

# Progress of family agriculture in the state of Goiás, Brazil, from applied agroecology technology extension

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## ABSTRACT

The aim of this study is to discuss questions related to the transition from the paradigm of the conventional agriculture associated with the green revolution to the agroecology agriculture paradigm in Brazil. Two cases study were chosen to illustrate this transition: a collective settlement (Assentamento de Canudos) located in the municipalities of Palmeiras and Campestre and a family agriculture farm located in the municipality of Sylvania, both in the State of Goiás. The study was conducted by using data on technology extension practices, family perception on agriculture activities, field observations, and discussions made by social movements in the countryside. Among the proposed strategic actions to increase the family agriculture profit are the diversification of activities, increase of efficiency from using the available resources and the attendance to specific market nests, such as food production in an agroecological basis. The diversification of the activities aims to decrease the expenses, increase the profit, and take advantage of what the environment can offer and of the availability of workers. The usage of leguminous plants in association with gramineous allows the cycling of nutrients and the increase in soil quality. At the properties which associate crops and pasture, after processing, the animal wastes can be used as soil conditioners to improve the crops chemical and physical properties. Besides the reduction of potential contamination, the usage of animal wastes decreases the dependence on fertilizers, as a consequence decrease the production cost. It can be emphasized that the type of waste processing that is necessary for its use in agriculture, the land management, and the environment potential contamination are all influenced by the waste physical-chemical properties, soil characteristics, and climatic factors. Therefore, to increase the farmer's profit by using organic wastes in agriculture fields without negatively impacting the environment, studies are necessary that should consider the particularities of each agrossystem and at the same time have holistic perspectives to increase the production efficiency within each property.

**Keywords:** Agroecology, Nutrient cycling, Green manure