Lepoivre (1977), supplemented with sucrose as a carbon source, agar as a gelling agent, and plant growth regulators, specifically 6-benzylaminopurine (BAP) and indole-3-acetic acid (IAA), to stimulate shoot proliferation. The pH of the medium was adjusted to 5.5 prior to sterilization. Cultures were maintained under controlled environmental conditions, with a temperature of 25°C, a 16-hour photoperiod, and photosynthetic photon flux density of 150 µmol/m^2/s^1, ensuring optimal growth and development of explants.

Successful establishment of aseptic cultures was achieved across all tested genotypes, with visible shoot regeneration occurring within three weeks of cultivation. Multiplication was carried out using multi-nodal stem segments, which proved significantly more effective than single-node explants due to their higher regenerative capacity. The growth dynamics were influenced by both genotype and culture conditions, with some rootstocks exhibiting faster shoot proliferation compared to traditional cultivars.

The results confirm that careful optimization of sterilization procedures, medium composition, and environmental conditions are essential for successful establishment and propagation of grapevine *in vitro*. The optimized protocol enables efficient introduction and multiplication of diverse grapevine genotypes, including wine varieties and rootstocks, while minimizing contamination and physiological stress.

In conclusion, the presented methodology provides a practical and reproducible approach for the *in vitro* propagation and conservation of grapevine genetic resources. Its application contributes to safeguarding valuable genetic material, supporting breeding and research activities, and enhancing the sustainability and resilience of viticulture under changing environmental conditions.

UDC 633.34:632.4
Krukovskyi R. D.*, postgraduate student
Pikovskyi M. Y., Doctor of Agricultural Sciences, Professor of the Department of Phytopathology named after Academician V. F. Peresypkin
National University of Life and Environmental Sciences of Ukraine
*e-mail: r.krukovskyi@nubip.edu.ua

MORPHOLOGICAL CHARACTERISTICS OF THE MICROMYCETE *DIAPORTHE CAULIVORA* (ATHOW & CALDWELL) SANTOS ET AL.

Soybean (*Glycine max* (L.) Merr.) is one of the main legume crops in the world and in Ukraine. At the same time, its productivity is largely limited by damage by phytopathogenic fungi, among which representatives of the genus *Diaporthe* occupy an important place. In particular, the fungus *Diaporthe caulivora* (Athow & Caldwell) Santos et al. (*Diaporthe phaseolorum* var. *caulivora* Athow & Caldwell) is the causative agent of soybean stem canker, which causes necrosis of the stems with the appearance of dark brown spots on them, yellowing and wilting of the leaves. This leads to a decrease in plant yield and seed quality. Despite a significant number of studies conducted abroad, the issue of morphological identification of this pathogen in Ukrainian conditions remains relevant.

The aim of the study was to investigate the morphological features of the fungus *Diaporthe caulivora* in laboratory conditions.

The study was conducted in the problematic research laboratory «Mycology and Phytopathology» of National University of Life and Environmental Sciences of Ukraine. Pure cultures of the pathogen were obtained by isolation from affected tissues of soybean stems with subsequent cultivation. Potato glucose agar (PGA) was used to grow the fungus. Morphological studies were carried out using a light microscope using an ocular screw micrometer MOV-1-15^x. Measurements were performed on previously prepared micropreparations with subsequent statistical processing of the obtained data.

During the study, it was found that *D. caulivora* forms a well-developed septate mycelium, which has a white color, over time acquires a darker shade, from grayish to olive.

Pycnidia are formed in the affected tissues of the plant and on the nutrient medium. They had a spherical shape, dark in color. Their diameter varied within 162–201 µm. *α*-conidia were also found – colorless, ellipsoidal or oval in shape. Their size was 6,5–8,5 × 1,9–3,3 µm. *β*-conidia, 19,5–23,5 µm long and 0,8–1,2 µm wide, were also observed.

Thus, the fungus *D. caulivora* is characterized by typical morphological features, including the formation of pycnidia and pycnospores. Their shape and size generally correspond to the literature data, but are variable under different conditions. The results obtained confirm the feasibility of using morphological analysis as an important stage of preliminary identification of phytopathogens of the genus *Diaporthe* on soybean plants.