ABSTRACT

Chili pepper (*Capsicum annuum* L.) is one of Indonesia's important horticultural commodities whose production is often constrained by seed borne pathogenic fungi. These pathogens can reduce germination rates, cause seeding death. And lower yields. This study aimed to detect and identify seed borne pathogenic fungi in several chili varieties and to assess their pathogenicity levels. The research was conducted at the Laboratory of Plant Pests and Diseases, Faculty of Agriculture, Malikussaleh University, North Aceh, from March to July 2025, using eight chili varieties. Methods included the *blotter test* with and without surface sterilization using 1% NaOCl, and testing on PDA media. Fungal identification was based on macroscopic and microscopic characteristics. Results showed that the highest germination rate was recorded in the Farux F1 variety (95,33%), while the lowest was in CMK Klope (23,33%). The highest infection rate occurred in the Udeng variety (25,33%), and the lowest in Perintis and CMK Klope (4,66%). Identified fungi included *A. flavus*, *A. niger*, *Penicillium* sp., *Rhizopus* sp., *Curvularia* sp., and *Fusarium* sp. Pathogenicity tests revealed that all isolates could cause disease symptoms in seeds and seedlings, such as rot, necrosis, growth inhibition, and seedling death. In conclusion, early detection and seed surface sterilization are effective in suppressing seed borne fungal infections, thus potentially improving seed quality and viability in chili production.

Keywords: blotter test, *Capsicum annuum* L., identification, pathogenicity, seed borne fungi.