

## Research Article

**Cultural and Morphological Variability in *Macrophomina phaseolina* (Tassi) Goid. Causing Root Rot of Castor**PV Vekariya<sup>1</sup> and AG Desai<sup>2</sup>

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**Abstract**

Twenty five isolates of *Macrophomina phaseolina* (Tassi) Goid causing root rot of castor obtained from different castor growing areas of Gujarat state were studied for cultural and morphological variability on three different media viz., potato dextrose, Richard's and Czapek's. There was a considerable variation observed among the media as well as isolates. All the isolates differed in respects of mycelial growth (slow, medium fast), mycelial colour (white, whitish grey, blackish grey, black), growth pattern (fluffy, profusely fluffy, flat), dry mycelial growth (less, medium, high), sclerotial size (small, medium, high) and sclerotial shape (globose, oblong, irregular). Mycelial growth of the isolates Mp-16 was slow, Mp-10 was medium and Mp-9 was fast on all the three media tested, while rest of the isolates differed in growth. The isolate Mp-4 produced whitish, Mp-12 produced whitish gray, Mp-2, 3, 8, 10, 21 and 24 produced blackish gray and Mp-16, Mp-25 produced black colour on all the three media tested, while rest of the isolates differed in mycelia colour. On the three media, fluffy growth was observed by Mp-8, 17, 22 and 24, while profusely fluffy by Mp-20 and flat by Mp-16 and Mp-25, while rest of the isolates differed in growth pattern. Isolates Mp-4 and Mp-23 produced higher growth of dry mycelium, Mp-12 produced medium growth and Mp-2 produced lesser growth in all the three media tested, while rest of the isolates differed in the production of dry mycelium. The average length and breadth of sclerotia varied from 81.76 (Mp-4) to 147.46 (Mp-8) and 70.08 (Mp-5) to 113.88  $\mu\text{m}$  (Mp-8), respectively in PDA, while in Richard's agar it varied from 73.37 (Mp-3) to 127.50  $\mu\text{m}$  (Mp-16), and 51.83 (Mp-3) to 102.93  $\mu\text{m}$  (Mp-18), respectively and in Czapek's agar it varied from 67.89 (Mp-10) to 121.91  $\mu\text{m}$  (Mp-15) and 57.31 (Mp-10) to 98.55  $\mu\text{m}$  (Mp-15), respectively. On the base of sclerotial shape, isolate Mp-23 and Mp-25 produced oblong, Mp-16 and Mp-18 produced irregular on all the three media, while rest of the isolates differed in the sclerotial shape.

**Key words:** Castor root rot, culture media, cultural & morphological variability, *M. phaseolina* isolates

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