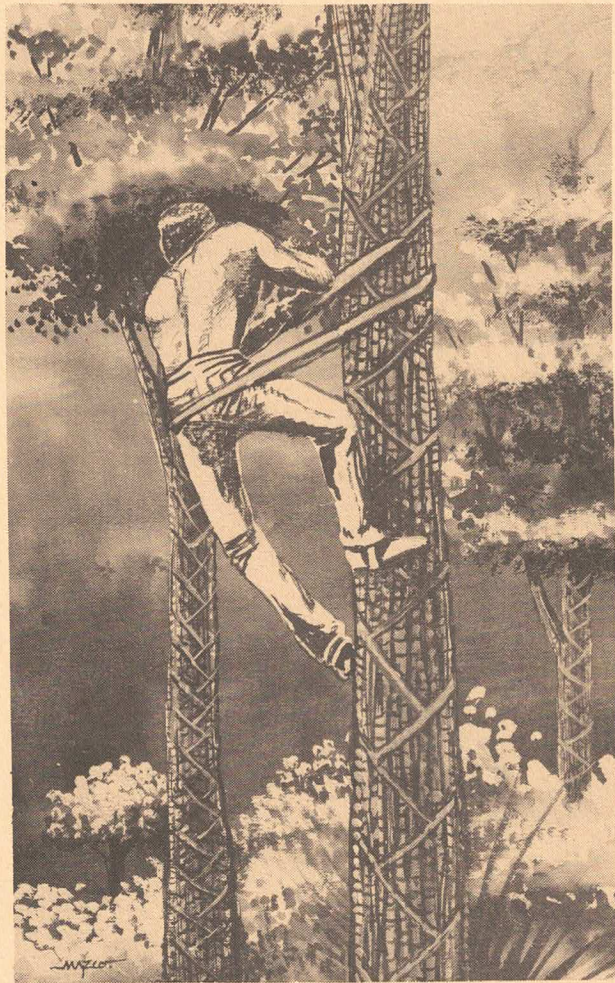
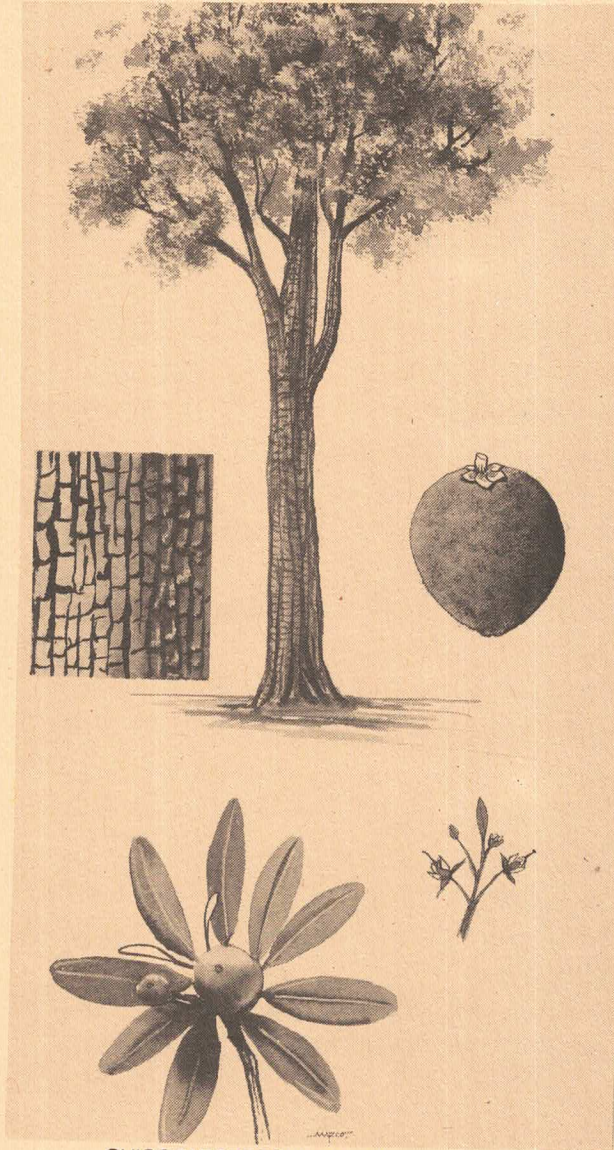


# CHICLE

## THE NATURAL CHEWING GUM



AMIGOS DE SIAN KA'AN, A.C.



