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Mycoplasmosis of plants and its serological diagnostics.

Goal. Establish the possibility of using the complement complement binding (RPC) to intensify and diagnose phytopathogenic strains of mycoplasmas. **Methods.** For the distribution of antigenic properties of mycoplasmas, isolated from various infected plants, the reaction of binding of the complement is used. **Results** It has been shown that the parasitization of mycoplasmas on different plants is not a prerequisite for their serological secretion. **Conclusions** RPC is a promising method for the preliminary identification and diagnosis of phytopathogenic mycoplasmas.

Key words: mycoplasmosis, phytomycoplasma, antigenic properties, specificity, heterogeneity, serotypes, complement binding determinants.

The explosive evolution of the pathogens covered all the brooms of alfalfa, jaundice, dwarf, dwarf biosphere. This is due to its peculiarities: mulberry leaf, apple tree proliferation, and others. It occurs in all directions, but the greatest damage to the agricultural crop is realized where the open plants of the plant cause such diseases: a free niche. Due to the fact that biosphere control-bulk grain crops, apple tree proliferation and trunk mechanisms no longer work, it is an open tomato [3, 8]. During epiphytotium there is a niche for spreading (on the ascending) and the basis of mass defeat by the trunk not only a volumetric explosion of infections. Unfortunately, Ukraine, in particular, eggplant, belongs to the peritons, but also to pepper, potatoes and, to a lesser extent, lions of evolution. In addition, all organs and the spread of mycoplasma infections are affected [9]. Plants, resulting in infected plants Modern scale explosive evolution na-fade and die. One of the most harmful pathogens of the planet forced to put priority diseases of plants is also BKK wheat, the only purpose is unconditional preservation of the available which leads to 60-80% of harvest losses, natural systems and their diversity, special-mycoplasma disease proliferation of the microbial strain. The aggregate of the biological weight of apple - to reduce the yield of sensitive microorganisms (biom and metagenome), especially varieties by 50-87%. Taking into account the considerable ground, it is important because it focuses on the spread of mycoplasmosis and their harmfulness, but 95% of the entire pool of microorganisms, almost for agricultural plants, is as much as multicellular organisms. From the question of ways to prevent the loss of vital activity of microorganisms depends on the crop from these pathogens [1, 10]. All higher living beings in both a positive and non-important and necessary prerequisite for a preventive understanding [5, 7]. The development of the spread of mycoplasma infection and mycoplasmosis is causing great damage to the growing and subsequent loss of crop is timely identification. Loss of crop from mycoplasma fiction and diagnosis of these pathogens. Diseases for favorable conditions for pathogens One of the main and priority sero achieves more than 25%. At present, more than logical methods are known for identifying antigens of 70 plant diseases for which the mycoplasma is proven to be the application of the binding of the mycoplasma nature [3, 4, 8]. The complement (RPC), which allows the use of the most common mycoplasma diseases to augment this reaction not only for identification: tomato barrel, corn dwarf, cation mycoplasmas, but also for diagnostic yellow dwarfish rice, whitening of leaves of tsu-goals [11] RBC is the most common in blood cannibal serology, pale green dwarfism of the mycoplasma of animal and human infections, for their (BZK) grains, clover phallodes, witch identification and differentiation [2, 6, 11, 12].

1. Origin of isolated strains of phytopathogenic mycoplasmas

The purpose of the research is to determine the possibility of using RPC for the identification and diagnosis of phytopathogenic mycoplasmas. **Research methodology.** Used by the complement reaction binding. **Research results.** For the selection of strains of phytopathogenic mycoplasmas as antigens for the

immunization of rabbits, their origin was taken into account (Table 1). As a result of conducting a comparative analysis of antigenic interactions of phytopathogenic mycoplasma with reference strains in RPC, it was established that all isolated strains differ in immunogenicity, as shown by the titres of the sera received for them (Table 2). When studying the antigenic properties of strains, phytomycoplasty in RBC revealed that individual strains have a fairly complex antigenic structure and, in a number of cases, the titres of reactions coincide with the homologous titers. Thus, it was established that strains of phytopathogenic mycoplasmas 13, 15, 66, 84 and 118 in RPC had rather high titres with the majority of serum received, indicating that they had common complement-binding antigens. In the case when it was not possible to receive sera that would react in high titers in the homologous RZC system (serum to strains 51, 82 and 173), such sera reacted more specifically in the heterologous system, since fewer cross-reactions were observed (see Fig. Table 2). Consequently, the use in higher-titers of serotypes in heterologous systems allows the detection of a greater number of common antigens that respond to RCCs as species-specific. During the establishment of cross-reactive RZCs between the strains of mycoplasmas, which were used for immunization of rabbits, and the raw cheeses obtained there, antigenic interrelations between individual strains of phytopathogenic mycoplasmas were detected. It has been established that the parasitization of mycoplasmas on different plants is not a prerequisite for their clear antigenic delineation, since the strains of mycoplasmas isolated from different plants in the RPC are presented as identical or very similar in antigenic terms. In the case of the use of the same serum, but with strains to which sera were not obtained, low titers were detected in the RPC (see Table 2). Particularly you should divide the serum into strains 51 and 173, which in most cases did not react with other phytomycoplast strains or reacted only with some of them in low titres. However, the antigens of the abovementioned strains reacted with other sera quite often and in high enough titres.

2. antigenic properties of strains of phytopathogenic mycoplasmas in zh

This suggests that strains 51 and 173 can not be completely characterized in RPC due to low titres in the homologous system. Consequently, the specificity of RPC during the study of phytomycoplasty with the use of high-level immune serum increases with an increase in its sensitivity. At the same time, RZCs found common antigens that do not allow to differentiate phytomycoplasta at the strain and species levels, but it is possible to differentiate them at the level of the family and family. Thus, the phytomycoplasta secreted in strains in the overwhelming majority are representatives of the family Achleplasmataceae, and not Mycoplasmataceae. The presence in several strains of a large number of cross-reactions can be explained only by the diversity of their antigens, which have many complementary binding determinants in common with other strains. Consequently, according to the intensity of RPC, the number of reactions in the highest titre in heterologous systems and the differences in the composition of the antigens of the strain group can be divided into 4 serotypes: I - strains 51, 66, 84, 118, 103, 153, 141; II - 101, 102, 178; III - 13, 82; IV - strain 173. According to its antigenic properties, the representatives of the first two serotypes belongs to Typhoid achleplasm with a certain specialization to plant-nutrients. This means that one of the pathogens may be found in the baccaureate of cereals and the tomato barrel, but different serotypes specific to each disease. Thus, representatives of the I serotype parasitize mainly on cereals, II - are the triggers of the trunk of tomatoes. At the same time, representatives of the I and II serotypes are of the same type. The presence of serological affinity in the strains of serotype III indicates that diseases such as chicken filoids, the reversion of currant in different plants may be caused by the same or related pathogens.

Conclusion

RPC is a promising method for investigating pathogens of mycoplasmosis of plants. Forward identification and diagnosis. The use of RPC is the first and most necessary phytopathogenic mycoplasma, which can be a step to prevent the spread of mycoplasmas-used for epidemiological language infection both in Ukraine and abroad.

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