

Vetiver grass

Vetiver grass (*Vetiveria zizanioides* L.) is a perennial, tropical/sub tropical grass that has been used extensively world wide for soil erosion and sediment control and steep slope stabilisation. It has also been used for mine site rehabilitation in Australia, China and South Africa, including stabilisation of steep slopes associated with bunds, tailings dams, and other water management structures and revegetation of mine tailings.



Important attributes of vetiver grass are:

- It tolerates a wide range of climatic and edaphic conditions, including waterlogging, drought, salinity, extremes of pH, and fire.
- The Monto cultivar does not set seed, and has absolutely no potential to become a weed.
- Its strong, extensive and deep root system (reaching to 4 metres depth in the soil), that holds sloping land in place and resists landslips and gullying.
- Vetiver growth is not affected by very high levels of heavy metals.
- Vetiver plants can be expected to survive for at least 50 years, though they can be killed by shading or by glyphosate herbicide.



In Australia, uses of vetiver grass include:

- stabilisation of steep slopes
- protection of gullies and streams against erosion by high-velocity flows
- spreading flood flows on cropped floodplains
- revegetation and stabilisation of flow lines in acid sulphate soils and improvement of water quality
- drying up seepages from landfills and from effluent disposal areas
- reducing dust and wind erosion
- trapping sediment and reducing sedimentation of water storages
- reducing N and P levels in polluted water bodies and in effluent disposal areas
- stabilising and protecting stormwater drainage systems
- providing vegetative cover in situations where other vegetation is unable to establish due to extremes of salinity, waterlogging, or soil pH, including acid sulphate soils.



Vetiver is now accepted as an important tool for stabilisation of steep slopes and batters in road and railway infrastructure by Queensland Government Departments of Main Roads, Natural Resources and Water, Railways, and by commercial engineering consultants.

Landloch has carried out projects involving the use of vetiver to stabilise steep slopes and control effluent movements, and is a strong advocate of the value of vetiver grass for a wide range of soil stabilisation and land remediation works. In some instances, vetiver can reduce the cost of site stabilisation by 60-70% relative to "hard" engineering practices. There is also potential for vetiver to dramatically improve the efficiency of water use and nutrient uptake on effluent disposal areas.

In many instances, vetiver offers a highly effective and low cost solution to land management problems.

Landloch has expertise in the planting and management of vetiver grass, and we note that both initial planting layouts and the early management of planted material are crucial to the success of vetiver grass in achieving project aims.

Experience with vetiver is important – or rather, to use vetiver effectively is not always as simple as it appears. Through our collaboration with internationally-recognised experts, we are able to ensure that vetiver plantings are successful and effective, and that we are aware of the full range of potential design options.

Landloch can arrange supply of vetiver planting material, provide advice on planting layouts and designs, and supervision of planting (including advice on site preparation, fertilisation and soil amendment, watering, and weed control).

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