THE EFFECT OF THE TREATMENTS APPLICATION OF SOME BIOACTIVE SUBSTANCES ON THE PRODUCTIONS OBTAINED AT THE EGGPLANTS AUBERGINES

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Abstract

Among the modern methods of the vegetable plants growing which take into account the production the production increase both regarding the quantitative aspect and the quality aspect one can find those of use of different chemical factors, among which the growth phytoregulators have great importance. This bioactive substance (matters) has a favorable effect as what concerns the vital processes of the vegetal organism .Within the experience one took into account view the investigated amino-acids are without exception at all the used substances and in all the used substances and in all stages of organo-genesis. For the proposed research, we have chosen two species, respectively Long Purple and Pana Corbului. The experience was divided into four variants and we applied the following treatments with bioactive substance: V_1 - reference sample untreated; V_2 - Atonik 0.05%; $-V_3$ - Revital 0.05%; $-V_4$ Gibereline GA-0.001%.

During the experience we made observation and biometrical determinations concerning the fruits harvest at the technological maturity. The average of the early and total production obtained makes evident the benefic effect of the treatments applied with different bioactive substances through very significant differences and respectively significant at two between the experimental variants V_2 (Atonik 0,05%) and V_3 (Revital 0,05%) in comparison with the reference sample variant both to Long Purple species and to Pana Corbului species. At the two species, the differences of production achieved at V_4 (Gibereline 0,001%) in comparison to the reference sample untreated were negative. We (Gibereline (0,001%) in comparison to the reference sample untreated were negative. We issue the two bioactive substances, respectively Atonik0,05% and Revital 0,05% have become more resistant to illnesses and the climate conditions.

Key words : Substances, bioactive, variety, Atonik, variant.

MATERIAL AND METHOD

For the research proposed we have chosen two species: **Pana Corbului** and **Long Purple**. The sowing was made on the 1st of March, according to the technology and the plants have sprung on 12th of March. The work of pricking out was made on 20th of March in flower pots of plastic with the upper side of 7 cm; the date on which the experience was accomplished in four variants for each separate species as follows:

- -V1 =reference sample untreated;
- -V2 =Atonik 0.05%;
- -V3 =Revital 0.05%;
- -V4 =Gibereline GA3 10 ppm.

The technology applied at the seedlings and the field culture production was that recommended by Vidra ICLF. During the experiments made observations and biometrical we determinations concerning the fruits crops at the technological ripening. The experimental data were treated by specifical statistical-mathematical methods using the variant analysis and the limit differences (DL 5%, DL 1% and DL 0.1%), using the Student test.

RESULTS AND DISCUSSIONS

Examining the average of the productions obtained per three years at Long purple species (*table 1*), we notice that in the case of all variants to which treatments with bioactive substances were applied we got profits of production as compared to the reference sample. We require the variants V2 (54.2 to) ha, V3 (43.9 to)ha, to which we accomplished very significant upper productions V2 respectively significant V3 as compared to the reference sample. Significant profits among treatments x years were registered in the case of making treatments with Atonik 0.05 %. The treatments effects with bioactive substances were also felt on the total production. Consequently, on the whole experimental period the greatest productions with very significant differences, in comparison with the reference sample were registered at V2 (Atonik 0.05%), respectively 84.6 to/ha, the profits of production being of 22.4 to/ha.

At **Pana Corbului** species (*table 2*), after the results obtained and a general appreciation on the early productions, follows that this varies much from a variant to another but also from one year to another. Profits of production statistically insured were registered in all the three experimental years at two of the three variants to which treatments with bioactive substances were applied to. As a result of the analysis follows that the early middle production was between 28.0 to/ha (V3) and 35.3 to/ha (V2) and in the variant V1 they registered inferior values to the reference sample. According to the interaction treatment x years only at V2 where the product Atonik 0.05 % was applied once a week, during three weeks resulted profits of production insured statistically. At this species the early production represented nearly from 39.2 % (V3) to 59.6 % (V2) from the total production. Concerning the total production this varied between 47.3 to/ha (V3) and 52.1 to/ha (V2).

Tabelul 1

| Long purple Species | The Total Production and Significance as compared to Error and the Treat | nen | t Interaction x Years at |
|---------------------|--|-----|--------------------------|
| | Long purple Species | | |