CHICOZAPOTE TREE *Manilkara zapota*  
CLOCKWISE: TREE, FRUIT, FLOWERS, LEAF DETAIL WITH FRUIT  
AND BARK

## WHAT IS CHICLE

Raw chicle comes from the sap of the "chicozapote" tree. This coagulated milky juice, called latex, is the basic ingredient for producing chewing gum. Some uses of chicle include teeth cleaning, strengthening gums, aiding digestion and preventing bad breath.

## THE CHICLE TREE

The chicle tree or chicozapote (*Manilkara zapota*) also called "yah" in Mayan, is one of the most common native trees found in the tropical forests of the Yucatan Peninsula, Belize, and Guatemala. The strong, hardwood tree grows to a height of 120 ft. Used as a building material by the ancient Maya in the construction of their temples, archaeologists have come across several sites where the original hardwood is still in good condition after some hundred years. Today the wood is used for building docks and thatched structures or "palapas". The fruit and seeds are edible and eaten by both man and animals. The chicozapote tree is best known for it's chicle and use in chewing gum production.

## CHICLE TAPPING

Extracting chicle, an activity known locally as "chiclear" or "tapping the chicle" is done during the rainy season, without destroying the tree. Should a tree die after chicle extraction, it is because the process was executed incorrectly. The extraction is done by the "chiclero" who uses a machete to cut a herringbone pattern superficially on the tree bark along the length of the tree. The latex oozes out of the cuts, down the trunk and into a canvas bag at the base of the tree. After a tree has been tapped it is allowed to rest for three to five years. With suitable resting periods, a tree can be tapped for many years. This gives younger trees time to grow to productive sizes and replace the



older trees before they stop producing. The process allows the natural restoration of the chicle trees without sacrificing production or the role the trees play in the forest ecosystem.

## **THE PREPARATION PROCESS**

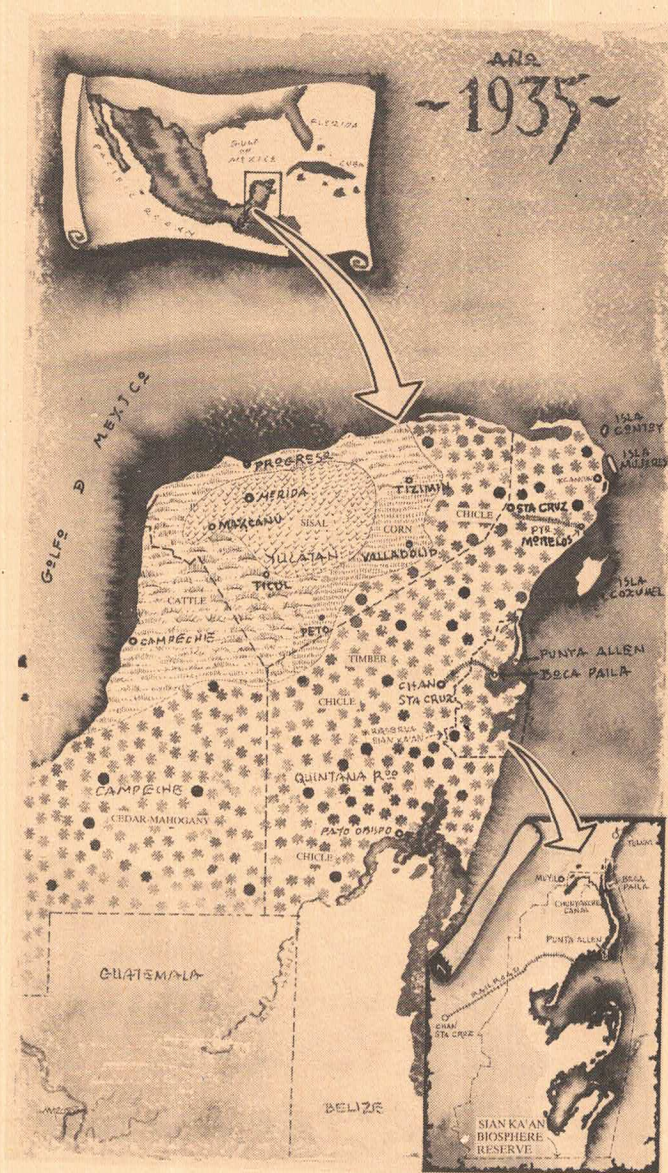
In order to drive out excess moisture the latex is slowly cooked in large kettles, of approximately 16 gallons, over a continuous fire. The raw latex must be constantly stirred until it has the consistency of paste and turns a light tan color. The cooked chicle is poured into rectangular molds. Once the molded chicle has cooled and hardened, each particular "chiclero" puts his mark on the block or "marqueta".

