

NATURAL RESOURCES CONSERVATION SERVICE
INTERIM CONSERVATION PRACTICE STANDARD

INDIVIDUAL TERRACE
(No.)

Code 751

DEFINITION

Construction of small rounded platforms for planting trees and shrubs on very steep slopes.

PURPOSE

- Increased infiltration of nutrients, water, fertilizers, lime, and other inputs.
- Increased accumulation of plant debris and organic matter.
- Increase plant survival.
- Provide a standing area for cultivation and/or harvesting.
- Reduce transport of potential contaminants in runoff water.

CONDITION WHERE PRACTICE APPLIES

This standard applies in cropland, orchards, forestland, woodland, recreational land, pastureland, urban land and other land where seedlings/cuttings need to be planted on steep slopes (> 15%) with moderate to very deep silty clay to clay soils. Soil depth must be at least 20 inches.

CRITERIA

Criteria for all purposes

Safety - Construction of individual terraces shall consider OSHA requirements for the safety of laborers during the construction and maintenance of the practice.

Construct individual terraces on fine texture soils with moderate to strong structure. Avoid soils with silty to sandy texture in order to prevent excessive erosion and stability problems. The maximum slope steepness that individual terraces can be constructed on

depends on the soil structure and texture. The maximum slope for construction should not be steeper than $\frac{3}{4}$ to 1 (133%, or 53°).

The diameter of the individual terraces will depend on slope. The steeper the slope, the smaller the required diameter. On the steepest slopes use a diameter as small as 2 feet. On flatter slopes, use diameters up to 5 feet. The front lip of individual terraces should be approximately level. Slope the individual terraces back into the hillside. Allow for drainage by providing a small channel around the back of the individual terraces at the toe of the cut slope. Allow the runoff to outlet on one or both sides of the individual terraces.

Layout and construct individual terraces along the contour. Construct multiple rows of individual terraces in a diamond pattern to increase runoff interception from the area above each one. The spacing of the individual terraces along the contour is dependent on the spacing requirements for the mature crop.

Individual terraces are constructed primarily by hand using hoes, picks and machetes. Construct individual terraces when new plantings are being established. Attempting construction in established plantings in most cases will cause significant damage to existing plants.

Refer to conservation practice standard Contour Orchard and Other Fruit Areas, 331 for guidance on the establishment of orchards using individual terraces. Refer to Tree and Shrub Establishment, 612 for the establishment of other woody species using individual terraces.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

During and after installation protect undisturbed or non-cultivated areas with vegetation and/or residue cover. Use temporary erosion control measures such as temporary seeding, mulching and diversion of upstream runoff during installation and until the site is stabilized with permanent vegetation and residue cover.

CONSIDERATIONS

The layout of the individual terraces should accommodate the type of vegetation that is planted. Where multiple species are to be planted, increase or decrease the distance between individual terraces according to the expected mature size of the plants.

Individual terraces will work best if they are installed as part of a conservation system that includes other practices that will help control erosion and runoff. Use other practices that will promote ground cover such as Conservation Cover, 327, Critical Area Planting, 342 and Residue Management, 329. Use practices such as Nutrient Management, 590 and Pest Management, 595 to reduce nutrients and pesticides in runoff.

PLANS AND SPECIFICATIONS

Plans and specifications for applying this practice shall be prepared for each site. Plans and specifications will include the following:

- A plan view showing the proposed layout and spacing of the individual terraces.
- A typical cross-section showing the dimensions of the individual terraces.
- Planting requirements for the vegetation to be established.
- Details of any temporary and/or permanent soil stabilization practices required for installation.

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal activities for the functioning of the practice (operation), plus periodic repair and upkeep of the practice (maintenance).

- Inspect individual terraces regularly for damage from heavy rains, livestock and wildlife. Repair damages as soon as possible.
- Maintain ground cover under the canopy of the cultivated crop.

References:

Bennet, Hugh Hammond. 1947. Elements of soil conservation. McGraw-Hill Book Company, Inc., New York and London.

Martínez, Gustavo et.al. 2005. Evaluation of Media Luna Planting Method for Erosion Control for Coffee (*Coffea arabica*). University of Puerto Rico – Mayagüez Campus, College of Agricultural Sciences. Agronomy and Soils Department. Under the auspices of USDA NRCS, AGREEMENT NO. 68F352-03-006.

USDA NRCS, Sept 2002. Field Book for Describing and Sampling Soils. National Soil Survey Center.

USDA NRCS, 2005. Conservation Practice Standards.

<http://www.nrcs.usda.gov/technical/Standards/nhcp.html>

Secretaría de Agricultura y Ganadería. Dirección de Ciencia y Tecnología. Honduras.

http://www.fao-sict.un.hn/guias%20didacticas/OBRAS%20FISICAS_CONSERV.PDF