



Pilot Proposal: Integrated Grain/Hog Farms in the Altillanura

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Introduction - While grain production and hog production with imported grains are both well known in Colombia, the integrated model of farms producing the grains that serve as feed for hog production is almost unknown, except for one very large farm in the Altillanura. Preliminary feasibility analysis suggests that the integrated model has economic potential for medium and small farms. This pilot project proposal outlines a process for reducing uncertainty about the technology choice and for concretely testing the potential for owner managed and operated grain-hog farms.

The definition of a small or medium sized farm is cultural, depending on the type of farm and is contingent on technology. In some densely populated Asian countries a farm of 2 or 3 hectares would be relatively large. Garcia (2003) notes that in the Colombian coffee zone the average farm size was 6.4 ha. Traditionally, in the US the area of land allocated by the Homestead Act was 160 acres (about 65 ha). This was the area that was thought to be adequate to provide a farm family with a good living. In contrast the Family Farm Unit (Unidad Familiar Agrícola = UAF) set by law for the area of the Altillanura around Puerto Gaitán is 680 ha to 920 ha. Legally the UAF is set at the farm area required for a family to earn two minimum salaries from their agricultural work. The UAF for Puerto Gaitán was determined assuming extensive cattle production. With more intensive farming it may be possible for a farm family in the Puerto Gaitán area to earn a good living on a farm that is less than the UAF.

In many ways the definition of a small, medium or large farm is more about the goals of the farmer, who does the farm work and how the farm is managed, than it is about farm area. For instance, worldwide the stereotype of small farms is that they are subsistence farms. Small farms are thought to consume most of the farm products on the farm and almost all the work is done by the farm family. Medium scale farms are thought of as more market oriented, but still are managed primarily by the farm family and much of the work is done by family members. Everywhere in the world, large farms are often thought of as “factories in the field” with managers and workers.

Production on large farms is thought of as exclusively for market. In this stereotype, management goals on large farms are to maximize returns to investment. Obviously, individual farms vary enormously from these stereotypes. There are farms that are small in area, but very market oriented and with industrial type management (e.g., horticultural farms in Israel of less than 5 ha). Likewise, there are farms that occupy many hectares, but are managed mainly for subsistence.

For the purpose of the Grain-Hog pilot project proposal, small and medium farms are thought of as market oriented agricultural enterprises in which the family farm labor and management is key to success. A purchased feed hog farm in Colombia with 100 sows on 10 hectares may provide a good living. Given the economies of scale in grain production it may require more than 1000 hectares for a family to earn a living from grain alone. Synergies between the grain and the hog activities require rethinking the acreage and number of hogs needed for a successful farm.

Objectives – The general objective of the integrated grain-hog pilot project is to generate equitable and environmentally sustainable economic growth in the Altillanura through development of medium and small-scale integrated grain-livestock farms that can be replicated throughout the region. The specific objectives are to:

- 1) Determine the most profitable grain-hog farm options in the Altillanura including economic analysis of feed processing, swine waste management and crop equipment ownership alternatives to determine the most profitable options.
- 2) Work with existing small and medium farms that already grow grain or produce hogs with purchased feed, to help them integrate the two activities by offering technical support, credit and other services.
- 3) Develop a program that would create new integrated grain/hog farms in the Altillanura by offering technical and business management support, credit and other services.

Approach – The approach is to catalyze the efforts of Pork Colombia, Fenalce, Unillanos, and other Altillanura stakeholders to study practical alternatives for integrating grain and hog production on small and medium farms in the Altillanura and to test the most promising options on farms. If sufficient funding is made available, Purdue University would consider providing overall project leadership. A project management unit would be created in Villavicencio to coordinate activities, monitor progress and lead the way in solving the problems that will inevitably arise. The project management unit would be staffed by Colombians with strategic and technical assistance from Purdue faculty and staff. At Purdue a senior faculty member, assisted by a steering committee, would oversee the project. In university terms, this senior faculty member would be the “Principal Investigator” and project lead. Purdue University, through the management unit, would contract with Colombian organizations for specific components of the project. For example, Unillanos, Uniminuto and other organizations have expressed interest in providing technical training and the higher

