods of testing. On the other hand, the other five therapies investigated were between the two aforementioned and despite the third treatment (foliar spray with a solution of 0.5g / L of paper) was significantly better compared to other middle-aged members.

### **Number of leaves per shoot**

With regard to the influence of computer-assisted classification of nutrient-based treatment at the peak of each SKP1Kahmiri Plum tree species was closely followed by the same practice previously observed with the previous three growth parameters. Therefore, a very large number of leaves / shoots were very close to the closed relationship with (Bio magic 7.5g / L spray + Hammer 1.5g / L drench drench) which treated all Kashmiri Plum trees during both the 2018 & 2019 testing periods. In addition, the 7th treatment (peptone 0.5g / L foliar spray + Hammer 1.5g / L statistically calculated water duct is 2 in terms of its performance followed by Bio magic 7.5g / L of sprayed wood (second treatment) which was mathematically thirdly of this concern, on the contrary, a small number of leaves / shoots were mathematically integrated with water-sprayed trees (control). In addition, the other three treatments, namely, Peptone foliar spray and Hammer foliar or groundwater used

(treatments 3, 4 and 5th, respectively) were the most effective nutritional treatments even though they were statistically superior to control plants during both. -2018 and 2019 test times.

### **Middle Page Location**

Table (1) clearly shows that the central site of the leaf response followed the same pattern as previously obtained by the four growth parameters.

The largest leaf area was heavily covered with SKP1Kahmiri Plum trees treated for the sixth time (Biomagic 7.5g / L foliar spray + Hammer 1.5g / L drench drench), showing an area of 18.83 & 18.80 cm<sup>2</sup> per leaf for a period of 1 & 2, respectively.

In addition, Biomagic only foliar spray at 7.5g / L was calculated statistically at 2 in terms of its performance to increase leaf area i.e., showing an area of 18.20 & 18.00cm<sup>2</sup> per leaf during the 2018 & 2019 testing seasons respectively. In contrast, the smallest leaf area is made up mainly of SKP1Kahmiri Plum (control) trees i.e., 14.70 and 14.83Cm<sup>2</sup> in the first and second periods, respectively. In addition, some of the therapies under investigation were between the two groups mentioned above.

It can often be safely assumed that all of the research interventions have significantly increased the five growth limits studied compared to control (water spray). However, the Biomagic foliar spray (7.5g / L) combined with the Hammer drench (1.5g / L) i.e., the sixth treatment was the most effective (maximum) and the largest number of shoots per single meter, shoot length and size, No leaves on each shoot and leaf area with the

effect followed by Biomagic foliar spray only and / or peptone

Foliar spray + Hammer drench i.e., treatment 2 and 7.

However some of the investigated therapies were among the different response rates varying from one growth rate to another. The current results are generally consistent with those previously obtained by Chukka *etal* (2000) on another citrus spp. In addition, Moustafa (2009) on Kashmiri Plum demonstrated the beneficial effect of biological and organic amendments on Kashmiri Plum which provided support for our results in this concern. On the other hand, the positive effect of three investigated supplements on healthy eating can be attributed to additional N-sources such as Bio magic and / or Peptone foliar spray, without which physical and chemical improvements can be obtained by Hammer's "source of humic acid".

### **Percentage of fruit**

Table (2) clearly shows that the six investigated treatments containing any bio & organic nutritive compound (Bio magic, peptone and Hummer) have significantly increased yields over control (water spray trees compliant with N, P fertilizer program, K only accepted on the farm).

However, the sixth treatment, i.e., Kashmiri Plum trees sprayed with foliar spray with Biomagic at 7.5 g / L + Hammer application drench application (1.5 g / L) were higher in numbers. While, the largest fruit puts% on the trees of Kashmiri Plum i.e., 23.70 and 24.59% are shown for both the 2018 & 2019 test periods, respectively.

Table.1

Table (1): Effect of some bio & organic nutrient compounds application on vegetative growth measurements (No. of shoots/ one meter limb, average shoot length & thickness, No. of leaves per shoot and leaf area) of fruitful Washington navel orange trees during both 2009 & 2010 experimental seasons.

