CONCLUSION

Rice has remained truly 'life itself' for the most of world's densely populated regions. However, one of the major constraints for rice cultivation has been the availability of water which sets up a condition congenial for development of brown spot disease. The incitant being homotopic has often been observed to appear periodically in epidemic form. Fortunately, India has started thinking over the problems of rainfed uplands on priority basis which forms the subject of discussion in national agricultural forums and constituted the focal theme of Indian National Science Congress in the recent years. The 'pecky' rice resulting from *H. oryzae* infection adds misery to the conditions of marginal farmers. Even the best of spray applications or other recommendations do not receive much appreciation from farmers, they often go by the notion 'sow and reap'.

The present investigation for three years under field, pot, water culture and laboratory conditions comes out with the recommendation that the amendment of rainfed upland soil with cheap agricultural by-product rice husk applied @ 3-5 t/ha at least a month ahead of sowing or planting can induce tolerance and even the susceptible rice varieties can withstand the disease to an appreciable extent yielding maximum grains. Increase in N, P, K, Ca, Mg, Si, Mn, Cu and Zn content, narrowing down of Ca:Mn and Fe:Zn so also Fe:Cu and...
of N:P, Ca:K, Ca:Mg, Si:M, Si:K, Mn:Cu and Mn:Zn ratios; besides an increase in pigments, photosynthetic efficiency, total sugar with decrease in ratio between reducing sugar and non-reducing sugar and increase in phenol content stand for active physiological state of the host inducing resistance against this periphyte incitant. More so, an increase in number of bulliform 'tablets' assuming a 'brick wall' pattern provides a pre-formed structural barrier for penetration by the incitant. Besides, its influence on soil physical condition, advantages derived from rice husk amelioration were due to accelerated growth of soil inhabitant bacterium B. subtilis antagonistic to H. oryzae.

The water hyacinth amendment inspite of more amount of disease compared to saw dust amelioration emerged out as second best treatment in increasing yield and hence accounting for greater tolerance against H. oryzae.