

**NICARAGUA**  
**ARAP**  
Agriculture Reconstruction Assistance  
Program

**NICARAGUAN PEANUT SECTOR STUDY**

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## I. EXECUTIVE SUMMARY.

This paper looks at the overall competitive situation of the Nicaraguan Peanut Industry and provides some possible avenues to improve it.

Nicaragua's main competitors in the world markets are Argentina and the West Texas region of the USA. Growing, shelling and transportation costs were compared versus those areas.

<b>Growing Costs</b>	<b>W. Texas</b>	<b>Arg.</b>	<b>Nic.</b>
Total, \$/HA	1,350	590	900
Yield, MT/HA	5.0	2.4	3.0
<b>Cost, \$/MT</b>	<b>270</b>	<b>245</b>	<b>300</b>

These costs are approximations of averages but show that there is room for improvement in Nicaragua. Closer comparisons show that the following areas need to be looked at: Field Work/Harvest, Seed and Chemicals (especially Fungicides). Benchmarking with Argentina seems most useful.

**Shelling Costs** are hard to get a good handle on, as they are proprietary information. However it is very likely that they are quite comparable between the countries under review, as all use the same processes and even machinery. Process yields are also very similar. Only in the area of storage and handling are improved efficiencies possible in Nicaragua. In the USA and Argentina the use of bags is much more limited and the move towards bulk much farther along.

**Shipping Costs** to Europe are very similar from Argentina and Nicaragua and only slightly lower from the USA. In any case, they are beyond the control of individual shippers.

Quality has been the strength of Nicaraguan peanuts in the world **Markets**. It is important that Nicaraguan peanuts continue to meet the overly strict European aflatoxin standards (as well as other quality specifications) while remaining fully cost competitive. The development of a regional market for peanut products should be seriously considered. International assistance for the development of such a market is a realistic possibility.

In the area of **Global Developments** the **trade restrictions** that result from the USA peanut program are not going to change before the present US farm bill runs out in 2002. At that point, the best Nicaragua can hope for is the buy out of existing production quotas. The realization that many natural foods, which were traditionally considered healthy, are very **nutritious** should benefit the consumption of peanuts. Stricter **health** standards for foods are more likely in the future. The opportunity for Nicaragua lies in the production of peanuts that are guaranteed free of aflatoxin.

## **II. INTRODUCTION.**

The purpose of this study is to assess the overall competitiveness of the Nicaraguan Peanut Industry versus its main competitors in the world markets. The Comparison should yield areas of relative strength and weakness. By building on the strengths and correcting the weaknesses the Nicaraguan Peanut Industry can still grow substantially and continue to contribute to the growth of the Nicaraguan economy.

In the following we shall identify areas that need attention because they have the potential to provide opportunities for improvement of the relative competitive situation of the industry. We shall suggest possible courses of action to capitalize on such opportunities.

Next we shall address the possibilities to broaden the markets for the Nicaraguan peanuts and the potential problems we may run into.

Finally we shall look into some likely global development and trends and the potential impact on the growth of the Nicaraguan peanuts industry.

## **III. COST COMPARISONS AND SUGGESTIONS FOR IMPROVEMENT**

The biggest producers of peanuts in the world are (in order): China, India, USA and Argentina. However, in China and India peanuts are primarily looked upon as an oilseed. Any production of edible peanuts for export seems to be a fortuitous by product of the main endeavor. The exports from these countries are so small in relation to their crops (less than 5 percent) that they could be maintained without problems even in the case of substantial crop reductions. Also, the decision to export from these countries seems to be more political than economical.

Because of these factors the real competitors that Nicaragua has to deal with in the world markets are the USA and especially Argentina. Our cost comparisons will therefore be focused on these two countries. Within the USA we shall concentrate on West Texas, the most competitive growing region.

### **A. Growing.**

The cost and yield figures that follow are approximations of those incurred, respectively realized, by an average producer under average conditions in the country (or region) concerned, based on the best information at our disposal.

**Peanut Growing Costs, \$ / HA**

COST CATEGORY	W. Texas	Arg.	Nic.
Land rent *	288	130	100
Farm work	100	95	140
Seed	125	90	150
Chemicals (excl. fungicides)	200	110	175
Fungicides	0	0	150
Irrigation (pumping)	150	0	0
Harvest	250	90	135
Transportation to plant**	0	25	25
Drying	50	25	0
Repairs, depreciation, etc.	137	0	0
Admin. and supervision	50	25	25
<b>TOTAL</b>	<b>1,350</b>	<b>590</b>	<b>900</b>

\*Includes irrigation in West Texas

\*\* West Texas drying cost includes transportation to buying point.

Yield, MT/HA	5.0	2.4	3.0
Cost, \$/MT	<b><u>270</u></b>	<b><u>245</u></b>	<b><u>300</u></b>

In judging the differences in costs between these regions we have to keep a number of things in mind: different areas include different things in the cost categories (e.g. it seems likely that at least part of the category Repairs and Depreciation of Equipment is included under Farm work in Argentina and Nicaragua); physical conditions are quite different (West Texas is basically a flat desert where nothing grows without irrigation and Argentina has flat, easy to work, large fields); financing was excluded from all figures and all figures are imprecise.

