

## **MORPHOLOGICAL CHARACTERIZATION OF THE GROWTH OF *Rhizopus oligosporus* BY STEREOMICROSCOPY**

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Food microbiology is an area where common tools are used for identification and morphological characterization of different microorganisms involved in food spoilage. Fungus, are identified and isolated considering their shape, edge, texture and pigmentation. In this work, stereomicroscopy, image analysis and fractal dimension of colonial features of *Rhizopus oligosporus* were used as tools for a better and more detailed understanding of colonial growing in solid medium.

*Rhizopus oligosporus* spores were inoculated in Czapek solid culture media at 28 °C. A digital camera adapted to the stereo microscope and was used to capture images of the periphery of colonies. Inverse relationship were observed between the fractal dimension of the edge (FD<sub>E</sub>) and the number of mycelia tips generated. By using image analysis, it as was possible to obtain *skeletons* of the edge of the colony and calculate the average length of the hypha. This value represents the elongation of the fungus on the solid media. Low values of the average length of the hypha were observed when the colony branched and high values when it was growing radially.

It was concluded that both FD<sub>E</sub> and the average length of the hypha were useful parameters towards the morphological characterization of *Rhizopus oligosporus* growing stages in solid media. This research showed the usefulness of stereomicroscopy for developing a descriptive and quantitative model for the growth of *R. oligosporus* on solid media.