

## Trichoderma in good agriculture practices for enhancing farmers' income

**Arup K Mukherjee**

ICAR-National Rice Research Institute, Cuttack, Odisha, India

Email: arupmukherjee@yahoo.com, titirtua@gmail.com

### Abstract:

The major constraint of rice production is the incidence of different diseases causing serious yield loss. To combat these diseases huge amount of chemical pesticides is dumped as a result the cost of production is increased and environment is polluted seriously. Recently special focus is being given in organic practices for management of diseases of crops. But in rice the organic way of cultivation is very rare. So, in different research institutes and universities special focus is being given to find out different biofertilizers and biocontrol agents (BCA) to replace chemical fertilizers and pesticides. In a recent study we have identified different species of *Trichoderma* having different unique characters which are beneficial to the farmers. One such is *T. erinaceum* which not only protects paddy plants from soil and seed borne diseases but also enhances its growth and ultimately resulting in higher yield. We have tested this BCA in paddy and black gram in different farmers' fields and experienced excellent plant health and more than 20% higher yield. While studying the mechanism we observed that the plants which are treated with *T. erinaceum* results in better germination, seedling vigour, more numbers of tillers, higher 1000 grain weight and filled grains besides higher expression of different defence enzymes. We feel this BCA will be an excellent candidate for enhancement of farmers income in a sustainable way. Further study is going on to use genomics approaches to understand the mechanism of growth promotion and biocidal activity of this BCA.