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Optimization of Condition for Increasing the Quality of Papaya Seeds Sown During the Growth of High – Quality

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Annotation: The scientific article is devoted to an experimental material increase of sowing qualities introduced of abroad variety of papaya seeds. The high efficiency presowing treatment by steeping them in an aqueous solution of in dole acetic acid (25 mg/liter of water) and water at 24 hours exposure.

Keywords: papaya, seeds, growth regulator, germination, vigor seedling, grade, exposure.

Introduction. Papaya production and consumption competes with banana and mango. Papaya fruits contain proteins, carbohydrates, fiber, vitamins A₁, B, B₁, B₁₂, C, D enzyme papain, albumin, Fe. The fruits are eaten fresh, stewed, processed to juice, compotes, jams, candied fruits, and other. Puree the fruit can easily replace margarine, butter and vegetable oil in the preparation of any baking.

Melon free is one of the early appearance of fruit plants. Under favorable growing conditions, young plants are blooming in the Age of three month. In papaya yield is a record of all crops.

Like papaya fruit industrial culture is grown in Uzbekistan. Organization of production of its cultivation on a commercial scale in the country is made of different parts of plants, to eliminate the economic dependence of the state on import of these products from the foreign countries.

The methodology of the study. Research programs provided for the study of sowing qualities and preplanseed preparation on the growth and development of papaya varieties.

The experiment was loud with parities of papaya – according to the scheme:

1. Sowing dry seeds.
2. Sowing seeds soaked in water for 8 hours.
3. Also for 16 hours.
4. Also for 24 hours.
5. Also soaked in IAA solution (25mg/l of water).

The study was accompanied by the following biometric accounting and phonological observations of seeds – was determined by the number of sown seeds (%); germination energy – the emergence of seedlings per unit of time (days); start sprouting –(25%); on the day of seeding (day); mass seedling emergence (75%); - the day of the seeding (day), beginning of the formation of lateral shoots on a central stalk (day and Amount); the intensity of the growth of seedlings in the dynamics – by measuring the height of the scent rod trunk vegetation every 30 days for 1 year (see).

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Results of the study. Experimental data presented in table 1 show that the seedbed padlock Solo papaya seed varieties in water with different exposures (8, 16, 24 hours) and IAA solution (25 mg/liter of water) for 8 hours have a definite effect on the germination. Thus, the earliest emergence of seedlings of papaya in the experiment was observed in variants with a lock seeds in water for 24 hours and the IAA for 8 hours. In these embodiments, the experience shoots appeared by 14 and 16 days after sowing in the cassette. In other embodiments, the experience with less exposure of seeds soaking in water, seedling emergence to the previous two versions were later, with a difference of 1-4 days. In an embodiment without seeding shoots appeared seedbed preparation on day 25, that is, the difference to the embodiments steeping, seed for 24 hours in water and IAA solution for 8 hours – 9 days.

Seedbed preparation seed also had an impact on the appearance of mass shoots (75%). Most short, he was observed in variants steeping the seeds in a solution of IAA, where it was 33 days. In an embodiment of steeping the seeds in the water, he was 43-45 days, a lot for 10-12 days. Significantly prolonged the period was in the embodiment where the seeds were not subjected seedbed preparation. Here, the duration of the period of onset of mass germination was 49 days, 16 days longer than optimally experience.

It should be noted shot according to embodiments of the experience observed differences in the intensity of emergence from the time they starts to mass their formation. For dates of observations, the earliest shoots for solo class observed in the variant with seed steeping in a solution of IAA. Here, a high seed germination (7-8%) was observed in 16-17 days after sowing. When clasp seeds in water for 24 hours in a pattern marked on 19-20 day, with the docile intensity of 6 – 7% of the process. Note: in each embodiment, 75 pieces of sown seeds. Sowing the seeds produced, the 02.02.2019 years.

At a lower pre seed extract in water increased the duration of 6-8 days of the onset of this factor and the daily intensity of the process was reduced to 5-6%.

In the variety AdgioBunder, as well as in solo varieties most effective treatment for accelerating seed, germination was padlock them in a solution of IAA (25 mg/of water) and water at 24 hours of exposure. In these embodiments, the earliest experience observed sprouting papaya, respectively at 20 and 14 days after planting. When more exposures at steeping seeds in water 8 and 16 hours, to a longer, delayed appearance of early sprouting for 2-4 days, and for seed treatment in IAA increased to 8-10 days. Latest seedling emergence was observed in the form of crop seeds without presteeping (dry seeds). There seedling emergence was noted only at 31 days after seeding seed. So after seedling emergence in this variant of the experiment you think it is due to the more difficult the penetration of water into the seed (endosperm) through its dense shell. In this connection, the total period of germination for options, experience varies greatly. Note: in each embodiment, 75 pieces of sown seeds. Sowing the seeds produced the 02.02.2020 years.

The minimum amount of time on the appearance of mass shoots (75%) of the class took the plants in variants steeping the seeds in solutions of IAA and water, with an exhibition of 24 hours, 34 and 44 days. It should be noted, however, that embodiments of steeping the seeds in water with different exposures processing significant differences in this factor was observed. On the appearance of mass shoots in the method of preparation of seed varieties AdgioBunder, required 44-46 days. A significant difference in this index was observed in the dry seed sowing embodiment, where 75% of the number of shoots was obtained only on day 52 after seeding them in the cassette.

Most slowly emerged seedlings in varieties of papaya AdgioBunder in the embodiment seed dry seeds 32-40 days. The daily growth of expenditures in this variant of the experiment amounted to 4%. In embodiments of steeping the seeds in the water and he was advancing IAA respectively 21-23 and 16-19 day, with a daily increase of 7 – 8 % germination(pic.1).

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Picture 1. Development of the five – month seedlings of papaya varieties

CONCLUSIONS:

1. Presowing padlock papaya seeds in water with an exposure of 16 and 24 hours, as well as the IAA solution (25mg/l. of water) 8 hours accelerates the, emergence of seedlings to plant dispersed without steeping for 8 – 9 days.
2. Seedbed preparation papaya seeds in optimal treatment options contributes to the intensification of mass emergence. In these embodiments, seeds sprouting processing ends for an average 33 days, while in the case of dry seeding it is 49 days, i.e., 16 days duration.
3. Varietal papaya seedlings more intensively developed in versions pre–seed preparation. Plants of these options in the 5 months of age, reading a height 32.8–44.6 cm, with 13–18 leaves and root mass of 16–17 g. That 11.3–17.3% more seeds of which were sown in substratum dry.

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