



VALIDATION OF COVER CROPS FOR THE CARIBBEAN AREA ¹

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1 Caribbean Area Topography & Erosion Potential

- Agricultural areas in the Caribbean Area are characterized by combinations of topography: valleys, steep slopes and rugged mountains. Agriculture in this region is very diverse.
- Soil irregularity and slope in the central mountain region of Puerto Rico is one of the major constraints to maximizing agricultural sustainability in the area. Many farming operations are in areas with highly erodible soils.
- Agricultural runoff has been identified as a possible contributor to water pollution and sedimentation problems in the region's rivers, aquifers and reservoirs.

Sediment loads swell Rio Grande de Manatí after a heavy rainfall (right)



2 Conserve Soil, Water and Other Natural Resources

- To conserve soil, water and other natural resources, UPR and NRCS are encouraging farmers in Puerto Rico's central highlands of to consider integrating cover crops into their production systems.
- However, the use of cover crops in these systems is not a common practice.



Bahia grass (*Paspalum notatum*) cover in an avocado orchard inter-cropped with plantains on San Miguel Farm in Jaguas, Ciales.

3 Benefits of Using a Cover Crop

Agricultural Ecosystems	Agriculture
Improves biological processes in the soil	Reduces erosion
Promotes biodiversity	Promotes beneficial microorganisms
Habitat for wildlife	Improves nutrient retention
Attracts pollinators	Controls pests
	Improves soil quality

Farmer, José V. Fabre, uses a canavalia cover crop on banana plantation in Sabana Grande, Puerto Rico (Photos: USDA NRCS Caribbean Area)



Canavalia ensiformis (sword bean)

Bahia grass and Canavalia species with potential as cover crops

Characteristic	<i>Bahia Grass</i>	<i>Canavalia</i>
Type of plant	Grass	Legume
Type of cover	Lawn	Erect, low height
Propagation	Seed	Seed
Duration of cover	Permanent	Temporary
Pest Problems	Not significant	Not significant
Limitations	Slow establishment	Limits movement within the plots
Crops used with (Puerto Rico)	Coffee, avocado, plantain	Plantains and bananas

5 Promoting the Use of Covers

- The College of Agricultural Science and USDA-NRCS are collaborating to validate cover crops for annual and perennial systems.
- The emphasis is on promoting the use of several cover species in agricultural production systems located in mountainous areas.
- To participate or for more information on this initiative, contact Carlos E. Ortiz, carlos.ortiz35@upr.edu, 787-737-2601, or Edwin G. Más, edwin.mas@pr.usda.gov, 787-831-3101/ 3102.

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