ABSTRACT

Corn (*Zea mays* L.) is one of Indonesia's food commodities as a source of carbohydrates because it has high nutritional content. The decline in corn production is due to seed-borne pathogens that can be detected and identified through seed health testing, which is an important method for determining disease control strategies and preventing crop yield losses. This study was aims to detect and identify seed-borne fungi in various corn varieties and the pathogenicity of fungi in corn seeds. This study used a two-factor Completely Randomized Design (WRD) method with 3 replicates of the combination treatment. The first factor is the corn seeds variety consisting of 10 types of Bisma, Lamuru, Srikandi, Pulut Uri, Sukmaraga, Bisi 18, Royal 76, Bonanza, Paragon, Rasanya. The second factor is the method of identifying fungi carried by seeds, which is the *Blotter Test* method, which includes methods with and without sterilization. The result showed was abnormal morphological symptoms of corn seeds are indicated by whitish spots and streaks at varieties of Bisma, Srikandi Kuning, Lamuru, Bisi 18, and wrinkle seeds at Pulut Uri, Sukmaraga, Royal 76, Bonanza, Paragon, dan Rasanya. The highest percentage of fungal infection carried by corn seeds was found in the Bisi 18 variety, at 68.33%, and in the blotter test method without sterilization, at 31.66%. The highest germination rate of corn seeds was found in varieties of Bisma, Lamuru, Srikandi, Pulut Uri, Sukmaraga, Bonanza, Paragon, and Rasanaya varieties was 100%, and the blotter test method without sterilization was 92.00%. Macroscopic identification based on the color of black, green, gray, and purple colonies, as well as the structure of hyphae and conidia of fungi detected infecting corn seeds, includes *Aspergillus flavus*, *Aspergillus niger*, *Penicillium*, *Rhizopus*, and *Fusarium.*

Keywords: blotter test, corn seed, fungal infection, pathogenicity, seed germination