



Water Hyacinth Compost Means Worst Converted in Beneficial

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Water hyacinth (*Eichhornia crassipes*) is one of the world's worst aquatic weeds. It infests rivers, dams, lakes and irrigation channels on every continent except Antarctica. It devastates aquatic environments and costs billions of dollars every year in control costs and economic losses. Water hyacinth is native to the Amazon basin in South America and was brought to Australia in the 1890s as an ornamental plant. The first record of water hyacinth in New South Wales (NSW) was in 1895. In 1897, the government botanist Mr J. H. Maiden noted that it had spread rapidly in the ponds in the Royal Botanic Gardens in Sydney. At that time, he warned that the plant should be kept away from the northern rivers where it 'may very rapidly become a serious pest'. Unfortunately, this warning went unheeded and by the early 1900s it had spread along the east coast of Queensland and the north-eastern regions of NSW.

Distribution

Water hyacinth currently occurs along the east coast of Australia from Kiama in NSW to southern Cape York Peninsula in Queensland. In the early 1900s extensive infestations in the northern coastal rivers of NSW were a major hindrance to river navigation, and infestations still occur in all coastal river catchments, particularly the Macleay, Clarence and Richmond. Large infestations were present in the Hawkesbury River during the 1990s, and remnant populations are still subject to annual control programs. In inland NSW, water hyacinth was identified on the Gingham Watercourse near Moree in 1955. By 1976 it had become a major infestation covering 7000 ha. Despite management and control efforts since then, a significant seed bank still remains across the region, and the area of infestation has moved further west, threatening the Murray–Darling system.

Habitat

Water hyacinth grows in still or slow-flowing fresh water in tropical and temperate climates. Optimum growth occurs at temperatures of between 28°C and 30°C, and requires abundant nitrogen, phosphorus and potassium. Although this plant will tolerate a wide range of growth conditions and climatic extremes including frost, it is rapidly killed by sea strength salinity and will not grow in brackish water. Where water levels have receded, plants can survive on damp soil for several months.

Impact

Water hyacinth is justifiably called the world's worst aquatic weed due to its ability to rapidly cover whole waterways.

Specific impacts include:

- Blocking irrigation channels and rivers
- Restricting livestock access to water
- Destroying natural wetlands

- Eliminating native aquatic plants
- Reducing infiltration of sunlight
- Changing the temperature, pH and oxygen levels of water
- Reducing gas exchange at the water surface
- Increasing water loss through transpiration (greater than evaporation from an open water body)
- Altering the habitats of aquatic organisms
- Restricting recreational use of waterways
- Reducing aesthetic values of waterways
- Reducing water quality from decomposing plants
- Destroying fences, roads and other infrastructure when large floating rafts become mobile during flood events, and
- Destroying pastures and crops when large floating rafts settle over paddocks after flood events.

Water hyacinth will rapidly take over an entire waterway. Under favourable conditions it can double its mass every 5 days, forming new plants on the ends of stolons. It also grows from seed which can remain viable for 20 years or longer. This enormous reproductive capacity causes annual reinfestation from seed and rapid coverage of previously treated areas, making ongoing control necessary. **Water hyacinth compost is best and easy way of control this weed.**

Water hyacinth compost

Water hyacinth composting is very easy and cheap. There are following step of making compost from water hyacinth.

1. Collect Water hyacinth plant and clean it with clean water
2. Remove roots from weed. Roots are not used in composting
3. Cut the branches and leaves of Water hyacinth and mixed it in cow dung with 3:1 ratio (Three parts of water hyacinth cuts and one part of cow dung in mixture)
4. Then take this mixture under shade for decompose. This process takes 45 to 60 days
5. Water hyacinth compost take less day for decompose as compare to other compost
6. Contain of water hyacinth compost is 2-2.5 % nitrogen, 0.5-1.0 % phosphorus, 1.5-3.5 % potash and many micronutrients
7. We can use any bacterial culture for fast decomposition
8. Main benefits of this process is no any infrastructure required for making compost
9. This compost is used 1 to 2 t/ha in field

Benefits of water hyacinth compost

1. It improve the soil fertility
2. It improve the soil structure
3. It improve the water holding capacity of soil so we can take crop in less water condition
4. It improve the quality of plant and increase production
5. With good decomposition of material, no bed odour is come out from it
6. Main benefit is that, world's worst weed is easily used as beneficial material for agriculture.



