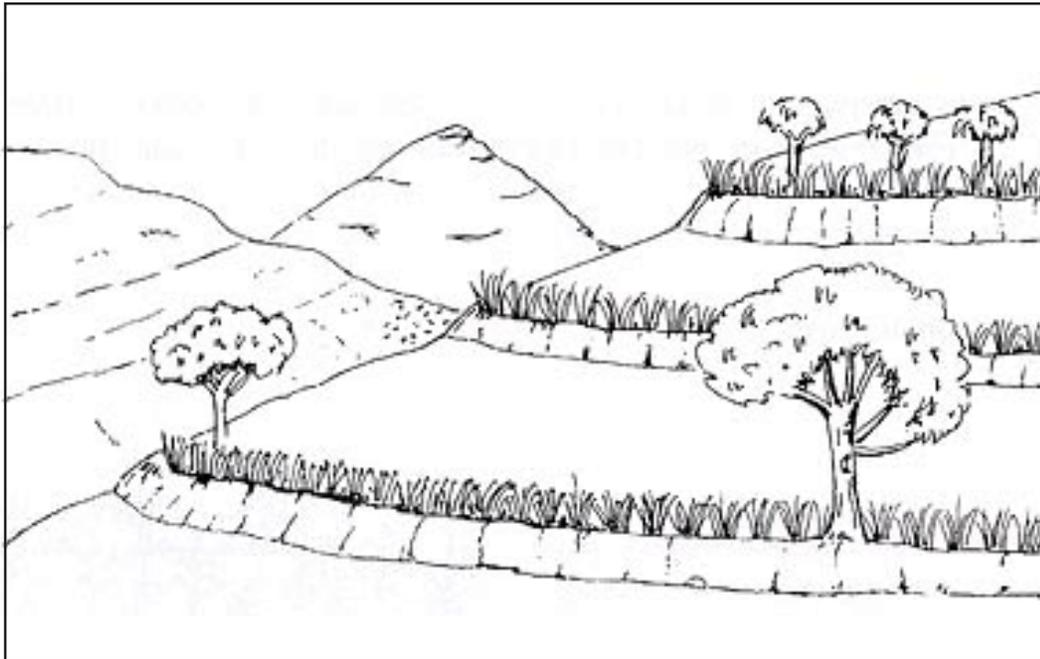


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# Vegetative Barriers for Protecting Topsoil

USDA NRCS Practice (601)



*Vegetative barriers are permanent strips of stiff, dense grasses grown across a slope or across a drainage way.*

## What are vegetative barriers?

**Vegetative barriers** are permanent strips of stiff, dense grasses grown across a slope or across a drainage way.

## Why grow a vegetative barrier?

Pacific Island farmers can benefit from growing a vegetative barrier on their farm. Using this practice can:

- protect topsoil. Barriers help slow rainwater down and filter out soil particles.
- re-direct and divert water across a slope.
- loosen and improve the soil, allowing more water to soak in and be retained.
- stabilize the uphill side of a hillside ditch.
- trap sediment at the bottom of a field.

To learn more about protecting your farm land from water damage, read ***Protecting Soil on Pacific Island Farms***.

## Where are vegetative barriers used?

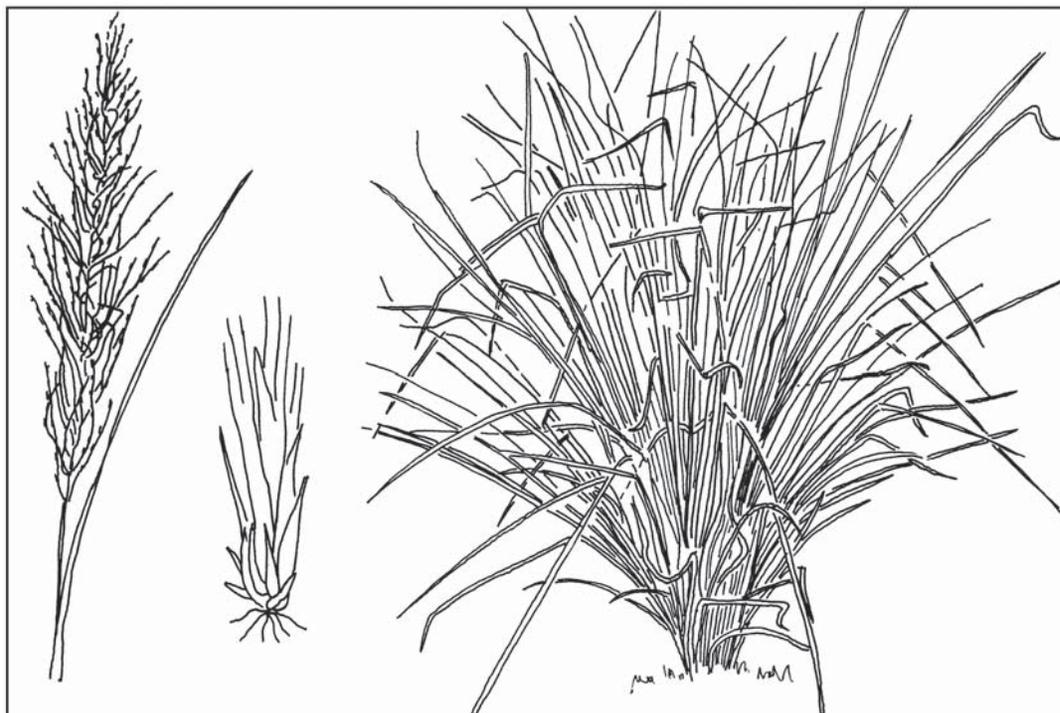
- On the contour within fields with moderate slopes
  - In rows across a drainage way
-

## Plan your vegetative barriers

### Plant Selection

Pacific Island farmers often grow vetivergrass (*Vetiveria zizanioides* syn. *Chrysopogon zizanioides*) for vegetative barriers because it is stiff and dense, making it a good filter. It is a sterile grass that won't spread. It has few pests and tolerates fire. Vetivergrass is deeply rooted and doesn't interfere with the growth of most crops. This grass is inexpensive, easy to grow, and needs little care.