At this stage chicle is ready to be processed into chewing gum. There is a more traditional way to prepare chicle. Locally, it is known as preparing "chicle blanco" or white chicle. Raw latex is kneaded by hand or with a stick until it has the consistency of paste. The object is to work out as much moisture as possible. White chicle is the product that was originally used for chewing gum. The heatless process preserved the flavor and aroma of the tree. White chicle's labor intensive production and flavoring command a higher market price.

## **CHEWING GUM AND IT'S HISTORY**

Be it as a distraction or as a ritual, throughout history and all over the world substances have been chewed. In Mexico the substance was chicle.

The term chicle originated from the Nahuatl "tzictli" and came from the "tzictlzapotl" or chicozapote tree. The Maya called it "sicté" and chewed it to clean their teeth since prehispanic times. The paste was also used to mold and sculpt figures which were used as offerings. Bernardino de Sahagn a friar who wrote about his time with the Aztecs reported that the "women of ill repute" could be identified by their gum chewing habit.



THE YUCATAN PENINSULA TAKEN FROM A 1935 MAP  
INDICATING THE MAIN ECONOMIC ACTIVITIES.

The Mexican habit of chewing chicle crossed the international border and chicle became a sellable product in the United States. Thomas Adams, an ex-officer in the U.S. Army was assigned to care for a particular distinguished "visitor" who had been exiled to the United States; General Antonio Santa Ana of Texas Alamo fame and ex-president of Mexico. In a conversation with Mr. Adams, Santa Anna spoke of chicle. After explaining all its benefits, he convinced Adams to buy a ton of gum to adulterate rubber. After a year of experimentation without results, Adams decided to shelve the project. Some time later, Adams overheard a girl in a pharmacy asking for paraffin wax to chew. He remembered the ton of useless chicle stored away in his warehouse; he also recalled the General's comments that Mexican chicle was used for chewing. Adams and his son brought the chicle to their house and began experimenting anew, producing the first chewing gum in the United States. The little balls of chewing gum were a smashing success on the American market.

In 1869 a patent was issued for chewing gum and according to historians, Adams first real break to introduce this product to the American market came with World War I. He was able to convince the War Department that sticks of flavored, sweetened gum included with meal rations would be a morale booster for soldiers. Thus came the image of the gum chewing G.I. in Europe and general popularity for the product when the soldiers returned home.

The "chewing gum culture" created a high demand in Mexico for the blocks of resin. Southern Mexico including the Yucatan Peninsula and various regions of Guatemala and Belize were raw material production centers. By 1917 "chicle fever" had taken over the region.

Before the 1930's, record-breaking quantities of chicle were being exported from Mexico. A drop in international market prices then caused a drastic drop in production. This was followed by a new high during

World War II, and a definite crash with the development of synthetic gum (polyvinyl-acetate), a derivative of petroleum after the war. With the drop in demand for the natural chicle, the product lost its leading economic position in the region.

## **CHICLE AND CONSERVATION**

Chicle trees can be repeatedly tapped without destroying them. In contrast, other forest resources are not so fortunate. Inherently, the local people will protect the trees and forests as long as tapping the chicle trees continues to be an income generating activity. Chicle production excludes cutting the forest for cattle raising or agricultural purposes. Wildlife will have fruits, seeds and a home. We can all benefit from this renewable natural resource.

## **"GREEN" CHICLE**

In today's environmental climate people are looking for products that are natural. People are avoiding chemical additives for health and environmental reasons. Consequently, the desire to have a piece of chewing gum made from natural chicle instead of one from petrochemical products may assure chicle, a centuries old product, a permanent place in today's market.

Manufacturing chewing gum from a base of natural chicle is an excellent opportunity to promote chicle extraction into a lucrative, and ecologically sound commercial venture. Such a program could promote the sustainable tapping of chicle and long term existence of tropical forests. If tapping is done at a sustainable level - as measured by the natural renovation of the trees - harvesting should be controlled less by market demands and more by the natural availability of tappable trees.



