

## Potato Mosaic Leaf Curl Virus

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### Abstract

This article provides information on potato mosaic leaf curl virus disease, its symptoms and control measures.

**Keywords:** protect plants, diseases and pests, climate change, viruses, disease symptoms, potato mosaic virus.

### Introduction

One of the many global problems facing the world today is the ability of each country to meet the food needs of its population. These problems can be achieved through the development of food and agriculture sectors.

Since the independence of our country, great attention has been paid to measures to protect plants from various diseases and pests, and a number of laws and regulations have been adopted in this regard, including

It is possible to enumerate the Laws of the Republic of Uzbekistan "On Plant Quarantine" and a number of others.

Changes in agricultural landscape, cultivation of crops management, intensification and the introduction of alien plant species through climate change lead to the emergence of infectious plant diseases. As an agent of plant viruses, it has a serious and fatal effect on such pathogens [1].

Potatoes can be infected with many different viruses, which reduce the quality and yield of the tuber. Potato mosaic virus is one of the diseases with many diseases. Potato mosaic virus is divided into three categories. The symptoms of different potato mosaic viruses can be similar, so the true type cannot usually be identified by symptoms alone and is often called potato mosaic virus. Still, it's important to recognize the symptoms of potato mosaic and learn how to treat potato mosaic virus.

Types of potato mosaic virus.

As mentioned above, there are different types of potato mosaic virus, each of which has similar symptoms. An indicator plant or laboratory test should be used for positive identification. With this in mind, the diagnosis can be made by leaves with a mosaic pattern, short stature, deformations of the leaves and tuber malformations.

The three known types of potato mosaic virus are Latent (Potato virus X), Mild (Potato virus A), Rugose, or Simple mosaic (Potato virus Y).

Symptoms of potato mosaic.

Latent mosaic, or Potato virus X, may not show visible symptoms depending on the strain, but infected tubers may be reduced. Other strains of hidden mosaic show light leaf mottling. When combined with potato virus A or Y, there may also be dulling or reddening of the



leaves [3].

In potato virus A (mild mosaic) infection, plants are slightly stunted and have a mild yellow color. The edges of the leaves can be wavy and look rough with sunken veins. The severity of symptoms depends on the strain, variety and weather conditions.



Potato virus Y (Rugose mosaic) is the most severe of the viruses. Symptoms include blackening or yellowing of leaflets and curling, which is sometimes accompanied by leaf drop. There are often necrotic areas on the underside of the leaves, which appear as black stripes. Plants may be stunted. High temperature increases the severity of symptoms. However, symptoms vary widely among potato varieties and virus strains.

Potato Y-virus (KYV) is common in many regions where potatoes are grown and causes disease symptoms such as linear mosaic (poloschataya) and mosaic curl in the plant. KYV is transmitted mechanically and stored in the potato nodule, and in natural conditions it is spread as a result of plant organs touching each other and with the help of a number of plant lice

Potato mosaic virus management

Potato virus X can be present in all potato cultivars unless certified virus-free rootstock is used. This virus is spread mechanically through machinery, irrigation equipment, root-to-root or seedling contact, and other horticultural tools. Both A and Y viruses are transmitted by tubers, but several types of aphids are transmitted. All these viruses overwinter in potato tubers. [1,2,4]

Once a plant is infected, there is no way to eradicate the disease. It must be removed and destroyed.



To avoid infection, use only seeds that are certified virus-free or have few infected tubers. Always keep your garden tools as clean as possible, practice crop rotation, weed and control aphids.

### CONCLUSION

Due to the fact that the above-mentioned potato viruses have not been fully studied by researchers, every year the potato industry, among many other areas of food production around the world, suffers a huge economic decline. Therefore, taking into account the increasing needs of the population for food products based on today's demand, it is urgent to study potato viruses and their harmful effects using international methods, as well as measures to combat them and create new resistant varieties.

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