

Fruit crops such as banana, jackfruit, citrus, chico, coffee, papaya, mulberry, cashew and mango can also be combined with some hedgerows.

- b) Nitrogen-fixing trees or shrub legumes are pruned periodically to a cutting height of about 0.5 m every 45 to 60 days to minimize shading. Trimmings are spread as mulch to the strip or alleyway to sustain crop production.



*Some recommended perennial plants as hedgerows:
pineapple, citrus and kakawate (gliricidia)*

Step 4. Cultivate the strips

- a) The space between the hedgerows is called strips or alley. These strips could be planted with short term as well as medium-term crops that could provide you with food and regular income. Suggested crops are melons, corn, rice, peanut, etc.. To avoid shading which will result in a poor harvest, separate plant short plants from taller plants.

- b) Always rotate your non-permanent crops. A good way of rotating is to plant grains (rice, corn, etc.) and tubers (camote, gabi, etc.) in strips where legumes (beans, peanuts, etc.) were planted previously and vice versa. This practice will maintain the fertility and good structure of your soil. Other management practices in crop production like insect and pest control, and weeding should be done regularly.

Other soil conservation measures could be practiced in strips such as contour tillage, mulching, cover cropping, crop residue incorporation and others which could further reduce soil erosion.

CONTOUR HEDGEROW SYSTEM



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What is Contour Hedgerow System?

This system is the planting of hedgerows with leguminous tree and other plant species along the contour of sloping lands to provide vegetative barriers to soil erosion while contributing green manure to cash crops grown in the alley-strips. Along the edges usually used are *Leucaena* (Ipil-ipil) and *Gliricidia* (Kakawate). These vegetative barriers reduce the length of slope of the land, thus reducing run-off velocity.



Contour hedgerows of kakawate (*Gliricidia*) and pineapple

Establishing Contour Hedgerow System

Step 1. Make an A-Frame

- The first instrument you need is an A-Frame. This is a simple but effective instrument in establishing contour lines.
- You need three strong wooden or bamboo poles (2 of them should be about 4 feet long) and an ordinary carpenter's level and string.
- Tie the upper and the longer poles together. The lower ends or legs must be about 3 feet apart to form a perfect angle. Brace it horizontally with the shorter pole to keep them apart and tie them securely. Tie the level on top of the horizontal pole.
- Use the A-Frame to find the contour lines of the land. Erosion can be prevented by plowing and planting along contour lines levelled from one end of the field to the other.



Contouring using the A-Frame, as the first step for soil conservation

Step 2. Locate the contour lines

- Remove all obstructions like tall grasses for easy movement then mark the lines. Two people must work together for faster and easier job. One will hold the A-frame, the other marks the located contour lines with sticks.
- Start from the uppermost side of the hill. Let the A-Frame stand on the ground. Lift the front leg without moving the rear leg and mark the spot aligned along the rear leg.
- The two legs of the A-Frame are on the same level when the air space in the level stops in the middle. This means you have found the contour line which is a level line between the two legs of the A-Frame. Mark the spot of the contour line where the rear leg stand.
- Move the A-Frame forward by placing the rear leg on the spot where the front leg stood before. Adjust the front leg again, until it levels with the rear leg. Use a stick for every 5 meters of the identified contour lines for easy marking. Follow the same procedure until the contoured area is covered.

- Try to locate as many contour lines as possible. The contour lines can be spaced from 4 to 6 meters apart when the hill slopes steeply. For a more gradual slopes, the contour lines can be 7 to 10 meters apart.
- After you have marked the contour lines, prepare them by plowing and harrowing until it is ready for planting. The width of each should be one meter. In plowing, follow the stick markers.



Finding contour lines using the A-Frame

Step 3. Plant permanent crops along the contour line as hedgerows

- On each contour line, make two furrows at a distance of one half meter. It is in these furrows that the perennial plants or permanent crops will be planted.

Fast growing nitrogen-fixing trees or shrub legumes are commonly used as hedgerows. They serve as windbreaks to alley crops during strong weather and possible shade to crops. Some of these are ipil-ipil (*Leucaena leucocephala*) and kakawate (*Gliricidia sepium*).

Forage grasses such as napier, king grass, vetiver, and sugarcane can also be used as hedgerows. These provide continuous supply of fodder for farm animals. The grasses can be mixed with the legume shrubs and other plants in the hedgerow strips.