| | | 2007 | | | | 2008 | | | | 2009 | | | | Media 2007 - 2009 | | | |
|---|----------------|------|--|-------------------|--|-------|--|--------------|---|-------|--|--------|--|--|--------------|-------------|--|
| Variant | producțion | | as the mple | | producțion | | as the mple | | producțion | | as the nple | | | as the nple | significance | | |
| | t/ha | % | difference compared to reference sai | semnif | t/ha | % | difference a compared to reference sar | significance | t/ha | % | difference compared to reference sal | semnif | prod t/ha | difference compared to reference sau | error | interaction | |
| V ₁ (mt) | 56.9 | - | | 63.2 | 100 | - | | 58.4 | 100 | - | | 59.5 | - | | | | |
| V ₂ (Atonik 65.5 110.6 0,05 %) | | | 8.6 | *** | 71.5 | 111.6 | 8.3 | ** | 67.5 | 111.2 | 9.1 | *** | 68.1 | 8.6 | *** | * | |
| V₃ (Revital 0,05 %) | 59.4 114.2 2.5 | | | | 64.6 | 106.2 | 1.4 | | 60.4 | 112.1 | 2.0 | | 61.4 | 1.9 | | | |
| V₄ (Giberelină GA₃ 10 ppm) | 52.6 | 82.3 | -4.3 | | 58.3 | 84.4 | -4.9 | 0 | 54.5 | 84.4 | -3.9 | 0 | 55.1 | -4.3 | 00 | | |
| DL 5 % = 3,84 t/ha DL 5 % = DL 1 % = 6,10 t/ha DL 1 % DL 0,1 % = 7,90 t/ha DL 0,1 % | | | | % = % = 1 % | 5,20 t/ha DL 5 % = 6,75 t/ha DL 1 % = 8,10 t/ha DL 0,1 | | | | % = 3,52 t/Ha [% = 5,20 t/ha [% = 7,93 t/ha [| | | | DL 5 % = 3,98 t/ha 6,80 t/ha DL 1 % = 5,17 t/ha 9,77 t/ha DL 0,1 % = 6,48 t/ha 18,44t/ha | | | | |

Tabelul 2

The Total Production and Significance as compared to Error and the Treatment Interaction x Years at Pana Corbului Species

| | 2007 | | | | | 2008 | | | | 2009 | | | | Media 2007 - 2009 | | | |
|---|-----------------|-------|--|--------------|--|-------|---------------------------------------|--------------|---|-------|---------------------------------------|------------------------|--|-------------------------|--------------|-------------|--|
| Variant | productioncțion | | e as to the ample | | producțion | | e as to the ample | 0 | producțion | | e as to the ample | f | la Per | o the ample | significance | | |
| | t/ha | % | difference compared t reference st | tha semni | t/ha | % | difference compared reference s | significance | t/ha | % | difference compared reference s | Vha semn | prod t/h | compared reference s | error | interaction | |
| V ₁ (mt) 41.6 100 | | | - | | 49.5 | 100 | - | | 43.6 | 100 | - | | 44.9 | - | | | |
| V ₂ (Atonik 0,05 % | 48.8 | 111.1 | 7.2 | ** | 57.3 | 111.4 | 7.8 | ** | 50.8 | 111.2 | 7.2 | *** | 52.3 | 7.4 | *** | * | |
| V₃ (Revital 0,05 %) | 43.4 | 102.7 | 1.8 | | 53.2 | 105.2 | 3.7 | | 45.5 | 101.3 | 1.9 | | 47.3 | 2.4 | | | |
| V4 (Giberelină GA ₃ 10 ppm) 37.1 91.3 | | | -4.5 | 0 | 41.1 | 86.2 | -8.4 | 00 | 39.2 | 92.2 | -4.4 | 00 | 39.1 | -5.8 | 00 | | |
| DL 5 % = 3,42 t/ha DL 5 % = DL 1 % = 5,10 t/ha DL 1 % = DL 0,1 % = 7,00 t/ha DL 0,1 % | | | | | 4,70 t/ha DL 5 % 5,25 t/ha DL 1 % = 7,32 t/ha DL 0,1 ° | | | | = 3,13 t/ha I = 4,33 t/ha I % = 7,12 t/ha I | | | | DL 5 % = 3,68 t/ha 6,70 t/ha DL 1 % = 4,87 t/ha 9,27 t/ha DL 0,1 % = 6,28 t/ha18,24/ha | | | | |

CONCLUSIONS

Analysing the average of the productions obtained, we notice that in the case of all the variants to which we applied treatments with bioactive substances, we obtained profits of production as compared to the reference sample.

The early period and the profits of production obtained at the eggplants culture made evident the efficiency of the bioactive substances use.

The average of total and early productions makes evident the benefic effect of the treatments applied with different bioactive substances by very significant differences respectively significant at the second of the experimental variants: V2 (Atonik 0.05 %) and V3 (Revital 0.05 %).

In the case of **Long purple** species, at two of the variants the early productions were superior to the reference sample, the treatments with bioactive substances causing positive profits, distinctively significant.

The total productions varied between 56.2 to/ha (V4) to 73.4 to/ha (V2).

The variants V2 (Atonik 0.05%) and V3 (Revital 0.05%) imposed by early time but also by total productions obtained.

In the case of **Pana Corbului** species follows: Atonik 0.05% and Revital 0.05% products proved to have the best effect on the early production and on the total one.

As a result of the analysis made follows that the early middle production was between 28.0 t/ha (V3) and 35.3 t/ha (V2) and in the variant V4 we registered values inferior to the reference sample.

Also, in the case of the variant (V3) treated with Revital 0.05% the greatest productions were registered in 2004, these ones being superior to the reference sample.

At both species, the differences of production accomplished at V4 (Giberelina GA3 0,001%) as compared to the reference sample were negative.

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