

UDC 632.8

## ANALYSIS OF METHODS FOR DETECTING PHYTOPHTHORA, MILDEW DISEASES OF TOMATOES AND CUCUMBERS IN GREENHOUSES

**Saydinabi Xasanov**

*Doctor of Agricultural Sciences, Tashkent State Agrarian University, Uzbekistan*

### ABSTRACT

*This article provides an analysis of the most common disease in tomato and cucumber plants grown in greenhouses in the Tashkent region of the Republic of Uzbekistan and measures to combat it also provides analysis of methods for detecting phytophthora, mildew diseases of tomatoes and cucumbers in greenhouses in Uzbekistan.*

**KEYWORDS:** *tomato, cucumber fungal diseases, phytophthora, plant susceptibility, disease development, mildew diseases.*

### INTRODUCTION

In the process of conducting scientific research, methods developed by mature scientists who have worked and are still working in the field of mycology, phytopathology and plant protection against diseases were used. In particular, the methods of N.A. Naumov, M.K. Khokhryakov, I.A. Dudka, S.P. Vasser, I.A. Ellanskaya and others were used in the collection of herbarium samples from tomato and cucumber plants infected with fungal diseases. The methods of N.A. Naumova, A.Ya. Semenov, A.P. Abramova, M.K. Khokhryakov and others were used in the separation and identification of fungal species from the seeds of tomato and cucumber plants. V.G. Transhel, N.M. Pidoplichko, A.I. Kursanov, V.I. Bilay, M.K. Khokhryakov, T.A. Dobrazrakova, K.M. Stepanov, M.F. Letova, M.A. Litvinov and other scientists used the identifiers, systematic locations of fungal species from the monographs Saccardo, GCAinswort, DLHawksworth, GRBisby. The level of disease development is determined by the methodological guidelines developed by the staff of the All-Union Institute of Plant Protection, the damage caused by diseases I.A. Dudka, S.P. Vasser, I.A. Ellanskaya and others, A.E. Chumakov, T. in determining the level of disease prevalence. I. Zakharova's methods, N.V. Popkova and V.A. Schmiga's monograph was used. Statistical analysis of the results of their experiments was carried out using the methods of B.A. Dospekhov.

• The main diseases of tomato and cucumber crops in the greenhouses of Tashkent region

have been identified and effective measures have been developed and implemented against them.

- The biological and economic effectiveness of fungicides applied to the main diseases of tomato and cucumber crops in the greenhouses of Tashkent region was determined.

- Tolerance of tomato and cucumber varieties to major diseases was determined.

- Based on the results of the ban on the control of fungal diseases of tomato and cucumber plants:

The recommendations of the study were introduced in some greenhouses with tomatoes and cucumbers in greenhouses in Kibray, Yukori Chirchik, Middle Chirchik, Lower Chirchik, Zangiota, Bekabad, Boka, Akhangaron, Parkent, Piskent districts of Tashkent region. Based on the results of research on the control of fungal diseases of tomato and cucumber plants:

- Previkur SL 722 s.e.k. 1.5 l / ha, Ridomil Gold MTs 68% s.e.g. 2.5 kg/ha, Maxim 2.5% sus.k., Vitavaks 200 75% n.kuk. The method of application of the fungicide at the rate of 1.5 liters was introduced in greenhouses in Kibray, Upper Chirchik, Middle Chirchik, Lower Chirchik, Zangiota, Bekabad, Boka, Akhangaran, Parkent, Piskent districts of Tashkent region on a total area of 10 hectares (Ministry of Agriculture August 10, 2020 Reference number 07/23-655). As a result, Previkur SL 722 s.e.c. 1.5 l / ha and Ridomil Gold MTs 68% s.e.g. When 2.5 kg / ha of fungicides are applied at the rate of 1.5 l / ha and 2.5 kg / ha, the additional yield is 80.0 ts / ha and 90.0 ts / ha

per hectare, and the yield is 697.0% and 677, respectively. 0%.

Maximum 2.5% sus.k against fusarium wilt and root rot diseases in greenhouses of cucumber plant. and Vitavaks 200 75%. When applied at the rate of 1.5 l / ha and 2.5 kg / ha of fungicides, the additional yield was 50.0 ts / ha and 33.0 ts / ha per hectare, and the yield was 672.0% and 810.0%, respectively. (Reference of the Ministry of Agriculture dated August 10, 2020, No. 07/23-655).

In recent years, one of the main challenges in this area is to identify the species routines of pathogens, an in-depth comprehensive study of their bioecological characteristics, in particular the development of measures to control the incidence of plant diseases using selection methods. Of course, a positive solution to this problem requires a lot of time and will from scientists. Nevertheless, scientists have made great scientific strides in this area as well. As a result of the application of genetic engineering methods in selection work, they have discovered disease-resistant varieties of tomato and cucumber crops, critically reviewed the species and families of fungi that cause the disease, and published new identifiers. (The article, published by Simmans and other authors in 1967-2007, can be seen in his monographs). Thus, scientific research has been conducted by scientists in almost all foreign countries, including the Russian Federation.

To describe the morphological characteristics of pathogenic fungal species, we prepared drugs from spots and dust formed in the diseased tissues of the plant.

To do this, we put a drop of sterilized water on the glass of the vessel, took the fungus with a microbiological hook in front of the flame of an alcohol lamp, put it on the water and covered it with a cover glass and transferred it to a small, if necessary large object before the microscope.

In it we wrote a full description of the morphological features of mycelium, conidia, conidia, chlamydospores and fruit bodies, as well as the shape and color of their sacs and spores.

To describe the sacs and sacs that form inside the fruit bodies of the fungus, we pressed the cover glass on the glass of the item a little from the top, crushed them, and then wrote the recipes.

To determine the size of the members of the fungus formed during growth and development, we measured 25 of each member and recorded it in the diaries. We then calculated their average number.

MBI-2, MBI-3, MBI-6, MBI-15 to identify fungal species isolated from diseased plants. We used universal NU 2E and Motic-1 microscopes to study the morphological characteristics of the species composition of the isolated fungi.

## REFERENCES

1. Avazov S.E. *The main plant diseases // Plant protection and quarantine.* -2019. -P.19-22.
2. *Handbook of vegetable growing, melon growing and tomato growing* -Toshkent: Mekhnat, 1986.-200 p.
3. Xolmuradov E.A. *Plant pathology.* // Navruz. -2014. -P. 128-130.
4. Khasanov B.A., Ochilov R.O., Gulturodov R.A. *Сабзавот, картошка ҳамда полиз экинларининг касалликлари ва уларга қарши кураш.* –Tashkent: VORIS-NASHRIYOT, 2009. -214 p.
5. Новотельнова Н.С., Пыстина К.А., Голубева О.Г. *Пероноспорозные грибы – патогены культурных растений в СССР.* – Л.: Наука, 1979. - 151 с.
6. Пидопличко Н.М. *Грибная флора грубых кормов* - Киев: АНУССР, 1953. - 300 с.
7. Пидопличко Н.М. *Грибы паразиты культурных растений. в III томах.* – Киев, 1974-1978.- С. 43.
8. Попкова К.В. *Общая фитопатология.* – М.:Дрофа, 2005. - 446 с.
9. Попкова К.В., Шмыга В.А. *Методы определения болезней и вредителей с/х растений.* – М.: Агропромиздат, 1987. - 223 с.