Treatments	No. of shoots/one meter limb		Shoot length (cm)		Shoot thickness (mm)		No. of leaves /shoot		Leaf area (cm <sup>2</sup> )	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
1-Control (water spray)	13.50 D	14.50 D	26.25 E	28.65 F	2.25 F	2.75 D	20.75 F	18.75 E	14.70 F	14.83 G
2-Biomagic (foliar spray) at 7.5 g/L	19.00 B	18.50 B	29.80 C	32.15 C	3.75 B	4.00 B	25.00 C	24.00 C	18.20 B	18.00 B
3-Peptone (foliar spray) at 0.5 g/L	17.00 C	16.25 C	28.75 D	30.33 D	2.75 E	3.00 CD	20.75 F	23.75 C	15.90 E	16.13 E
4-Hammer (foliar spray) at 1.5 g/L	17.00 C	16.25 C	28.33 D	29.65 E	3.23 CD	3.75 B	22.75 E	23.75 C	15.73 E	15.40 F
5-Hammer ( soil drench ) at 1.5 g/L	17.00 C	16.75 C	28.73 D	28.83 F	3.00 DE	3.50 BC	23.75 D	22.25 D	16.38 D	16.58 D
6-Biomagic (foliar spray)+ Hammer (soil drench)	20.00 A	20.75 A	34.93 A	35.50 A	4.75 A	5.00 A	30.50 A	31.25 A	18.83 A	18.80 A
7-Peptone (foliar spray) + Hammer ( soil drench)	18.50 B	19.25 B	32.83 B	33.40 B	3.50 BC	4.00 B	28.50 B	29.25 B	16.90 C	16.83 C

Values within each column followed by the same letter/s are not significantly different at 5 % level.

Table.2

Table (2): Effect of some bio & organic nutrient compounds application on fruit set (%) and changes in fruit retention (%) of fruitful Washington navel orange trees during both 2009 & 2010 experimental seasons.

Treatments	Fruit set (%)		Remained fruits % ( June 20 <sup>th</sup> )		Remained fruits % (August1 <sup>st</sup> )		Remained fruits % ( October 3 <sup>rd</sup> )		Remained fruits % (December 15 <sup>th</sup> )	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
1-Control (water spray)	14.01 E	15.76 F	18.85 G	19.38 E	15.13 F	15.30 E	12.23 F	12.54 F	9.81 G	9.88 G
2-Biomagic (foliar spray) at 7.5 g/L	20.11 C	20.33 C	21.13 C	21.58 C	17.73 C	18.03 C	14.55 C	15.58 C	12.59 C	12.70 C
3-Peptune (foliar spray) at 0.5 g/L	19.80 C	20.30 C	20.00 D	20.43 D	15.49 E	15.99 D	13.40 D	14.00 D	11.37 D	11.71 D
4-Harmer (foliar spray) at 1.5 g/L	16.04 D	17.10 E	19.08 F	19.43 E	15.37 EF	15.55 E	12.84 E	13.13 E	10.55 F	10.69 F
5-Harmer ( soil drench ) at 1.5 g/L	16.57 D	18.36 D	19.33 E	20.28 D	16.08 D	16.10 D	13.52 D	14.11 D	11.06 E	11.18 E
6-Biomagic (foliar spray)+ Harmer (soil drench )	23.70 A	24.59 A	23.60 A	24.08 A	19.46 A	19.91 A	16.37 A	17.42 A	13.89 A	14.02 A
7-Peptune (foliar spray) + Harmer ( soil drench)	21.58 B	22.80 B	21.70 B	21.98 B	18.90 B	19.11 B	15.09 B	15.85 B	12.89 B	13.09 B

Values within each column followed by the same letter/s are not significantly different at 5 % level.

However 7 treatments (peptone 0.5 g / L foliar spray + Hammer 1.5 g / L wet soil) are listed statistically, decreased following 2 and / or 3rd tests i.e., Biomagic foliar spray in 7.5 g / L and peptone foliar spray at -0.5 g / L as both have shown similar efficacy in the fruit set% in both seasons. In addition, other bio & organic treatments are nutritious, namely,

A hammer at 1.5g / L of fodder or application for soil absorption (treatment 4 and 5) was ineffective as both were stored just before control during two testing periods. It would generally conclude that all the investigated treatments of Bio magic, Peptone and Hammer significantly increased fruit set% of SKP1Kahmiri Plum trees, however, Biomagic at 7.5 g / L foliar spray + Hammer at 1.5 g / L soil moisture i.e., (sixth treatment) was high, and Hammer at 1.5 g / L foliar or soil added i.e., 4 and 5th treatments were lower. This effect can be attributed to the high availability of a simple N-form acquisition that can be absorbed and / or transferred internally to the tissue as a direct result of using those rich N compounds (Biomagic or Peptone), where sufficient and sufficient N value is required for critical flower growth - fruit.

