

Fertilizer Trees & Evergreen Agriculture Could Really Boost African Food Production



[Mat McDermott](#)

[Living / Green Food](#)

November 4, 2010



The so-called fertilizer trees are the acacias in the middle of this scene from Burkina Faso.

Photo: [Wikipedia](#).

Report after report has detailed the [high level of food security risk in Africa](#), a risk that's only likely to get worse in the coming decades without some serious agricultural changes. Presenting the antithesis to the high-tech, high-cost and genetically-modified industrial vision sometimes pushed on Africa, [Science Daily](#) reports on the potential of [evergreen agriculture](#) and the use of fertilizer trees to increase food production, in a low-cost and environmentally more sustainable way. Before we get into the presentation, made at The Hague, that Science Daily discusses, let's define some terms first. The [World Agroforestry Centre](#) explains that evergreen agriculture is simply the combination of trees in farming systems (agroforestry) with the principles of conservation farming (disturbing the soil as little as possible, crop rotation to replenish the soil, and keep the soil covered with crop residue).

Maize Yields Increase 280% in Malawi

What the original article talks about is the potential of one variety of acacia tree ([Faidherbia albida](#) or the apple-ring acacia) to boost crop yields.

For example, farmers in Malawi have increased their maize yields by up to 280 percent when the crop is grown under a canopy of one particular fertilizing tree, *Faidherbia albida*. Unlike most other trees, *Faidherbia* sheds its leaves during the early rainy season and remains dormant during the crop-growing period. This makes it highly compatible with food crops because it does not compete with them for water, nutrients, or light -- only the bare branches of the tree's canopy spread overhead while crops of maize, sorghum, or millets grow to maturity below. The leaves and pods also provide a crucial source of fodder in the dry season for livestock when nearly all other plants have dried up. The trees may continue to provide these cost-free benefits for up to 70 to 100 years.



Here's another look at maize growing under a canopy of Faidherbia albida, this time in Tanzania. Photo: World Agroforestry Centre

Examples from other Africa nations: In Niger 4.8 million hectares of millet and sorghum is currently grown in this way; in Zambia more than 160,000 farmers have begun to use fertilizer trees with crops covering 300,000 hectares. In the latter case, maize yields in the vicinity of these trees (the maize wasn't fertilized otherwise) was 315% greater than maize grown nearby but beyond the tree canopy.

Like this? Follow me on [Twitter](#) and [Facebook](#).

More on Food Security:

[How Will Food Security Be Affected by Climate Change, Energy Constraints & Water Availability?](#)

[Japanese Government Animations Explains Global Food Security](#)

[Afghanistan & Sub-Saharan Africa Have World's Greatest Food Security Risk: New Report](#) [Staple Food](#)

[Prices to Rise Up to 45% Over Next Decade, UN FAO Warns](#)

Tags: [Africa](#) | [Agriculture](#) | [Developing Nations](#)