Cover crop

A cover crop, or **ground cover**, is a crop planted to manage soil erosion, soil fertility, weeds and/or pests, and thereby reduce the use of herbicides and pesticides. The practice consists in planting a species that does not negatively impact banana production and prevents the growth of weeds. These could be domesticated crops or local species. Bananas can also be planted on the mulch of a previous cover crop (such as *Brachiaria decumbens* or *Crotalaria*). The mulch will limit the growth of weeds and protect the young banana plants.

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Methodology

When establishing a new plot, the cover crop should tolerate light and not compete with banana plants.

Choice of a cover crop

A good cover crop for a banana plantation should possess many of the following characteristics: :

- · Creeping or short-stature.
- Fast-spreading (invasive).
- Complementary root system (e.g. nitrogen-fixing roots or deep roots that can capture water and nutrients not accessible to the banana plants).
- · Non-host of banana pathogens.
- Does not compete for resources such as water, light and nutrients.

Examples of cover crops

Nitrogen-fixing leguminous plants: Pueraria phaseoloides,
Desmodium ovalifolium, Centrocema spp., Stizolobium deeringianum,
Stizolobium niveum, Stizolobium aterreum., Canavalia spp.,
Stylosanthes guianensis, Arachis pintoi (tolerant to humidity and shade but host to nematodes), Neonotonia wigthii and Galactia striata.



Cleome rutidosperma Photo by Nicolas Fégeant, UGPBAN

Pesticide-reducing practices

Bagging

Biological forecasting system for black leaf streak

Biological forecasting system for

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Cover crop

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Other species: Teramnus volubilis, Melothria guadalupensis, Geophilia macropoda (host of nematodes), Vigna peduncularis (moderate tolerance to shade and cold, good weed control), Murdania nudiflora, Callisia cordifolia, Cleome rutidosperma, Drymaria cordata, Paspalum notatum, Commelina spp., Evolvulus nummularius, Impatiens sp. Brachiaria decumbens (it provides a good ground cover, improves fertility as well as soil structure and its biomass can be used as fodder).

Benefits of a cover crop

- · Protects the soil.
- · Helps structure the soil.
- · Provides organic matter.
- Reduces soil temperature and respiration.
- · Produces growth-enhancing substances.
- · Reduces nutrient leaching.
- Partially returns nutrients to the soil.
- Fixes nitrogen (when the cover crop is a leguminous)
- Buffers sudden changes in soil pH (when synthetic fertilizers are applied).
- Increases the soil's biodiversity.
- Increases the soil's mineralization through its decomposition.

Further reading

Control de malezas en plantaciones bananeras mediante el uso de coberturas nobles produced by Augura, Colombia's association of banana producers.

With a little help from (functional) biodiversity in the 3 April 2012 issue of InfoMus@

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This page is part of a series initiated by a grant from the Ministère français de l'agriculture, de l'agroalimentaire et de la forêt to the World Banana Forum. White



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