## CHICLE HISTORY IN QUINTANA ROO

- 1847- The Maya uprising and attack of Tepich. The Caste War had begun. After centuries of being subjugated the descendents of the ancient Maya finally launched a grand scale attack to recover THEIR Yucatan Peninsula from their "white" masters. While the city of Merida, under Maya siege, was being evacuated the seasonal rains began to fall. The Maya, ever agricultural knew it was time to plant. They took to the forests of central Quintana Roo. Here they could live "independently". Their religious and political headquarters were later established in Chan Santa Cruz, now the town of Felipe Carrillo Puerto. Here they listened to the oracles of the "Talking Cross" for guidance.
- 1849- Two Mayan generals, Venancio Pec and Florentino Chan, met with the Superintendent of Belize to solicit protection and territorial status under the Crown of England. Pec and Chan wanted to go to Europe and meet with Queen Victoria.
- 1880- Major production of chicle began in the northern part of Quintana Roo, well away from the rebel Maya, by two companies;. "Cia. Colonizadora de la Costa Oriental" and "El Cuyo y Anexas".
- 1901- The Mexican General Ignacio Bravo entered Chan Santa Cruz with federal troops and found no resistance due to internal strifes and plague. The town had been abandoned. This stand officially brought to a close the military phase of the Caste War. The name of the Maya headquarters was changed to Santa Cruz de Bravo and became the territorial capital, and penal colony.
- 1915- Mexican General Salvador Alvarado returns Santa Cruz de Bravo to the Maya. The white residents were given eight days to move their

belongings and evacuate the city. They migrated to Payo Obispo, the new territorial capital, now Chetumal. With the whites out of town, the Maya under the direction of Maya General Francisco May destroyed the infrastructure that the invaders had constructed.

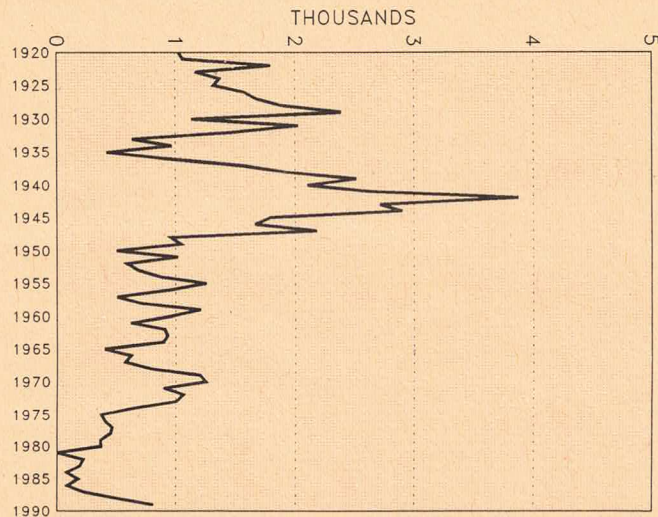
1917- Julio Martin, a non-Mayan obtained the concession from General May to harvest chicle through the Company Martin & Martinez. The new territorial Governor Octavio Sols arranged for General May to go to Mexico City and meet Mexican President Venustiano Carranza. The President granted General May personal control over 20,000 hectares of forest, money, and the rights to use the railroad system between Santa Cruz de Bravo and the coast. When May returned had absolute control over the Quintana Roo chicle industry. Forty five tons of chicle were produced in the area that year. The railroad was made operational and Martin & Martines Co. established collection centers for chicle in Santa Cruz and in Central Station, located on the rail line halfway to the coast.

1922- Under the leadership of General May, a Maya Co-op was created to be in charge of the commercialization of chicle. Chicle was exploited under two systems: by Maya working together and independently in a camp or by giving concessions to individuals. The second system caused conflicts with Maya General Juan Bautista Vega who governed from Chumpn and decided to work independently in his area. Since he could not use May's railroad, he established the chicle collection center of Muyil, and took his product by boat through the Chunyaxche canal to Boca Paila and the sea.

1925- Annual production of chicle rose to 1,319 tons.

1927- The Minister of Defense awarded contractor Miguel Angel Ramoneda the concession for the railroad tracks. General May retained possession of the station, platforms and engines.