Having said that, at first glance it looks like there are some opportunities for improvement in Nicaragua.

The higher cost for farm work and harvest versus Argentina should be looked into but can possibly be explained by relatively smaller and harder to handle fields. (Versus West Texas the costs are lower once repairs and depreciation are included).

Argentina uses locally produced 80/100 for a large proportion of its seed in addition to some imported seed. This reduces the kilos/hectare and thus the cost/hectare for the same number of seeds. However, there is disagreement about the impact of this practice on yields.

The biggest opportunity exists in the area of chemicals, especially fungicides. Fungi are not normally a problem in Argentina or West Texas (too dry) but they are in the US South East. Quite a bit of work has been done at the University of Florida, for instance, on fungi and disease control. It seems that white mold can be controlled by rotation and/or the use of peanuts varieties that are resistant. It may be possible to reduce the use of (very expensive) fungicides in Nicaragua.

Because of the high temperatures and low humidity, which are the norm in Nicaragua at harvest time, the peanuts loose moisture at a very high rate while lying in the fields after digging. Most peanuts are brought to the shelling plant at well below the standard 9 percent moisture content. The moisture lost could have been sold for peanut price. In addition the very low moisture content may cause problems in the further processing of the peanuts. Consequently, buyers may want to negotiate a discount for such low moisture peanuts, exacerbating the loss. The use of so called "sandwich diggers" should slow the rate of moisture loss in the fields and has to be investigated.

## **B. Shelling**

Shelling costs are very similar in the countries under review. All use approximately the same process and even the same machinery (as there are very few suppliers). Labor costs are different of course and therefore picking tables are becoming rare in the US, as they replaced by more and more sophisticated sorting machines.

Exact shelling costs are proprietary information of private companies and not available. However, a good indication would be about \$90/MT of farmer stock excluding drying expenses. That is very similar to what the Nicaraguan industry charges the farmers as costs, in addition to their profit margin. Assuming that there is at least a small cushion in this cost we may conclude that the Nicaraguan Industry is fully competitive in this area.

Process yields, while variable from year to year, are also very similar between the three countries, with average edible nut production at about 72 percent.

There is a significant difference in the handling and storing of farmerstock peanuts between the countries. In the USA the peanuts are delivered to the buying points in bulk (mostly in drying wagons). They are sampled, graded, pre-cleaned and, if needed, dried. Next they are stored in bulk, in a warehouse and later transported in bulk to the shelling plants.

In Argentina the peanuts arrive from the fields mostly in bags and sometimes in bulk. They are sampled, graded, pre-cleaned and, if necessary dried. Next they are stored in bulk.

In Nicaragua the peanuts arrive in bags. They are sampled, graded, pre-cleaned and, if necessary dried. Then they are re-bagged and stored in a warehouse until needed in the shelling plant.

Considerable efficiencies maybe gained from going to total bulk handling of farmerstock peanuts. Reasons mentioned for storing farmerstock peanuts in bags were insect control and

identity preservation (I.P.). It should be investigated if insect control can be economically achieved in bulk storage as well as whether such a detailed I.P. is necessary or even useful.

Although temperature cables should be installed in bulk warehouses, it is very unlikely that spontaneous combustion would be a problem with the prevailing moisture content of Nicaraguan peanuts, provided that they are well pre-cleaned.

### C. Transportation.

Peanuts are shipped to Europe in bags, in containers. Shipping cost vary with the total demand for containers and the numbers of empties that have to be shipped back to Europe or supply to the country of origin. These factors are beyond the control of the individual shippers.

Below follows a comparison of approximate shipping costs from the peanut producing areas in West Texas, Argentina and Nicaragua to Europe.

#### Shipping Costs, \$/MT

COST CATEGORY	W. Texas	Arg.	Nic.
Inland freight	35	30	}
Sea freight	35	55	} 90
Port charges, FOB		7	}
Custom agents	}	}	}
Surveyors	} 17	} 13	} 12
Containers conditioning	}	}	}
Phyto Certificate	}	}	}
<hr/>			
TOTAL	87	105	102

Apart from developing a new way of shipping peanuts (e.g. in bulk) for which the economics so far have not been compelling, the above costs are very much a given, with no opportunities for improvement.

### IV. MARKETS: OPPORTUNITIES AND CONSTRAINTS.

All existing markets for peanuts are being supplied by traditional suppliers. For Nicaragua to enter these markets it has to displace these traditional suppliers. In trying to do so, the relatively small volume of its exports is an advantage as well as a disadvantage. On the one hand it can sneak into a market “under the radar”, on the other hand it is not important enough to make it a “must have” alternative origin.

In its endeavor to penetrate into existing markets it is imperative that Nicaragua maintains a superior quality while being fully price competitive. In the European market it is very important that Nicaraguan peanuts continue to consistently meet the overly strict aflatoxin

limits. Access to the USA market is totally artificially regulated by its quota system. However, quality remains a “*conditio sine qua non*”.

A major opportunity exists in developing new markets rather than going after existing ones. It does not upset competitors and therefore results in less price pressure. Of course such market development requires investment.

