

Bambusa®: Pioneering Latin America's First Bamboo Craft Beer



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Brewery : *Bambusa*® - Cholula Pueblo, México

1) Introduction

For more than a decade in México two movements have emerged, one economic, one social. On the one hand, there's the movement around the culture of craft beer, and on the other the development of those working with bamboo. The reasons for these events have to do with the beer culture in México, as well as the consumption of over 61 litres [16 gallons] per capita per year and the establishment of almost 2 million hectares [5 million acres] in the southeast of the country.

These two situations resulted in the opportunity to leverage the many benefits of bamboo, creating the first craft beer in México. This innovation is based on the experience of growing bamboo species on a small scale in the mountainous northern regions in the State of Puebla.



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2) Background

At *Cerveceria Bambusa*®, the taste of our beer arises from our passion for bamboo.

Bambusa® was born out of an entrepreneurial necessity and an innovative vision to create a unique product of its kind; with a distinctive character and identity; looking for an authentic concept. Thus creating, “The first Mexican and Latin American beer made with bamboo” produced from an aqueous extract, from the organic leaves of a variety of the genus, *Bambusa* that grows in the Mexican tropics and is the principal ingredient that makes this unique beer.

Our Beginnings

It all began in 2011, when the Ministry of China put out a call to Mexican candidates with a training course entitled, “Training Course on Bamboo Technologies 2011, for Developing and Emerging Countries”, to be held in the Province of Zhejiang’s capital, Hangzhou. As founder and owner of *Bambusa*® I decided to apply and was awarded a scholarship. During the two-month stay my understanding deepened over this fascinating plant, and documented its various commercial uses and multiple economic and social benefits. I learned about the different success stories in both towns and entire regions that had been transformed by incorporating bamboo into their social, economic and environmental lives. On this trip I learned the many uses of bamboo in juice, tea, and beer.

I returned to México with the express idea of developing the first prototype of a national and Latin-American craft beer made with bamboo and to penetrate the growing market of Mexican beer with this formula. I trained as a brew master and gradually developed the recipe, a harmony that comes from the extract of bamboo leaves. This is based on German and Belgium recipes that use wheat and barley malt in high proportions.



3) Identifying with the Market Opportunity? (Explanation)

Due to the current national trends in the country there is a considerable movement towards the craft beer movement and the high consumption of beer in the country being 61 litres [16 gallons] per capita, opening a niche market which identifies economically active young people between the ages of 25-35 years of age.

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Along with this beer movement -- which is now more than a decade old -- one can see considerable national interest in the growing of bamboo with 10-12 year old commercial plantations mostly in the southeastern Mexican states. It is in this sense that we seek to devote ourselves to these two markets.

One finds market opportunity in both. On the other hand, you can begin with the plantation itself, having diverse species for different commercial uses; but one realizes that there will be no profit during the first years of growth of bamboo until the culms reach their optimum maturity for commercial production. This is where we are given the task of finding an alternative for the plantation.

Therefore, we are conducting research into the properties of both culms and shoots in order to identify possible varieties for consumption as edible shoots, along with the suitability for the possible development of a bamboo beverage. It has been discovered that the leaves - which are normally discarded in México -- could be a value added item in the development of the beverage industries of beer and tea.



4) Why beer made from bamboo?

I am a small producer and bamboo admirer [enthusiast]. I have my own plantations in the northeastern mountains of Puebla with diverse species of bamboo grown for different uses (Among which are: building materials, laminates, furniture, crafts, ornamental and landscape use, charcoal and paper) and one of these species I grow - *Bambusa oldhamii* - is the one that I use to supply the raw material for brewing.



5) Our innovations using bamboo - How we are resolving some major stumbling blocks:

Innovation: Logistics Operations.

Innovation: Finding more efficient ways in the processes of extraction, maceration and fermentation.

Innovation: Associating and learning from knowledgeable colleagues.

Rehearsing and testing (A trial and error in order to achieve the most balanced recipe)



6) The bamboo species, *B. oldhamii* and its growing potential in México

This species is currently widespread throughout the country, with various uses from craft furniture, doors, and windows, ornamental uses, as well as edible purposes, and currently in use in alcoholic beverages.

