

Management of Soil Borne Plant Diseases Using Agricultural Waste Residues as Green Waste and Organic Amendment

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Abstract : Plant disease control is important in maintaining plant vigour, grain quantity, abundance of food, feed, and fibre produced by farmers all over the world. Farmers make use of different methods in controlling these diseases but one of the commonly used method is the use of chemicals. However, the continuous and excessive usages of these agrochemicals pose a danger to the environment, man and wildlife. The more the population growth the more the food security challenge which leads to more pressure on agronomic growth. Agricultural waste also known as green waste are the residues from the growing and processing of raw agricultural products such as fruits, vegetables, rice husk, corn cob, mushroom growth medium waste, coconut husk. They are widely used in land bioremediation, crop production and protection which include disease control. These agricultural wastes help the crop by improving the soil fertility, increase soil organic matter and reduce in many cases incidence and severity of disease. The objective was to review the agricultural waste that has worked effectively against certain soil-borne diseases such as *Fusarium oxysporum*, *Pythium*spp, *Rhizoctonia* spp so as to help minimize the use of chemicals. Climate change is a major problem of agriculture and vice versa. Climate change and agriculture are interrelated. Change in climatic conditions is already affecting agriculture with effects unevenly distributed across the world. It will increase the risk of food insecurity for some vulnerable groups such as the poor in Sub Saharan Africa. The food security challenge will become more difficult as the world will need to produce more food estimated to feed billions of people in the near future with Africa likely to be the biggest hit. In order to surmount this hurdle, smallholder farmers in Africa must embrace climate-smart agricultural techniques and innovations which includes the use of green waste in agriculture, conservative agriculture, pasture and manure management, mulching, intercropping, etc. Training and retraining of smallholder farmers on the use of green energy to mitigate the effect of climate change should be encouraged. Policy makers, academia, researchers, donors, and farmers should pay more attention to the use of green energy as a way of reducing incidence and severity of soilborne plant diseases to solve looming food security challenges.

Keywords : agricultural waste, climate change, green energy, soil borne plant disease

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