
Use of Legume Cover Crops in Orchards or Plantations

This is the theme of Cover Crop News # 7. A brief summary of the insightful six page report follows. For a copy, and to get on their mailing list, write CIDICCO, Apdo Postal 4443, Tegucigalpa MDC, Honduras, Central America. Phone/fax 504/32-7471. Now online at <http://www.cidicco.hn/>

Since the early 1900s legumes have been used as cover crops in oil palm plantations in Asia. More recently it is being evaluated for other trees: soursop (*Annona muricata*) in Costa Rica, citrus in Honduras and Surinam, bananas in Panama, etc. Primary benefits are controlling weeds, reducing production costs and use of chemicals, and increasing yields.

The largest oil palm plantation in Honduras has had an aggressive program of intercropping legumes for 15 years (at least 1,000 hectares). Weeding is one of the greatest expenses in the early years of establishing oil palms. They begin producing after three years, but it is six years before the canopy is dense enough to restrict weed growth. Many fruit trees never provide enough shade to substantially restrict weed growth.

Tropical kudzu, *Pueraria phaseoloides*, is the most commonly used legume. Seeds are small and slow to emerge, so one must start with a weed-free field, planting 5-8 kg of seed/ha. Full soil coverage occurs in about 10 months, so some weeding is required. Once established, the vine tends to climb trees. Cutting circles around the trees is the main labor in established fields.

There is so much shade in an established oil palm plantation that kudzu growth is reduced. At that time a more shade-tolerant legume, *Desmodium ovalifolium*, is planted at this particular plantation. A further benefit is that it does not climb trees. In Belize, "A privately owned farm called Parrot Hill operates several hundred hectares of citrus plantations covered with Desmodium."

Often farmers grow corn between rows in a new plantation. In this case, the legume of choice is velvet bean because it is much faster to establish. The drawback to velvet bean is that its vigorous growth requires much more frequent pruning around trees. [At ECHO velvet beans easily reach the tops of pine trees, though they have never hurt the trees].

CIDICCO, International Center for Information about Ground Cover Crops, is a networking organization. If you have had experience in this area, they (and ECHO) would like to learn details from you, especially from readers in Asia.

We have ordered seed for Desmodium (greenleaf variety) and are looking for a source of tropical kudzu. As usual, these are just trial packets to let you become familiar with the plant. For larger plantings, save your own seed or purchase elsewhere. [2015: ECHO does have both of those in the seed bank]

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