For Nicaragua we suggest the development of a local and regional market for peanut butter and/or peanut sauce.

In the USA fully half of all peanuts are consumed in the form of peanut butter. This is understandable if one realizes that peanuts are eaten only every now and then as a snack but peanut butter is consumed almost daily in “peanut butter and jelly” sandwiches.

Peanuts and peanut butter or sauce are very nutritious. They provide calories through the high content of healthy unsaturated fat and are an excellent source of protein, like most legumes, while imparting a very pleasant taste. All at relatively low cost. As such they are an excellent complement to bland, starchy foods, such as bread, rice, cassava, etc.

As bread is, in Central America, not the staple that it is in the USA, it is suggested that Nicaragua concentrates on developing a market for peanut sauce rather than for peanut butter. The starting point could be a peanut sauce that is used extensively in Indonesian and Indochinese cooking. It basically consists of finely ground peanuts, mixed with some coconut milk and spices. It is used on sateh/satay and over white rice as well as in a number of other dishes. A variation of this sauce, adapted to Central American tastes and complementing the taste of the starchy staple of the region could be developed.

As such a product could vastly improve the nutritional situation of the poor in Central America and as it would not compete with USA peanuts in existing markets, it seems very possible that substantial international aid could be obtained for a campaign to develop such a market. Obviously, it would at the same time increase the demand for Nicaraguan peanuts, thus helping to rehabilitate agriculture in the areas affected by hurricane Mitch.

## **V. GLOBAL DEVELOPMENTS.**

### **A. Trade Restrictions.**

By far the most important trade restriction impacting the peanut industry is the USA peanut price support system, which includes prohibitive out of quota import duties and a very limited import quota, most of which is reserved for Argentina. In the next WTO round, the USA is supposed to increase access to its markets, but at this time no such round is agreed upon and substantial differences of opinion about the agenda might delay the commencement for years.

An earlier opportunity for reform comes when the US farm bill runs out in 2002. Continuing liberalization of the peanut trade with Mexico, mandated by NAFTA, and the fear of forced further opening of the domestic market through a later WTO round of talks,

lend a certain urgency to reform of the peanut program. What form such reform will take will depend on which political party will be in power in the USA as well as the state of the agricultural economy in general, at the time the decision will have to be made.

The best possible outcome for all concerned would be a buy-out of the rights of the domestic quota holders. Foreign as well as domestic industry organizations and their allies should lobby for a non trade distorting peanut support program, preferably through a buy out of the quota holders.

## **B. Nutrition.**

After a period during which almost any consumption of any kind of fat was considered a life threatening activity, more reasonable insights are now gaining ground. It is recognized that consumption of too little fat is harmful, that some types of fat seem to be not harmful at all, or even beneficial and that others are not harmful to normal healthy people as long as they are consumed in moderation. In addition it is recognized that many natural foods, which were traditionally considered healthy, contain micro nutrients that have a very beneficial effect on our bodies. This move away from scantily supported, overblown, negative hype against consumption of fat and towards an appreciation of natural foods should benefit peanuts and peanut products. The Peanut Institute in the USA has sponsored research to confirm the benefits of the inclusion of peanuts and peanut products in the diet.

## **C. Health.**

Most likely the trend toward diminished tolerance of potentially harmful (especially carcinogenic) substances in food will continue. In the case of peanuts this means that it is very likely that, at some point, the rest of the world will adopt the strict European standard for aflatoxin. It also provides an opportunity for those producers that can “eradicate” aflatoxin, i.e. guarantee that they will consistently produce aflatoxin free peanuts. As aflatoxin in peanuts is the result of drought stress during the growing season, adequate irrigation of all peanuts produced can accomplish this. Quite possibly inoculation of the soil with a benign (non aflatoxin producing) form of *Aspergillus Flavus* may produce the same result. Research has been done in the USA on this process and it should be investigated.

A small number of people is allergic to peanuts and may have violent reactions to the ingestion of even very small amounts of peanut protein. Possibly even resulting in death. Although research is being undertaken to breed out the offending amino acid (or even remove it through genetic modification), a solution is not in sight. Unfortunately the same is true for the development of a vaccine that would protect the afflicted. In the mean time producers of consumer products containing peanuts, or possibly contaminated with peanut products must take great care to insure correct labeling of such products.

## **VI. CONCLUSION.**

The Nicaraguan Peanut Industry is in a fairly good competitive situation vis a vis its main competitors, the USA and especially Argentina. There are a number of areas where

improvement might be possible. Ways to reduce the use of fungicides should be investigated as well as the use of sandwich diggers to maintain moisture content. Also seeding practices should be compared with the USA and Argentina. Handling and storing of farmerstock peanuts in bulk instead of in bags should improve efficiencies.

The main opportunities for accelerated growth of the Nicaraguan peanut industry are suggested to result from being able to guarantee consistent production of aflatoxin free peanuts and from the development of a local/regional market for value added peanut products.

Reduction in the financial incentives for the production of peanuts in the USA may, over time, create additional space in the world market for Nicaraguan peanuts. Nicaragua (and everyone else) would benefit from the elimination or reduction of the market distorting USA.