

Research Article

Altered Disease Ecology of Elephant Foot Yam (*Amorphophallus paeoniifolius*) as Influenced by Sowing Dates and Nitrogen Sources in the Shiwalik Foothills of Punjab

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Abstract

Collar rot is a major ecological constraint limiting the productivity of elephant foot yam (*Amorphophallus paeoniifolius*) in the Shiwalik foothills of Punjab. To evaluate how sowing dates and nitrogen sources influence crop performance and disease incidence, a field experiment was conducted during the rainy season at PAU Regional Research Station, Ballawal Saunkhri. The study was laid out in a randomized block design with three replications, comprising three sowing dates (10 April, 10 May, and 10 June) and two nitrogen regimes (100% N through farmyard manure [FYM] and 50% N through FYM + 50% N through urea). Observations on plant height, corm weight, corm yield, and collar rot incidence were recorded. Sowing on 10 May consistently minimized collar rot occurrence while producing taller plants (88.5 cm), heavier corms (1.55 kg), and the highest yield (57.9 t ha⁻¹). Among nitrogen sources, integrated application of FYM and urea proved superior, resulting in greater plant height (85.3 cm), corm weight (1.38 kg), and yield (52.2 t ha⁻¹), with reduced disease incidence compared to sole FYM application. These findings demonstrate that timely sowing on 10 May, coupled with integrated nitrogen management, effectively alters the disease ecology of elephant foot yam by suppressing collar rot and enhancing productivity under Shiwalik foothill conditions.

Key words: Collar rot, corm yield, elephant foot yam, farmyard manure, sowing dates, urea

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