

Biology Of Potato Plant, Types Of Pests

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Abstract

The potato plant is an important food, nutritious technical plant in the world's agriculture and occupies one of the most important places among all the products grown in agriculture. It is usually propagated vegetatively. Harmful organisms (pests, diseases and weeds) that damage the potato plant in the conditions of the republic have a negative impact on plant growth and high yields.

Keywords: pest, larva, vegetation, dominant, temperature, infection, fungus, spores, disease, microorganism;

Introduction

Potato is a perennial herbaceous plant, but people have turned this crop into an annual because of their needs. Potato crop is of national food, fodder and technical importance. The world is a world leader in agriculture, along with potato rice, wheat and corn. Farmers and farms of the Republic of Karakalpakstan have been growing not only grain, wheat and melons, but also potatoes for many years. The potato plant is an important food, nutritious technical plant and occupies one of the most important places among all the products grown in agriculture. It is usually propagated vegetatively.

Potatoes belong to the family Solanaceae and belong to the 4th generation of Solanum, of which Solanum tuberosum 4 is the most common. The stem of the potato grows almost upright, sometimes bent. The stems are green, some varieties are reddish-brown. Stems angular, 3-4 ribbed, up to 150 cm tall. Gives 5-8 stems

from one end. Potato stalks are divided into two groups according to branching. In early maturing varieties the stems do not branch from the bottom, in late maturing varieties the stems are strong and tall. In the terrestrial part of the stem emerges from the buds varied, varieties-stolons, white thick plants, forming up to 3 buds from each eye.

Research Methods

With the growth of potato varieties in the field, an average of 100 plants (5 plants out of 20 samples) were considered by the end of the growing season, taking into account the pest and disease species encountered. Bioecological development and dynamics of dominant species were studied (B.P. Adashkevich, 1983, VIZR, 1986, Tashkent, 1994; Khodjaev et al. 2004; 2012).

Results of the study

Potatoes are grown in countries with mild climates, this plant belongs to the types of crops that adapt quickly to different soil-climatic conditions. The period of growth and development of potatoes is divided into 3 periods.

1. The period from germination to flowering of potatoes. During this period, mainly the aboveground stems grow rapidly, the growth of the ends is almost not observed.

2. The period from flowering to the growth of the stem to the cessation. During this period, nodules are formed and grow rapidly.

3. The period from yellowing of potato stalks to natural drying, ie ripening of the end. By this time the tubers grow more slowly than in the second period.

These periods are different in all varieties. In early maturing varieties, the first period is 32-36 days, the second period is 26-28 days, the third period is 25-26 days, depending on soil climatic conditions. In medium-ripe varieties it takes 28-42 days, 36-43 days for the second period, 43-45 days for the third period and 36-40 for the third period.

Potato tubers begin to flour at an air temperature of 6-70 C. But the germination of potatoes takes a long time. When the air temperature is 37-40 C, the stalk also stops growing.

The reason why potato chips are widely used in food is that they contain carbohydrates, proteins, mainly starch, vitamin C, mineral salts, iron, calcium and other substances that are well absorbed by the human body. The amount of vitamin C in the raw material reaches 40% mg / ha.

The young stalks of potatoes contain 84% water. The finished composition consists of 75% water and 25% dry matter. Dry fashion series 1% mineral compound, 1% fiber 1.2-3.0% protein, 0.7% amino acid, starch 14-22%, sugar 0.9% pectin 0.7% organic acids-0, respectively 2%, fat-0.1% and other substances 1.5%.

The package contains vitamins: RR (0.57 mg,) V-1 (0.11 mg,) V-2 (0.06 mg,) V-6 (0.22 mg), and the maximum amount of vitamin C is 40 mg. reaches unripe young shoots are very rich in this vitamin.

To grow a high-quality product from the potato plant, we must first rid the potato of pests, diseases and weeds. To do this, it is important to implement proper agronomic measures. In the implementation of agro-technical measures should be autumn tillage, deep plowing. As a result, pests that have penetrated the soil will die as a result of their emergence to the surface.