1929- Chicle production reached a peak of 2,391 tons and the price went up to \$50 pesos per block. General May starts losing control due to internal conflict between the Maya generals. The conflict was instigated by the federal government by granting chicle concessions and awarding military promotions. The territorial Governor Doctor Sirub signed a treaty with General May



CHICLE PRODUCTION IN METRIC TONS FOR QUINTANA ROO

and the Maya leaders, an event considered the final chapter of the Caste War. All of May's concessions were revoked. The "whites" were now in control. In this treaty the Maya supporters of May finally swore allegiance to the flag of Mexico and promised to never again fly the English flag nor any other country's flag in the villages. The Maya also agreed to let teachers come into their communities, permit the construction of highways, and agreed to accept the fact that the land they lived on was the nation's and not their own. To protect the very lucrative chicle industry, the Federal Government sent the 37th Battalion to occupy Santa Cruz and other locations.

- 1930- The world economic depression caused the bottom to fall out of the chicle market. The price per block dropped to \$30 pesos. President Pascual Ortiz Rubio declared that chicle was a public patrimony because the majority of tapping for the latex was being done in National Forests. He determined that tapping procedures should be regulated and enforced by the federal government.
- 1932- Chicle prices fell to \$17.50 pesos per block.
- 1935- Annual chicle production fell to 426 tons.
- 1936- A committee was created to promote and regulate chicle production and exportation.
- 1941- World War II generated a new surge in chicle production.
- 1942- Chicle production broke all previous records with a peak of 3,876 tons.
- 1950- Once again, the chicle industry fell into a serious decline, with natural chicle being replaced by artificial chicle.
- 1965- After several years of a fluctuating market that continued to fall, annual production fell to 406 tons.

- 1980- American chewing gum companies completely quit using natural chicle. The following season, no chicle was harvested.
- 1989- Annual production rose to 813 tons, due a new market primarily in Japan and Italy.
- 1990- Approximately five percent of Quintana Roo's population are seasonal "chicleros"; the majority of them are Maya.
- 1993- The first Tri-National Convention between "chicleros" from Mexico, Guatemala, and Belize was held in Chetumal, Quintana Roo. Chicle is sold as a souvenir in Cancun.



PREHISPANIC PLACENAME THAT MEANS " PLACE OF THE CHICLE TREE", TAKEN FROM THE CODEX HERNANDEZ



## Sian ka'an

reserva de la biosfera

Biosphere reserves are a new concept of protected areas in which the goals of conserving the flora, fauna and ecosystems are integrated with the needs of the local inhabitants. In biosphere reserves conservation is not conceived of as prohibiting use, but rather as rational and long term sustainable use of resources. The Sian Ka'an Biosphere Reserve was created by presidential decree on January 20, 1986. Covering 1.3 million acres along the central coast of the state of Quintana Roo, it is among the largest protected areas in Mexico. Approximately one third of the reserve contains tropical forest, while another third is composed of savannas and mangrove, and the last third contains coastal and marine habitats, including a section of the second longest reef system of the world. Sian Ka'an forms part of the International Network of Biosphere Reserves and in 1987 was included in the UNESCO list of World Heritage Sites. Amigos the Sian Ka'an is a nonprofit, private association, whose goal is to make the Sian Ka'an Biosphere Reserve an example of conservation and rational use of natural resources in Mexico. Amigos the Sian Ka'an serves as a channel for the private sector's conservation efforts, and collaborates with the local, state and federal governments, as well as the local inhabitants of the area, in its effort to achieve the objectives which motivated the creation of the reserve. One of the aims of "Amigos" is to help the local people to make a living out of the forest and thus create incentives for its long term conservation. This project for alternative chicle marketing is an effort towards this end.

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# JUNGLE GUM

## Did you know that...

...you have been chewing polyvinyl acetate instead of true chicle?

...chicle comes from the sap of a tree from the tropical forest?

...chicle was originally taken to the United States to be used to adulterate rubber, also a type of sap from a tropical forest tree?

...Quintana Roo was an independent Maya state until 1901 and that the rebel Maya finally were brought under control because of the chicle industry?

...this piece of natural chicle is an authentic Quintana Roo souvenir that comes from the area around the Sian Ka'an Biosphere Reserve.

...BY PURCHASING THIS PRODUCT YOU ARE HELPING PROTECT THE TROPICAL FOREST!

