

# Factsheet

## VETIVER / PACHOLÍ

### Control Soil Erosion, Maintain and Improve Water Quality with Vetiver Barriers



*Vetiver grass barrier in a coffee-citrus-banana cropping system.*

*Chrysopogon zizanioides* or *Vetiveria zizanioides* (Fam. Poaceae) is commonly known as vetiver grass or pacholí. Vetiver is a perennial, robust grass native to India. It grows forming clumps about 6 feet tall. Culms are thin and somehow rigid, leaves are thin and lanceolate. The inflorescence is an open pyramidal panicle. It develops a fibrous root system that reaches up to 15 feet deep.

When planted as a barrier or hedge along the soil contour, its culms and roots form a living terrace that helps trap sediment. Vetiver grass has been planted in the Caribbean for more than 100 years. The multiple uses of this plant include: perfume oil produced from its roots; repelling insects from chests and closets, and rituals to keep a peaceful home.

The Caribbean Area NRCS compared different vetiver varieties to select the best variety adapted to Caribbean conditions and to control soil erosion and water quality. The best varieties were planted in different ecosystems and

cropping systems in Puerto Rico and the US Virgin Islands. As a result, the “Sierra” variety was selected as the best from amongst the 7 varieties evaluated.

This vigorous plant has the versatility to adapt to humid or dry soils, high and low tropical temperatures, flat or steep slopes, deep or shallow soils and low or high fertility conditions.

Once established, vetiver’s easy, minimal management makes it an excellent plant to filter sediment from storm water runoff.



By planting vetiver barriers along the land contour, soil particles will be trapped to form terraces, reducing sedimentation of streams, ponds and marine ecosystems.

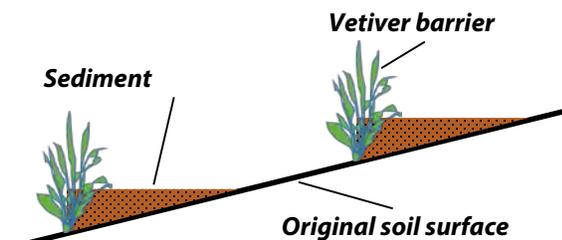
#### Where to Plant Vetiver Grass

Vetiver can be used to control erosion on:

- Cropland
- Road and trail shoulders
- Pond, lake or reservoir shorelines
- Bridge or culvert slopes
- Slope stabilization areas
- Irrigation system borders
- Gully stabilization areas
- Landscapes
- Bioremediation sites

### Planting Method

1. Be sure to plant the correct variety. Ask the supplier for variety "Sierra."
2. If you are harvesting a clump from the field, use a shovel or pick-axe. Harvesting vetiver is time-consuming and hard work. Its root system is very strong and vigorous.
3. Keep as much of the roots as possible.
4. Divide clumps and prune to about 10 inches high.
5. Keep the plant material in a fresh, preferably humid place until planting time.
6. Survey and mark contour lines on the field where vetiver will be planted.
7. Dig a furrow following the contour lines.
8. Schedule planting for the beginning of the rainy season to improve the plants' ability to survive.
9. Plant clumps an equal distance from each other, no more than 6 inches apart. **DO NOT LEAVE OPEN SPACES**—that would reduce vetiver's ability to control runoff, and may damage the soil by allowing gullies to form.
10. On sites with high water flows, plant a double row of vetiver barriers.
11. Once established, monitor the barrier and replant vetiver if needed.
12. Vetiver barriers need only minimal maintenance. After the grass is established, keep it pruned to about 20 inches tall. This will help it to develop more roots and keep leaves from shading crops.



*Cross section of soil surface accumulating sediment in Vetiver barriers established along the land contour.*

### Why Plant Vetiver?

- Vetiver is a perennial plant. Once established, it will live for many years.
- It is considered sterile so it is not a potential weed.
- Its root system may grow up to 15 feet deep, protecting the soil.
- It is drought, flood and fire resistant.
- It does not host diseases or pests.
- It is easy to manage.
- Pruned vetiver can be used as mulch.
- It slows storm water runoff, helps water to soak into the soil (infiltrate), reduces soil erosion and allows sediment to settle into the barriers.



*Vetiver barrier system (Source: Árboles de Centro América: un Manual para Extensionistas)*

**Vetiver forms a vegetative barrier or hedge a few months after it is established, protecting the soil and helping to maintain or improve water quality.**



#### For More Information:

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