

Research Article**A New Modified Gradient Plate Method for Detecting Siderophore Production in Fungi Using Chrome Azurol S (CAS) Agar Assay****Uzma Choudhary¹, Alka Vyas¹ and Harish Vyas²**¹*School of Studies in Microbiology, Vikram University, Ujjain (MP),* ²*Department of Botany, Government Kalidas Girls PG College, Ujjain (MP), E-mail: alka_vyas_in@yahoo.com***Abstract**

Siderophores are secondary metabolites secreted by microorganisms and some plants, when bioavailability of iron is low. Siderophores are low molecular weight compounds having iron chelating capability and they form soluble Fe complexes that can be taken by cell membranes by active transport. Thus, they are important for fulfilling iron requirement of cells. Siderophore producing microorganisms help in promoting plant growth and can also be used for detoxifying heavy metal contamination. So, it is important to identify microorganisms which produce siderophores. A modified CAS assay using agar replacement technique by Milages et al (1999) is currently used for detecting siderophore production in fungi and bacteria. However, this method is inconvenient as it causes breakage of agar and increases chances of contamination during replacement of agar. We have developed a new modified CAS assay gradient plate method for detecting siderophore production by fungi. We have screened sixty fungal isolates for their siderophore producing ability using agar replacement method and identified twenty one fungal cultures which produce siderophores. The siderophore production was tested by both the methods in thirty fungal cultures and results were compared. Our results show that the newly developed modified method described here is more convenient, works equally well, allows clear scoring of results and reduces the chances of contamination during experiments.

Key words: Agar replacement method, CAS assay, fungi, gradient plate method, siderophores**Citation:** Choudhary U, Vyas A and Vyas H. 2020. A new modified gradient plate method for detecting siderophore production in fungi using chrome azurol S (CAS) agar assay. *J Mycol Plant Pathol* 50 (4): 354-361