Other plants may also be used. For current planting suggestions for vegetative barriers, contact the local USDA NRCS field office.



Vetivergrass (*Vetiveria zizanioides* syn. *Chrysopogon zizanioides*)

### For in-field vegetative barriers

- Plant level and across the slope, without any low spots where water can channel and break through. Barriers should be as close to the contour as possible with no more than a 1-2% grade.

| Spacing for In-field Vegetative Barriers |                       |
|--|-----------------------|
| % Slope of Field                         | Spacing               |
| 10%                                      | 60 feet (18.3 meters) |
| 20%                                      | 30 feet (9.1 meters)  |
| 30%                                      | 20 feet (6.1 meters)  |
| 40%                                      | 15 feet (4.6 meters)  |
| 50%                                      | 12 feet (3.7 meters)  |



*For vegetative barriers across channels, plant at least 2 rows of closely spaced plants about 1½ ft (46 cm) apart.*

- Plant 1 or 2 rows of plants closely together (no more than 6 inches apart) so that the plants can quickly grow together to form a barrier with no gaps.
- Protect the barrier from damage by preventing animals and machinery from crossing through it.
- If you are using herbicides, be careful not to damage the barriers by spraying too close to them.
- On steep slopes (25% and greater), use **hillside ditches** (423) and vegetative barriers together.

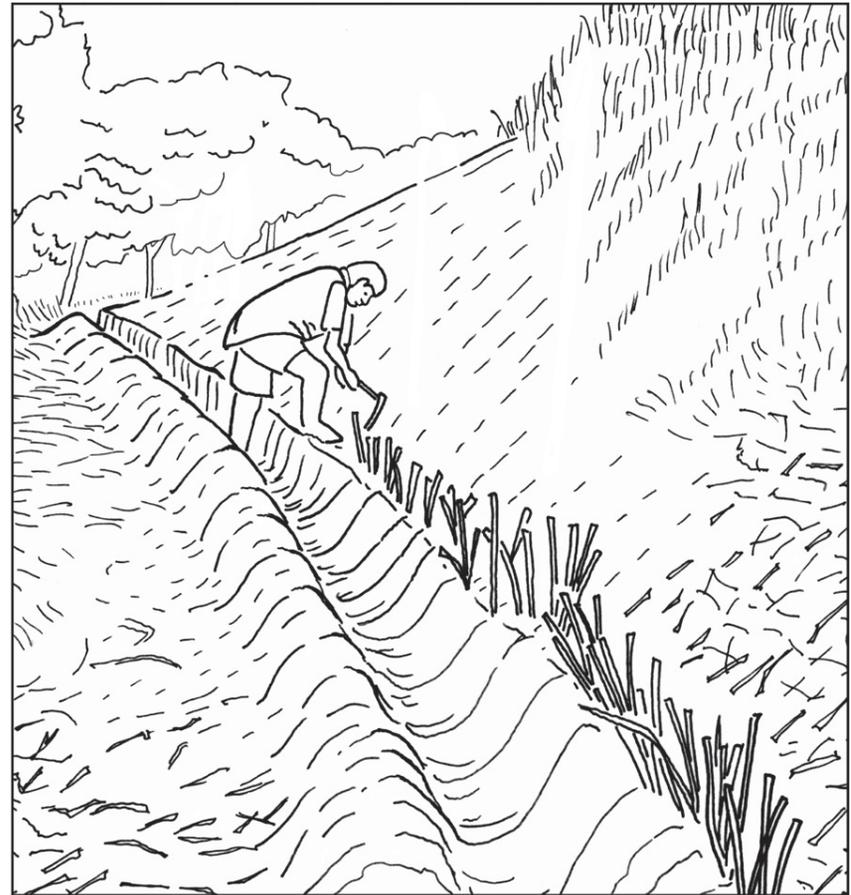
#### **For vegetative barriers across channels**

- Plant at least 2 rows of closely spaced plants about 1½ ft (46 cm) apart.
- Plant the barriers across the base of the gully and up the sides, about 1½ ft (50 cm) above the bottom of the channel. This is to stop water from flowing around the ends of the barrier during heavy rains.

For the best results, combine **vegetative barriers** with other conservation practices:

- On steep slopes (25% and greater) combine vegetative barriers with a **Hillside Ditch** (423): digging a small ditch across the slope to divert rainwater
- **Residue Management** (329): leaving slash in the field for soil protection
- **Contour Farming** (330): carrying out farm operations across the slope
- **Contour Farming for Orchards** (331): carrying out farm operations across the slope
- **Cover Crops** (340): growing crops to plow down and fertilize cash crops
- **Conservation Cover** (327): growing permanent plant cover to protect topsoil and smother weeds

Additional information is available from your local USDA Service Center or at [www.pb.nrcs.usda.gov](http://www.pb.nrcs.usda.gov) and [www.hi.nrcs.usda.gov](http://www.hi.nrcs.usda.gov).



*On steep slopes (25% and greater) combine vegetative barriers with hillside ditches.*