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Diversity Analysis of different Isolates of *Bipolaris*/*Alternaria* Causing Spot Blotch/Foliar Blight Disease of Wheat

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Abstract—*Spot blotch and foliar blight disease of wheat are very important as these two diseases infect wheat crop one after the other and sometimes in combination. In lower temperature Alternaria and when temperature rises late in the wheat growing season, Bipolaris is found. Different spot blotch and/ foliar blight infected leaves and some cultures were collected from different parts of India. As a whole, 12 isolates were collected and they were morphologically and culturally characterized. Out of 12 isolates, 10 were Bipolaris and named as WB 1 to WB 10. The rest 2 were Alternaria and named as WA1 and WA2. Morphologically the length, breadth and number of septa in the conidia of all the isolates were measured and culturally the growth and sporulation of those isolates in 4 different media like Potato Dextrose Agar, Corn Meal Agar, Czapek's Dox Agar and Oat Meal Agar and in 3 different carbon sources like dextrose, sucrose and starch were found out. Utilizing all these parameters, a dendogram was formed using NTSYSpc 2.1 software (James, 2004) to analyse the diversity as well as similarity among those isolates. In the dendogram, it was seen that out of all the isolates, 5 isolates (WB 1, 5, 6, 7, 8) formed the biggest cluster in which WB 5 and WB 6 has the maximum similarity (89%) and overall similarity was 50%. This may be due to the fact that WB 5 and WB 6 were collected from the same geographical area in Nadia, West Bengal. WA 1, WA 2 & WB 2 formed one cluster and WB 9 & WB 10 formed another cluster in which isolate WA 1 and WA 2 has got the maximum similarity of 75%. This can be explained by the fact that from the microscopic observation these two isolates were found to belong to the same genera Alternaria. WB 3 and WB 4 formed an individual branch each and WB 3 is the most diverse isolate among all the isolates (overall 25% similarity). This isolate was collected from a far distance place i.e. BHU, Varanasi.*

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