

## ***PSEUDOMONAS SYRINGAE* – THE AGENT OF SORIZ BACTERIAL SPOTS**

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Due to climate change, in particular, an increase in average temperature and a decrease in rainfall, drought-resistant crops such as sorghum family are promising for cultivation. Varieties and technologies for growing a new cereal crop from the sorghum family, Soriz, are being improved in Ukraine. At the same time, it is necessary to perfect the identification of pathogens of the sorghum family since the spectrum of phytopathogens changes with the introduction of new crops and changes in their growing conditions.

The aim of the work was to monitor sorghum crops in the Cherkasy region of Ukraine for the detection of bacterial diseases; isolation of pathogens and the study of their main biological properties. For this purpose, generally accepted phytopathological, microbiological and biochemical methods were used. *Pseudomonas syringae* (*P. holci*) 8300 and a type strain of *P. syringae* UKM B-1027<sup>T</sup> were used as control strains from the collection of the Department of Phytopathogenic Bacteria of IMV NASU.

It was found that the main bacterial disease of soriz is bacterial spotting. 7 isolated bacterial isolates were selected for research of biological properties and identification. When artificially infected with isolates from soriz and sorghum crops, it was found that all of them showed high aggressiveness on soriz, grain, and sugar sorghum, as well as Sudan grass, field horsetail, and trailing bindweed.

Isolates from soriz are Gram-negative motile rods, do not form spores, have no oxidase, show no protopectinase activity, do not reduce nitrate, do not form hydrogen sulfide and indole, do not use glucose anaerobically, and lactose, rhamnase, maltose, dulcitol, inulin and salicin, yes as well as *P. syringae* 8300 and *P. syringae* UKM B-1027<sup>T</sup>. All strains produced a fluorescent pigment, caused a hypersensitivity reaction on tobacco and used glucose, galactose, fructose, arabinose, mannitol, glycerol and citrate, variable – sucrose, sorbitol, inositol. However, isolates from Soriz and *P. syringae* 8300 did not use raffinose, unlike the type strain. Most of the isolates from Soriz ferment trehalose, only two isolates had gelatinase, as *P. syringae* 8300 and *P. syringae* UKM B-1027<sup>T</sup>. According to the data of NEFERMtest 24 (MikroLaTEST, ErbaLachema), isolates from Soriz, like collection strains, did not produce urease, ornithine decarboxylase, lysine decarboxylase, acetamide, N-acetyl- $\beta$ -D-glucosaminidase,  $\gamma$ -glutamyltransferase, but had phosphatase and  $\beta$ -glucosidase, and hydrolyzed esculin.

So, in terms of morphological and biochemical properties, the isolates from Soriz were identified as *P. syringae* van Hall 1902. The isolates differed from each other in some characteristics, but most were similar to the type strain *P. syringae* UKM B-1027<sup>T</sup>. The above differences do not go beyond the biological properties of the *P. syringae* group, for which heterogeneity in the use of some sources of carbon nutrition was noted.