

## Effect of Garlic Powder Extract on Fungi Isolated from Diseased Irish Potato in Bokkos, Plateau State Nigeria

**Authors :** Musa Filibus Gugu

**Abstract :** An investigation was carried out on the effect of garlic powder extract on fungi associated with Irish potato rot in Bokkos, Plateau State, Nigeria. Diseased Irish potatoes were randomly collected from three markets in the study location and fungal species isolated. Isolated fungal species were *Fusarium culmorum*, *Fusarium oxysporum*, and *Pytophthora infestans*. Frequency of occurrence for *Fusarium culmorum*, *Fusarium oxysporum*, and *Pytophthora infestans* was 10%, 34%, and 56%, respectively, using sabauraud dextrose agar, after incubation for 4-7 days. Treatment of *Pytophthora infestans* with garlic powder extract at concentrations of 0.5g/ml, 0.4g/ml, 0.3g/ml, 0.2g/ml and 0.1g/ml showed 100%, 92%, 68%, 32% and 10% inhibition zones, respectively. *Fusarium culmorum* showed 100%, 90%, 40%, 9% and 0% inhibition zones when treated with garlic powder extract at concentrations of 0.5g/ml, 0.4g/ml, 0.3g/ml, 0.2g/ml and 0.1g/ml, respectively. Garlic powder extract concentrations of 0.5g/ml, 0.4g/ml, 0.3g/ml, 0.2g/ml and 0.1g/ml showed 100%, 98%, 55%, 30%, 0% inhibition zones, respectively on *Fusarium oxysporum*. Hence, Restriction of the radial growth of the fungal colonies suggests a good antifungal effect of garlic extract. This can be integrated into the treatment of fungal diseases of Irish potato in Bokkos, Nigeria, as this will help to reduce the indiscriminate use of fungicides, especially in an environment with a struggling economy.

**Keywords :** fungal rot, garlic extract, inhibition zone, Irish potato

**Conference Title :** ICMAFS 2020 : International Conference on Multifunctional Agriculture and Food Security

**Conference Location :** San Francisco, United States

**Conference Dates :** September 24-25, 2020