The results obtained with regard to the increase in fruit set% indicated by different bio and organic fertilizers are consistent with those obtained by El-Kobbia, (2016) in Kashmiri Plum, Ibrahim and Mohamed (2014) in Balady's Mandarin. in terms of the computer effect of nutrients, namely, humic substances, organic manure (mud filter - FM and farm manure - FYM) and liquid fertilizers such as Aminofert, respectively. In addition, the findings of Hegazi *et al.*, (2007) and Osman *et al.*, (2018) on other species of olives regarding the beneficial effect of bio and organic fertilization on various aspects of flowers and fruits have provided support for the current effect on this concern. In addition to the findings of several researchers on other

types of fruit pointed to the same practice namely, Fathy *et al.*, (2018), Hassan *et al.*, (2017).

### **Seasonal changes in fruit yield**

It is clear as shown in the data listed in Table 1 that the remaining percentage percent gradually decreased as the measurement data improved i.e., from June 20, August 1st, October 3 and December 15. Such a trend was true in both experimental periods. Without the treatment being investigated. On the other hand, the percentage of fruit left over on a given day of measuring also differs significantly from computer-assisted nutritional treatments to others. However, it can safely be said that the response to the treatment caused by the differences is not only significant but also very closely related to the same practice discussed earlier with the prescribed fruit%. Therefore, the sixth treatment (Biomagic at 7.5 g / L foliar spray + Hammer at 1.5 g / L drench drench) was statistically high, and the highest percentage of stored fruit was shown for four days of fruit storage average% Currently, 7th treatment (peptone 0.5 g / L foliar spray + Hammer 1.5 g / L drench drench) rated secondly statistically, descible followed by second treatment (bio magic at 7.5 g / L foliar spray), 3rd treatment (Peptone at 0.5 g / L) and / or 5 treatments (Hammer Hammer 1.5g / L), and Hammer 1.5g / L foliar spray (4th treat.) showed a very small increase in fruit saved% over control. On the other hand, the difference in the response rate observed between the investigated treatments given to each other / s / at the time of estimating the remaining percentage of the fruit was not only consistent with what was observed and similar in other days of measurement but also in the fruit set%. These effects in terms of the impact of investigated bio-organic and organic compounds on fruit storage can be logically explained by the fact that the beneficial effect

of supplying trees with an available N source (Biomagic & Peptone) and improvement a certain natural condition (especially soil) by giving us an additional form made as humic acid by using Hammer as a moist sand will definitely be best seen in increasing the fruit storage percentage. In addition, the results obtained in relation to the positive effect of nutritious bio fertilization are slower than those found by Paschoal *et al.*, (1999) in sweet Kashmiri Plum, Moustafa (2018) in Kashmiri Plum, Salama (2002) in Balady mandarin and Osman *et al.*, (2018) in two olive cultivars (Coronaki and Manzanillo) In addition, Fathy *et al.*, (2018) observed the desired effect of amino acids used in apricot and pear fruits, respectively.

The study was conducted on fruit trees and small spray pumps of Kashmiri Plum Cv. on two consecutive occasions throughout the year, 2018 and 2019 at the Faculty of Agricultural Examination Center, University of Kashmir, two tests were included as follows:

The first trial "of the chemical bio & organic effects of Kashmiri Plum fruit products": In this experiment, the effect of bio-drug use and organic organic compounds (a bio-stimulant / Bio magic, b-Hammer and c) -Piptone) with fruit (7 years old) Kashmiri Plum trees sprout from the sour stem of Kashmiri Plum and grow in clay soil and were investigated during the 2018 and 2019 experiments. Each nutrient mixture was only used or mixed with one from one hand and supplied with foliar spray or drench application from the other. Therefore, the therapies investigated for nutritional properties were as follows:

Control (water spray).

Foliar spray with bio stimulant (Bio magic) at 7.5g / liter. 3- Foliar spray with peptone at 0.5g / liter.

