Bio Bulletin 5(1): 14-03(2021)
(Published by Research Trend, Website: www.biobulletin.com)

ISSN NO. (Print): 2454-7913
ISSN NO. (Online): 2454-7921

Awards on Integrated Disease Management in Agriculture

Kupozulu Swuro[1], Bilal Ahmad Wani[2] and Khursheed Ahmad Wani[3]
[1]Department of Petroleum Technology, ITM University Gwalior (M.P.), India
[2]Department of Zoology, Govt. Higher Secondary School, Litter (J&K), India
[3]Department of Environmental Science, Govt. Degree College, Bijbehara (J&K), India

(Corresponding author: Khursheed Ahmad Wani)
(Published by Research Trend, Website: www.biobulletin.com)
(Received 15 March 2021; Accepted 29 April 2021)

AWARDS

Any biotic or abiotic agents, which induce the disease in plant, are referred as the cause of diseases. Organisms that cause infectious disease include fungi, bacteria, viruses, viroids, virus like organisms, phytoplasmas, protozoa, nematodes and parasitic plants and environmental conditions such as lack or excess of nutrients, moisture, light, etc. to presence of toxic chemicals in Air or soil. Plant disease can be defined as “a series of harmful physiological processes caused by continuous irritation of the plant by a primary agent” or “physiological or structural dis-balance in plant caused by certain external agencies. However, the definition which is accepted by American Phytopathological Society and the British Mycological Society states that “Disease is a malfunctioning process that is caused by continuous irritation which results in some suffering-producing symptoms”. Therefore, the plant disease is a structural abnormality or physiological disorder or both due to an organism or unfavorable conditions that may affect the plant or its parts or products or may reduce their economic value. Integrated Disease Management (IDM) is a concept derived from the successful Integrated Pest Management (IPM) systems which consists of scouting with timely application of a combination of strategies and tactics. These may include site selection and preparation, utilizing resistant cultivars, altering planting practices, modifying the environment by drainage, irrigation, pruning, thinning, shading, etc., and applying pesticides, if necessary. But in addition to these traditional measures, monitoring environmental factors (temperature, moisture, soil pH, nutrients, etc.), disease forecasting, and establishing economic thresholds are important to the management scheme. These measures should be applied in a coordinated integrated and harmonized manner to maximize the benefits of each component. The main goal if IDM are: -Eliminate or reduce inoculum -Reduce the effectiveness of initial inoculum -Increase resistance within the host -Delay the onset of disease -Slow the secondary cycles -Uses several methods in which routine use provides disease control.

IMPORTANCE OF THE PLANT DISEASE

Plant disease sometimes spread as epiphytotics and destroy the crops growing in the very large areas. They damage the crop growing in the field as well as stored products in the storage. The disease can occur any time and at any stage of the plant growth from the time of sowing of seeds to the storage of the products and cause a great economic loss. In Asia alone, the food grains amounting millions of dollars are being destroyed every year due to crop diseases. One such case, which is often quoted in the plant disease history is an example of famine caused due to plant disease. Such diseases include late blight of potato by fungus Phytophthora infestans in Ireland (1847), coffee rust by Hemileia vastatrix in Srilanka (1870), sigatoka leaf spot disease of banana by Mycosphaerella musicola in Central and South America (1930). In India, the famous Bengal famine in 1942 was due to leaf spot disease of rice caused by Helminthosporium oryzae and approximately two million people died of starvation. Due to impact

of plant disease and economic losses caused by them, the science of plant pathology is attracting interest of all most all the countries of the world.

Contact Name: Sara Drew WhatsApp at: +44-1623-4865232