



BRAZIL

NATIONAL STUDY

# PRODUCTION OF ON-FARM FERTILIZERS: A PRACTICAL CASE IN THE MIDWEST

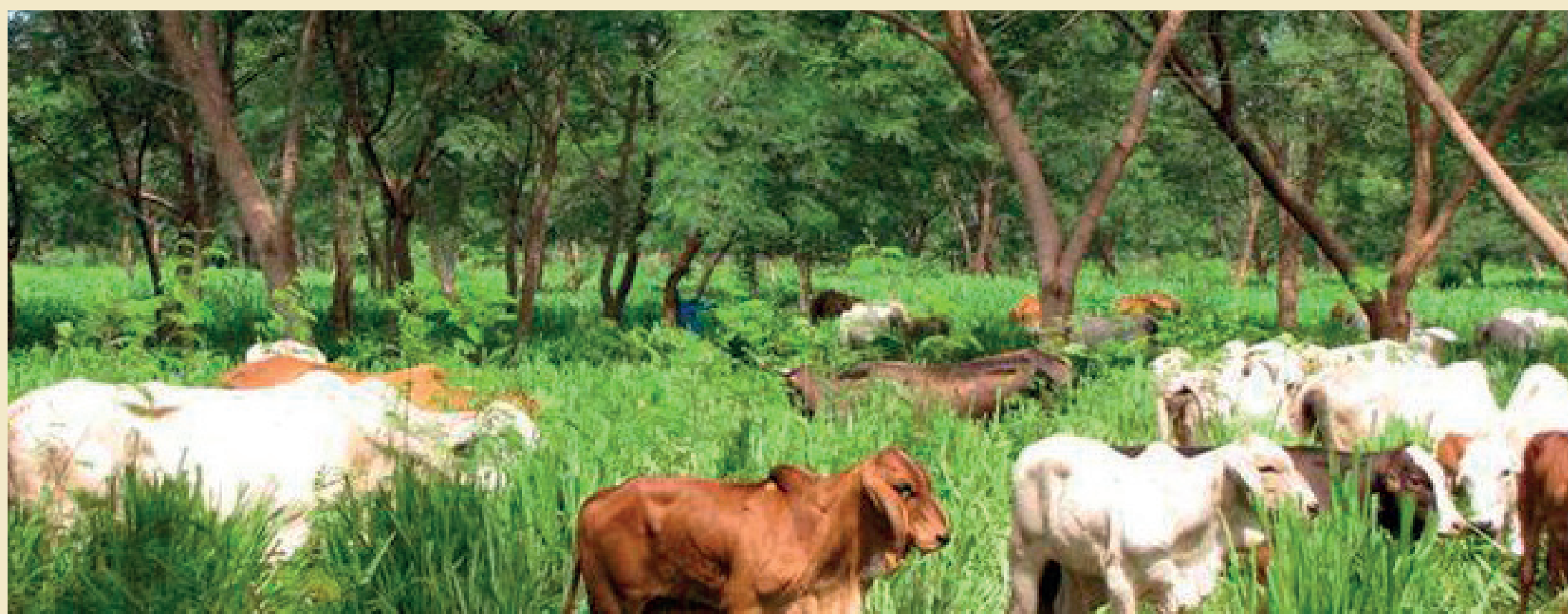
Producing on-farm fertilizers based on local organic residues is an empowering action for family farmers. For this reason, we conducted the project “Development of alternative fertilizers to support the agroecological management of family-based agriculture production systems in Goiás, Midwest Brazil”, from June 2014 to May 2017, aimed at developing and validating on-farm organic fertilizers in order to (1) help farmers to produce their own organic fertilizer by recycling local residues, and, by using these fertilizers, to (2) improve soil quality at low cost.

## IMPLEMENTATION

We worked in a participatory approach, along with two associations of small farmers, the G-Vida group (from the rural area of a city called Orizona), and the COOMAFAB farmers’ cooperative (from the rural area of a town called Buritinho). Together

with each group, we started the project through a survey of the most common and “easy to find” organic residues, which were: dairy cattle manure, grasses and banana leaves. From these materials, we worked on formulations of organic composts that would reach a final

carbon:nitrogen ratio between 25:1 and 35:1. The farmers organized their groups to produce the composts, which were ready for use in 90 days.



## TESTS AND RESULTS

Tests were conducted in the farmers’ areas, comparing the new fertilizers with the sources they normally used (or not) prior to the project (no-composted dairy cattle manure or no fertilizer at all). The composts were used to cultivate beans, rice and sugarcane, obtaining good grain yields (beans and rice) and biomass (sugarcane to feed animals).

We collected samples of the fertilizers and of the soil where these fertilizers were applied, to verify, by laboratory analysis, chemical, physical and biological quality. The costs of the fertilizers production on the farms were

close to zero, as the only cost was the farmers’ own labour. The multiplication and dissemination of knowledge occurred not only at the end of the project, as usual in conventional (non-participatory) research, but throughout the execution of the project, as farmers were the “multipliers” themselves. For this, some workshops were carried out during the project in both rural areas, involving the neighbourhood.

## CONSIDERATIONS

As a principle in Agroecology, local characteristics should be taken into account. Available organic residues vary over short distances, but any place in the world will have its own local/regional residues that are often wasted or underutilized. Our experience shows that it is possible to produce good quality on-farm organic fertilizers, starting with a survey of local organic waste and especially bringing together engaged people (farmers, researchers and agricultural technicians) to achieve the same goal. In addition, our approach is successful because the farmers representing each community are decision-makers.



## LINK TO THE SDGs

Strengthening family farmers and promoting their independence are crucial: to ending poverty (SDG 1) and achieving zero hunger (SDG 2); good health and well-being; (SDG 3) (70 percent of hungry people live in rural areas of developing countries); creating decent work in rural areas and generating local economic growth (SDG 8); and, consequently, reducing inequalities (SDG 10).

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