Foliar spray with Hammer at 1.5g / liter.

Application for 5- drench drain with Hammer at 1.5g / liter.

Foliar spray with Bio magic (7.5g / L) + Hammer sand hammer (1.5g / L).

Peptone foliar spray (0.5g / L) + Hammer soil hammer (1.5g / L).

Considering that all of the investigated nutrients for control and control (spray water) were used six times in one month (from early February to July) after the N, P, K fertilizer program received on the farm was given at each time of year.

In addition, 3 liters showed enough to cover all the leaves of the tree bed, as a result of the nutrient solution inserted between the four or drench was given 3.0 liters / tree per treatment six times / season. A complete randomized design with four responses used.

The response of Kashmiri Plum trees to the investigative treatments was categorized by finding the changes shown in the following factors. Vegetable growth estimates: In this case the number of developed shoots by one meter of each marked limb, average shoot (length and size), number of leaves / shoots and leaf quality level were the limits of the growth being investigated.

### **Fruit ratings**

Prescribed fruit%, percentage of fruit decreases with storage, yield (weight per kg or amount of fruit / harvest harvested) and fruit quality (physical and chemical properties) in response to the treatment being investigated was a concern. Therefore, average fruit weight, size (volume), size (Polar & equatorial size), shape indicator, juice volume and skin firmness, and fruit juice TSS, total acid, TSS /

Acid ratio, sugar %% and ascorbic acid (VC) were fruits that were physically and chemically investigated.

## References

- A.O.A.C. (1990): Association of Official Agricultural Chemists. Official Methods of Analysis. 4<sup>th</sup>-ed. pp. 495-510. Benjamin Franklin Station, Washington. D.C., U.S.A.
- Anonymous (2018): Yearbook of statistics of Ministry of Agriculture. (Agricultural Economical and Statistical Department, jammu and Kashmir
- Anonymous (2018): Yearbook of statistics of Ministry of Agriculture. (Agricultural Economical and Statistical Department, of jammu and Kashmir
- El-Kobbia, A. M. (2016): Response of SKP1navel Kahmiri Plum to organic fertilizer "biohumus" and cattle manure application. Alexandria Journal of Agricultural Research, 44(2):199-207.
- Fathy, M. A.; M. A. Gabr and S. A. El Shall (2019) : Effect of humic acid treatments on 'Canino' Apricot growth, yield and fruit quality. New York Science Journal; 3(12):109- 115.
- Hassan, H. S. A.; S.M.A. Sarrwy and E. A. M. Mostafa (2017): Effect of foliar spraying with liquid organic fertilizer, some micronutrients, and gibberellins on leaf mineral content, fruit set, yield and fruit quality of "Hollywood" plum trees. Agric. Biol. J. N. Am., 1(4): 638-643.
- Hegazi, E. S.; M. R. El-Sonbaty; M. A. Eissa; Dorria M. Ahmed and T. F. El-Sharony (2007): Effect of organic and bio-fertilization on vegetative growth and flowering of Picual olive trees. World Journal of Agricultural Sciences, 3 (2):210-217.
- Paschoal, A. D.; Y. D.A. Senanayake and U. R. Sangakkara (1999): Improved soil chemical and physical conditions and their relations to yield and fruit quality of Kahmiri Plum in a field under KyuseiNature Farming and EM. Technology in Barzil. Fifth International Conference on KyuseiNatureFarming, Bangkok, Thailand,175-181.
- Moustafa, M. H. (2018): Studies on fertilization of SKP1Kahmiri Plum trees. Ph.D. Dissertation Fac. of Agric., Moshtohor, Zagazig University, Benha Branch, Egypt.
- Salama, A. S. M. (2002): Response of some fruit species transplants and trees to organic fertilization. Ph.D. Dissertation, Fac. Agric., Moshtohor, Zagazig Univ. Benha Branch, Egypt.

### How to cite this article:

Imtiyaz Ahmad Malik, Shabir Ahmad and Rohie Hassan. 2021. Effect of some Bio and Organic Nutrient Compounds Application on Vegetative Growth Measurements on Shoot and Root of some Kashmiri Plum. *Int.J.Curr.Microbiol.App.Sci.* 10(04): 596-607.  
doi: <https://doi.org/10.20546/ijcmas.2021.1004.060>