

Comments on: The sugar palm tree as the basis of integrated farming systems by Khieu Borin

From Rena Perez (71055.111@compuserve.com)

Comments to Dr. K. Borin

Concerning a lack of sows: why don't you use the "gilt production system" and get away from even thinking about sows. Fifty percent of a litter will be females. Breed them early, aim for second oestrus, obtain a litter, after weaning, sell or slaughter. Even though the gilt produces fewer piglets, something like half-piglet per litter, she is, statistically speaking, a better mother compared to the sow. Another important factor: a sow requires, at least, one ton of dry matter, yearly. The gilt system combines "reproduction" and "production" in the same animal.

With respect to other problems, that of insufficient energy to condense the sap to syrup in order to prevent fermentation, why not convert the sap to meat. Perhaps, I am getting back to the problem of insufficient piglets, however, by implementing correctly a gilt system you could breed the gilts in order to make coincide the fattening phase of their offspring with the period of maximum sap production. In Cuba, we are using fresh soybean forage as a protein supplement for pigs, fed before the presence of the trypsin inhibitor. Has anyone at this conference any comparative data on the nutritive value of cowpea as compared to soybean forage for swine? Dr. Borin, as you have mentioned, there are lots of interesting problems to resolve, and from the tone, sometimes, of this conference some great chemists, available!

Rena Perez, Cuba

From Khieu Borin <borin@forum.org.kh>

Comments on Rena Perez' comments (sugar palm)

I would like to thank Rena Perez for her comments on how to get enough piglets for fattening them with sugar palm juice.

The problem is not only referred to the lack of sows. There are many factors involved in this matter. It is much more related to the religious belief of our people. The belief is that before rearing sows, they should have first married any daughter or son. But rearing fattening pigs are very common and popular among the farmers. This is why it makes the system unbalanced. However in some areas I have observed that they do rear sows. Each family rears up to 5 sows including the one without having married any son or daughter. The sow is kept until 7-8 parturitions when she is a good mother and then she is sold to the slaughter house.

The other problem is the high mortality rate of piglets from 1 day to 60-80 days. This happens due to the diseases including parasitic diseases, feed (quantity and quality), early weaning, etc. The government only supports the vaccination of the large animals (cattle and buffaloes) but not for pigs and poultry. Vaccines are not produced locally but they are imported. That is why there are problems in controlling diseases. The feed provided to pigs depends mainly on the poor quality rice bran (over 50% rice husk is included) and sometimes the quantities are insufficient. Early weaning is also a big problem. After weaning, piglets are transported far from the village to be sold. Most of them die between the first and third week after being sold to the second person. The reason could be that pigs are only dependant on milk from the sow before weaning, the stress of transport and the quick change of feed.

Rena Perez' suggestion of converting sugar palm sap to meat is really a very good one. We (myself and Dr Preston) have worked on it since 1993 (during FAO/TCP/CMB and the later SAREC projects). A good profit was made by feeding sap to pigs (for more details, please see Borin et al, 1996 "A study on the use of the sugar palm tree (*Borassus flabellifer*) for different purposes in Cambodia").

At present I am carrying out another trial financed by IFS to use cow peas as protein supplement with sugar palm juice based diet. But we do

not intend to use fresh cow peas because farmers will grow other crop after harvesting cow peas. So until now we ensile cow peas.

Concerning Rena Perez' comments related to tapping palms, we have been looking for other ways of extracting juice from palm trees. But we are not sure that we can get juice from the trunk of *Borassus flabellifer*. There are other people that can collect juice with the same method as you have described. It is a good idea that we hear something from Dr Saadullah from Bangladesh. He told me about that when we met in China. Farmers also told me that it is possible to get juice from the root system by digging the soil around the trunk (1 metre deep) and putting fertilizer. Later they will get a new root system which will be used for tapping juice. They can get a much higher quantity of juice. But there are reasons why it is inconvenient to practice this system. One of them is that the palm will stop producing juice for several years.

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From Rena Perez (71055.111@compuserve.com)

Palm Sap As Pig Feed (comments on Khieu Borin's comments):

Khieu Borin's beautiful comments revealing my ignorance concerning "before rearing sows, either a son or daughter must be married" have served to confirm the need to continue these electronic conferences, definitely conducive to a greater interchange with respect to the appreciation of cultural values and their affect on agriculture. Can anyone imagine his comment in a hardcopy, scientific contribution? Thanks again to the FAO/HQ coordinators.

I thoroughly understand the reasons for the high mortality rate of piglets up to 60/80 days: parasites, early weaning, stress of transport, etc. Has Khieu Borin tried removing the sow, rather than the piglets, in order to maintain the litter as an integral entity for several days before transport. This cuts down on stress. My experience in commercial piggeries showed that by treating the litter as a "family" during post

weaning, the measurement or indicator for post-weaning mortality could be reduced by some 30 percent.

Related to Khieu Borin's comments on the use of cowpea silage and sugar palm juice for pigs - some of our cane coop farmers in the eastern part of the country intend to compare a feeding system based on free-choice sugar cane juice and either fresh soybean or cowpea forage. They find that cowpeas do better and will plant a 7-row plot of cowpeas, every week. Let's compare results.

Rena Perez, Ministry of Sugar, Havana, Cuba