

Comments on: Sugarcane for beef and pork production by C. Molina *et al.*

From Rena Perez (71055.111@compuserve.com)

Sugarcane for Beef and Pork Production (comments on the tenth paper):

In areas where swine production does not exist for religious reasons should we still promote the fractionation of sugarcane? What other species could be used?

In Cuba, we are setting up a duck operation based on cane juice and boiled reject soybeans. The program will involve the weekly reception of one thousand, 17-21-day old ducklings. A commercial broiler unit is being reconditioned for this program which should begin in December. There will be 7000 fattening ducks, daily, which means 7 sections "in" and 2/3 sections in "disinfection". The cane tops and pressed cane stalk will be integrated in a bovine production system similar to, and definitely promoted by, the Molina family in "El Hatico" in Colombia.

One additional comment relates to the extraordinary yield of whole sugarcane on the Molina farm, 255-480 t/ha, and in Colombia, in general, I believe some 160 t/ha. Such numbers are quite unlike average world yields, which, I believe FAO quotes as 60 t/ha of millable cane stalk or 70-72 of whole cane.

Finally, would the Molina family kindly comment as to whether they are presently pursuing this animal production system? Size of operation? And if not, what finally were the constraints?

Is information available on the yield of *Gliricidia* forage in wet/dry season (if the Valle de Cauca has a wet/dry period?) as a percent of total annual yield?

The results obtained at "El Hatico" have been widely circulated in Cuba amongst members of our cane cooperatives and sugarmill farms where they have definitely served to motivate the integral use of sugarcane for animal production.

Rena Perez, Ministry of Sugar, Havana, Cuba

From Molina family <cipav@cali.cetcol.net.co>

Answers on beef and pork production based on sugarcane (tenth paper)

1. In areas where swine production does not exist for religious reasons, should we still promote the fractionation of sugarcane? What other species could be used?

The fractionation of resources as sugarcane is useful not only for pork production. In the Colombian case, "panela" (artisanal sugar), an excellent substitute to sugar as an energy source, can be produced. In this option, the tops and the scums from the panela processing are also available for other species. The bagasse is used as an energy source for concentrating the sugarcane juice.

*2. How should *Gliricidia* or another legume be ideally produced in this integrated system?*

In integrated feeding systems based on sugarcane, the fodder trees have a major importance especially as sources of proteins. Because of the high yields from *Gliricidia* (15 tonnes of DM/ha/year) and their high level of protein (24%), this specie is an interesting alternative in order to reduce inputs from outside the farm. Trials have shown that the intake of fresh forage varies from 3 to 5% of the liveweight for adults and young respectively.

3. What other sources of essential amino acids needed in pigs' diet could be used in a sugarcane based system?

The pig production programme in El Hatico is recent and we are aware that it is necessary to investigate in this area but it was not our initial priorities. In Cuba, Dr. Vilda Figueroa and her group have information on this.

4. What levels of fertilizers are needed to produce those quantities of sugarcane and can they come from animal excreta?

The average level of fertilizers, mainly urea (46% N), in the Cauca valley is 300 kg/ha/year. In "El Hatico", trials of organic fertilization based on cattle and poultry manure have shown that considering the soils in this

flat part of the valley, 4 tonnes/ha/year of poultry manure can replace chemical fertilization with similar productions.

It is important also to refer to the research carried out by CENICANA on varieties requiring less nitrogen, and giving a good response to 150 kg of urea/ha/year.

Answers to Rena Perez' questions:

1. Would the Molina family kindly comment as to whether they are presently pursuing this animal production system? Size of operation? And if not, what finally were the constraints?

This integrated cattle pig production system based on sugarcane is still very important in El Hatico; at the moment, there are 200 pigs and 200 heads of cattle that are fed with sugarcane tops and a part of the pressed cane stalks. Anyway, we see that the best way of using the pressed cane stalks as a source of renewable energy. This takes into account that, even if the biological results are interesting for cattle (400 to 500 grammes of gain per animal per day), the costs of the supplementation (*Gliricidia*, bran, poultry manure and blocks) are not compensated by the current value of one kg of bull calf live weight. Every time we do a technical-economic analysis of the fractionation compared to the chopped whole sugarcane only for ruminants, we clearly demonstrate the advantage of fractionation.

2. Is information available on the yield of Gliricidia forage in wet/dry season (if the Cauca valley has a wet/dry period?) as a percent of total annual yield?

The production of *Gliricidia* in the conditions of the Cauca valley in dry season is better than in the rainy season, taking into account that this plant responds very well to the light and to moderate levels of the water table. The difference of production during the dry season compared to the rainy season can reach 20%.

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