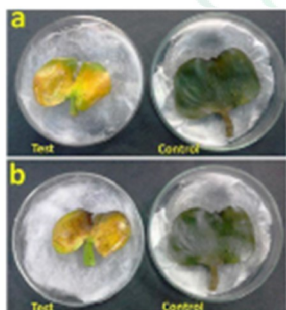


Hyacinthchek™

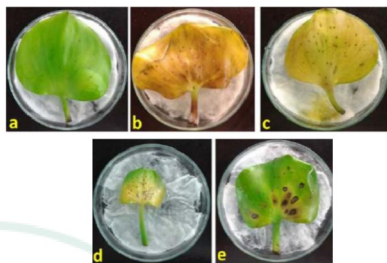
Eichhornia crassipes is a floating water weed which has spread throughout the globe in water bodies. It is commonly known as water hyacinth and its vernacular names in India are buti and Jalkumbhi. It is an aquatic aggressively invading plant which can multiply from 2 to 120,000 plants in 120 days. This aquatic weed has a very flexible range from 12°C to 38°C. This weed is responsible for heavy evapotranspirational losses of water apart from other threats thereby degrading and destroying water bodies.

Phaeoacremonium italicum (#8BJSSL) and *Diplodia mutila* (#19BJSSL) were reported as pathogens to *Eichhornia crassipes* for the first time in the world. Further, culture filtrates of #19BJSSL and #8BJSSL were evaluated for their phytotoxic potential by *in vitro* leaf puncher assays wherein #19BJSSL exhibited significantly higher phytotoxicity. A novel formulation (Hyacinthchek™) was developed which was evaluated in tank trials.



Leaf area damaged by spores (1×10^6) of biocontrol agents. (a) #19 BJSSL (b) #8 BJSSL by *in vitro* detached leaf assay after 168 hpt

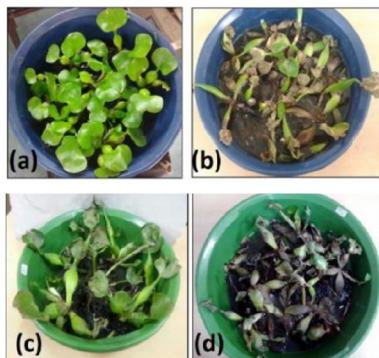
Hyacinthchek™ exhibited 100% mortality of the test plants after 192 hpt while the spore suspension only induced 84% death. This method has to be integrated with the mechanical method for immediately removing the dead plant biomass, so as to prevent the deterioration of water quality in the water body thereby rejuvenating it.



In vitro leaf puncher assay of different fractions of culture filtrate of #19BJSSL for assessment of phytotoxic potential after 168 hpt. (a) control, (b) Fraction 1 (hr), (c) Fraction 2 (cr) (d) Fraction 3 (ea) and (e) Fraction 4 (dc)



Comparative phytotoxicity evaluation of (b) culture filtrate, (c) Fraction 1 (hr) and (d) Fraction 2 (cr)



- Comparison of mortality of *Eichhornia crassipes* in treatments after 144 hpt. (a) Control (b) spores of #19BJSSL (1×10^6 spores/ml) (c) Fraction 1 (hr) (d) bioherbicidal formulation