

MORPHOLOGICAL CHARACTERIZATION OF BEAVERIA BASSIANA (BALS.) VUILL. CONIDIOSPORES BY OPTIC MICROSCOPY AND COMPUTER IMAGING PROCESING AND ANALYSIS SYSTEM. M E Estrada (1), E Niubó (2), M J Rivera (1). (1) National Research Institut Sugar Cane (2) National Centre Scientific Research. Carretera CAI "Martínez Prieto" Km 2 1/2, CP 19390, Havana, Cuba. E-mail: meem@inica.edu.cu

The morphological characterization of *Beauveria bassiana* (Bals.) Vuill. has been defined essentially through description and the measurement of microscopic structures of taxonomy value: the conidiospores, the conidiogenous cells and the conidiospores, as well as the analysis of macroscopic characters as the form and growth the colonies, pigmentation in the culture media, etc [1]; [2]; [3]. For the measures, most researches have used of optic microscopy for the direct observations without exploring the possibilities of the method of optic microscopy through image analysis and processing system. The objective of the present work was the morphological characterization of the conidiospores of *B. bassiana* by means of a computer imaging procesing and analysis system. Conidiospores samples were taken smear from 21 isolates of the hyphomycete grown in complete media, minimum media and Sabouraud dextrosa agar media. The preparations slides with conidiospores were mounted with a lactofenol drop and 10 conidiospores were examined at random for preparations. Ten preparations were observed and the diameter of 100 conidiospores was measured for each one of the isolates. An optic microscope Carl Zeiss (100 X) was used with immersion lens in oil, with video camera (Sony DXC - 151) coupled to a computer with digital similar card converter (Eye Grabber Image Board). The system has a screen for the monitoring and measuring of the image and a second screen for the morphometric image analysis program management (Imacell) supported on Windows. The variation parameters and dispersion were calculated (x, Sx, Min. Máx. and Range) for the diameter of the conidiospores grown in the three culture media. The descriptive parameters for the diameter of the conidiospores agree with those reported by [1] and by [2] for this entomopathogenic species. The results demonstrate that the image analysis and processing system is of great precision, can be carried out quickly, allows the storage of images without deterioration, avoids the observer's fatigue and mensuration errors.

References:

- [1] G, de Hoog, Gen. Nov. Stud. Mycol. (1972) 1:1 - 41.
- [2] R, Humber, Tercer Curso de Control Microbiano de Insectos (1994) 10
- [3] L, Roddam et al., J. Invertebr. Pathol.(1997) 69:285-288.

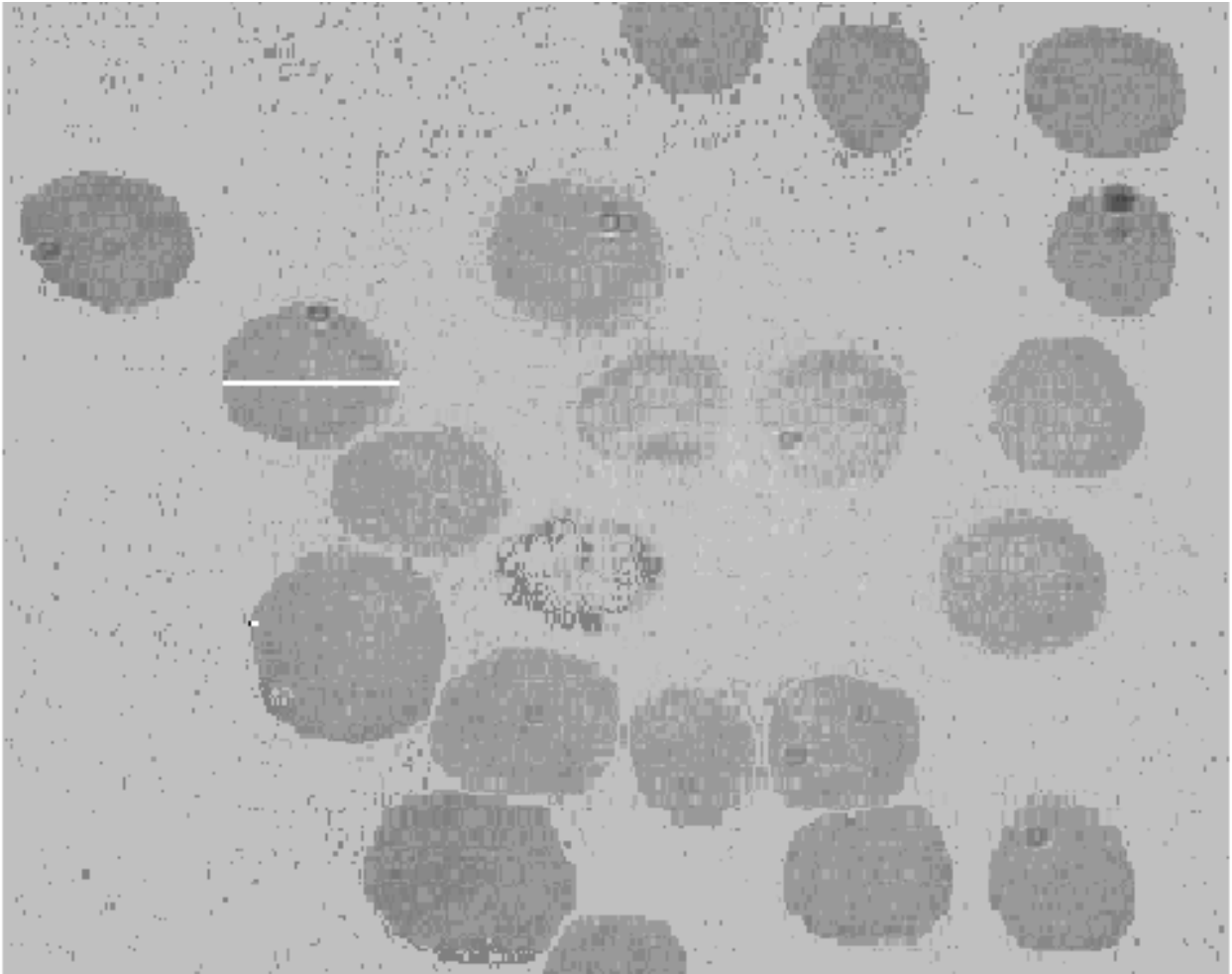


Figure 1. *Beauveria bassiana* (Bals.) Vuill. conidiospores by optic microscopy and computer imaging processing and analysis system.