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Role of organic amendments on phenol content in potato tubers to manage the black scurf

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ABSTRACT : Black scurf caused by *Rhizoctonia solani* Kuhn is one of the most important tuber borne diseases of potato (*Solanum tuberosum* L.). It is soil and seed borne disease of potato which deteriorates the quality of tubers and hampers the tuber emergence. The disease is also responsible for sprouts killing. Seven treatments were under taken in present study. The healthy and infected tubers were used for the biochemical analysis which carried out in the laboratory of biochemistry. Highest phenol content was observed in organically amended plots, with FYM on N basis as per recommended doses of all crops in the rotation, phenol content 0.132 was recorded in diseased tubers, 0.152 in healthy tubers and lowest disease incidence 11.85% were recorded in the same treatment. The minimum phenol content was observed 0.063 and 0.053 in healthy and diseased tubers, respectively from those tubers were collected from the control plot which showed the maximum disease incidence (25.67%) of black scurf. In healthy tubers maximum polyphenol oxidase (PPO) was estimated (1.13) in organically amended plots with crop residue incorporation + biofertilizers (*Azotobactor* and Phosphobacteria) while, minimum PPO (0.75) was found in control plot. In case of diseased tubers maximum PPO was estimated (1.02) in Crop residue incorporation + biofertilizers (*Azotobactor* and Phosphobacteria) while, minimum PPO content (0.68) was recorded in control plot.

Key Words : Phenol content, polyphenol oxidase (PPO), *Rhizoctonia solani*, incidence**.**