Among the harmful factors of potatoes are potato diseases. One of the main diseases in Karakalpakstan is phytophthora.

Potato phytophthora is caused by the fungus *Phytophthora infestans*. *Phytophthora* remains the most dangerous disease in many potato-growing countries, as well as in Uzbekistan (Zaprometov, 1974; Hakimov et al., 2005), but its distribution in potatoes and its effect on yield have not been sufficiently studied. The disease is transmitted during flowering plants. On the leaves appear spots resembling burns in boiling water, which after a few days turn brown or dark

brown with a narrow yellow border. In humid weather, the spots under the leaves are covered with a layer of soft, thin, leaky light gray mold. The spots pass on the leaf blade, stem and stem, spread rapidly and develop, can kill the plant in a few days. Fungal spores that fall to the ground with rain from leaves and other organs infect potato tubers, on which visible grayish brown, then sunken, dark brown necrotic spots appear; If the end is cut, rust decay can be observed in the tissues of the peripheral parts. Such lumps quickly and completely decompose under the influence of secondary microorganisms during storage in warehouses.

For the development of the disease, frequent rain or dew, the air temperature should be 100 C or higher, a temperature of 20-250 C is a favorable condition. The fungus overwinters in plant debris. Infected potato tubers are a major source of infection. The disease is also spread from potatoes and tomatoes in the fields to the bird in the crop. There are different breeds of pathogenic fungi and potato varieties are affected by them to varying degrees. Under the influence of phytophthora, 30-40% of the crop can be lost (Buriev et al., 2002).

The main pests of potatoes: *Gryllotalpa gryllotalpa*, Agriotes, May beetle (*Melolontha hippocostani* F.), autumn beetle (*Agrotis segetum*, Denosh et blof), root rot of the main pests found in the soil due to the fact that the fruits of the potato plant are underground.) offspring, while the adult phases of the earth's surface, branches, leaves, and fruits are infected by the red-headed eel (*Epicauta erythrocephala* Pall.). In recent years, potato moth (*Phthorimaea operculella*) has also been found in Karakalpakstan.

Belonging to the family Elaterilae, there are more than 500 species of beetles in the world. Simkurts are the larvae of beetles that click. Simquards are found in soils with more severe mechanical and physical properties and reproduce once every 2-3 years. During this period, along with various organic debris, the plant roots (especially during the growing season) and later the stem are gnawed and damaged by the bottom. As a result, the stalks of vegetables, potatoes and other

crops turn yellow, stop growing and dry out. Overall productivity decreases sharply.

Conclusion

In the autumn and during the growing season of the plant to carry out high agronomic work and improve the physical condition, softening the bush against black beetle larvae. This is done when more than 1-2 larvae are detected in each m² where the plants are placed. To do this, spraying with pyrethroid insecticides, especially detsis (0.7 l / ha) using a tractor, followed by cultivation or watering gives good results. In greenhouses it is necessary to pour 100–150 ml of the prepared solution under the seedlings.

As a result of current research, Santa, Dosim and Black Potato varieties of early ripening varieties have been planted in the fields near Tashkent State Agrarian University and near house. From early spring, the field was planted as a second crop after winter wheat. The results of research have now begun to bloom potatoes. Due to the field after the wheat field, the seeds of the hasva pest, one of the wheat pests, were shed on the potato leaves. At present, we are trying to find out whether the larvae of hawthorn seeds, which are wheat pests, can damage the potatoes by sticking to these potatoes.

References

1. Recommendations for the technology of aeroponic cultivation of seed potatoes, disease and pest control Tashkent-2018
2. Potato growing. V.I.Zuev, H.Ch.Buriev, O.Qodirhojav, B.B.Azimov Tashkent-2018
3. E.Shoreniyazov, A.R.Uepbergenov, E.G.Eshmuratov Tashkent -2017