education needed by those employed on integrated grain-hog farms. Pork Colombia is positioned to help provide technical support and training to farmers. Unillanos, Corpoica (now called Agrosavia) and other research organizations have expressed interest in collaborating with Purdue to provide technical support and applied research to solve production and processing problems identified in the course of the project. The management unit will work with national and international financial institutions to find credit for farmers and related businesses. The management unit will seek out educational institutions and non-governmental organizations that provide support for new and expanding businesses. The contractors and services providers will be part of a working group that meets monthly to insure good communication within the project and address problems early. A stakeholder advisory group would be developed to provide input on strategic decisions. The advisory group would include crucial stakeholders that are not contractors or service providers for the project, including the Ministry of Agriculture, FENALCE, Unidad de Planificación Rural Agropecuaria (UPRA), National Planning Department (DNP), Cormacarena, and Government of Meta.

The timeline would be:

Year 1 - Set up the management unit and contract with support organizations for research, education, technical aspects and business support. Research completed identifying the most profitable grain-hog alternatives with regard to feed processing, swine waste management and crop equipment ownership. Grain-Hog Success network launched with existing hog and grain farmers and those interested in entering the integrated grain-hog business.

Year 2 – Start working with existing hog and grain farmers adapting the research results. Grain-Hog Success network serves as a mechanism for producers to share experiences and provides feedback on project implementation strategy.

Year 3 – Continued work with existing hog and grain farmers. Based on research results and the experience in helping existing grain or hog farms integrate the two enterprises, a plan will be specified to create new grain-hog farms in the Altillanura. An initial five to ten farmer candidates will be identified and process started to plan their farms, build infrastructure and find financing. Grain-Hog Success network serves as a mechanism for producers to share experiences and provides feedback on project implementation strategy.

Year 4 – Launch five to ten integrated new grain-hog farms. Continue working with the grain farms and hog farms integrating the two activities. Grain-Hog Success network serves as a mechanism for producers to share experiences and provides feedback on project implementation strategy.

Year 5 – Launch another round of at least five to ten integrated grain-hog farms based on what was learned in Year 4. Continue working with the grain farms and hog farms integrating the two activities. Grain-Hog Success network serves as a mechanism for producers to share experiences and provides feedback on project implementation strategy. An internal evaluation and an external impact assessment identify successful strategies and make recommendations for scaling up.

The exit strategy is that by the fifth year the project management unit will close. By that time existing grain and hogs' farms integrating grains and hog production should be well established, and the new farms launched. Both existing farms and the new farms will rely on the Grain-Hog Success Network to share experiences and tap resources. The financial relationships between the farms and the bank will be independent of the project and will not require the project to continue. The final internal evaluation and the external impact assessment will summarize the project experience and provide the basis for future public and private investment in the local sector. In particular, the final evaluation and impact assessment should make recommendations about how the model can be adapted to other parts of the Altillanura.

Conclusions – The Altillanura Integrated Grain-Hog pilot project will test the economic practicality of family farms that produce grain to feed hogs in Meta and Vichada. The project will do research to determine the most profitable feed processing, waste management and crop equipment ownership options. It will work with farmers who currently grow cash grain and those which currently have purchased feed hog operations to integrate the other component. The project will develop a strategy for starting new integrated grain-hog farms. Because pork production throughout the world has shown a tendency to evolve toward vertical coordination using contracts and other mechanism, educational materials will be developed and disseminated to prepare farmers to make wiser future decisions in this eventuality.

The new farms will be UAF sized or if legal and regulatory permission can be obtained, smaller than UAF size. The owner managed integrated grain-hog farms will create a new category of medium and small farm businesses that will increase social stability in the region. The pilot project will create a replicable model of integrated hog production that can be extended throughout the Altillanura and may be applied to other non-ruminant livestock species (e.g., chickens, turkeys).

References:

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