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Editorial

Mycoviruses

Till now viruses are considered as one of the most important pathogenic microorganism causing unmanageable diseases of cultivated crops, members of animal kingdom and even to tiny microorganisms. So far none of the plant protection technology has established to prevent the virus diseases particularly to our cultivated crops .On an average more than 26 per cent crop loss has been estimated due insect pest, disease, and weeds besides 15 percent loss in storage and transits. Such huge loss can be controlled to some extent by selecting suitable plant-protection methods of which use of pesticides ranks high obviously which has invited environment damage.

Mycovirus means presence of virus particles in some pathogenic fungi that was first suspected in 1959 and established scientifically with Die back disease of cultivated mushroom. Since then a large number of mycoviruses have been isolated, purified and characterized from many species of fungi belonging to all major class that caused serious diseases in plants or used in industry for production of mushroom, toxin, antibiotics and medicine.

In Biocontrol methods a living organism is used to suppress or to kill pathogenic agents without causing any harm to soil and plant environments. Virus mostly considered as pathogenic agent but also been identified as one of the potential source for biocontrol agent and have already been used successfully to control fungal pathogens, insects pest and even to pathogenic viruses. Mushroom growers of different countries during 1950s experienced a disorder of mushroom with deformed shaped and reduced yield and association of such malady was scientifically established in 1962 by Hollings and subsequently a considerable number of mycoviruses identified in different class of fungi like *Penicillum, Cryphonecteria parasitica* (Formerely *Endothia parasitica*), *Rhizoctonia solani, Sclerotinia sclertiorum, Magnoporthe grisea, Ophistroma ulmi* (C.O. Dutch elm disease), *Gaeumannomyces graminis* (C.O. Wheat take all), *Helminthosporium victoriae* (C.O. Victoria blight of Oat), *Phytophthora infestans, Puccinia* sp., *Melampsora lini, Ustilago maydis* etc.

Presence of virus in fungi is a natural phenomenon and have been identified from the major groups of plant pathogenic fungi and many of them are less virulent and have the ability to suppress the growth of aggressive fungi. Virus like particles or dsRNA are found in many fungi and remain as uncapsited or capsicated form and showed the hypovirulence reaction to suppress the pathogenic fungi.Hyp virulence in mycovirus have been thoroughly studied in *C.parasitica* causing Chestnut blight.Most of the mycoviruses are isometric with dsRNA with a diameter of 25-28 nm and may be pathogenic or nonpathogenic. In case of pathogenic effect of virus or dsRNA has been successfully used to control a few diseases of internationally important. So far, in India research on mycoviruses has not been initiated and demand intensive studies.

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