How can we develop a beer from a leaf extract of a variety of bamboo introduced as *B. oldhamii*?

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What gives this species the potential to be an economic alternative in the Mexican landscape?



7) The added value in using the leaves (Active Ingredients)

People often assume that one can only use the shoots, while the leaves and other parts are considered waste. This is very different in China, where the use of bamboo leaves has a lengthy history with its use in medicines and foods. In the case of our country (Mexico), we need to show the value in the active ingredients of the leaves.

As for the active ingredients in leaves made from bamboo selections – they are used as a source of flavonoids as antioxidants. Flavonoids reduce inflammation, stimulate circulation, and inhibit allergic reactions.

Silica is one of the most important components of connective tissue: cartilage, tendons, and some of the elements of the arterial walls, the skin, hair, and nails.

Silica is eliminated through natural processes of urination (urine), hair loss, and nail trimming.

The average adult body contains approximately 20 grams [0.71 oz.] of silica, and it's necessary that the body's reserves maintain this to promote good health. As we age, we assimilate less silica, thus the daily supplementation of bamboo would help maintain this necessary equilibrium and help to minimize the effects of premature aging.

Silica plays an essential role in mineral absorption and may help in the recalcification of weakened bones [osteoporosis] / soft tissue deposits of calcium.



Bamboo extract: The richest known source of natural silica

8) Company logo and description

Bambusa® is a microbrewery 100% Mexican, a pioneer in the production of bamboo, utilizing human capital, the skills, knowledge, and experience of financial and national talent.

Currently, the *Bambusa*® microbrewery has 5 full-time and 20 part-time employees.

Thanks to the growth of *Bambusa*®, a market for bamboo beer has developed in México.

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9) Objective

To introduce the operations process of agribusiness, the manufacturing and marketing of the first artisanal beer from bamboo, to compete in the rising market of craft beer in México with a different and unique product, possessing singular qualities and ingredients of the highest standards, within the wide range of styles and flavors from recipes produced in México.

Specific Objectives:

- To develop the first Mexican craft beer prototype from organic bamboo, respecting the traditional brewing process.
- Adding value to the addition of the leaves of *Bambusa oldhamii* as raw material in alcoholic beverages to the Mexican consumer.
- Integrating the supply chain of “Craft Bamboo Beer” for the growing niche market in the country.
- Design a marketing strategy that incorporates the taste of the Mexican consumer, focusing on the traditional brewing techniques of craft beer with the distinctive feature of bamboo / with bamboo.



10) Procedure / Method

Ingredients for brewing beer are: wheat malt, German and American hops, yeast, water and the organic extract of bamboo.

The grain used for brewing is wheat, based on a German style that contains a high proportion of this grain. This is a beer of high fermentation temperatures with yeast, used in ale wheat beers with fermentation temperatures ranging from 18 – 25 Celsius [65 – 77 Fahrenheit], called *Saccharomyces cescerevisiae* and tends to stay on the surface of the fermenter. The weizen ale produces the typical spicy and fruity character. The water used is soft. We use a one-step mash program, in macerators of food-grade stainless steel.

We get the extract from the fresh leaves of bamboo variety, *Bambusa oldhamii* then perform a steam stripping, obtaining an organic aqueous extract. Then it is incorporated into the beer fermentation process in food-grade stainless steel fermenters. At 15 days after bottling, without filtering, what occurs is that the yeast sediments will produce a second fermentation.



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11) Beer characteristics

The beer, *Bambusa® Weizen* is based on the type of “weizen” German beer, incorporating an organic extract of bamboo into a harmonious marriage of bamboo plant and beer. This results in a delicious and unique craft beer based on wheat and bamboo. This type of ale (high fermentation style), is fermented with yeast and based on wheat beer.

In the case of *Bambusa® Hefeweizen* it possesses a fruity and spiciness. It has a refreshing finish with slight bitterness. With the addition of an organic extract of bamboo it gives it a particular character, very refreshing, well balanced; with a final herbal note; from light to medium body, never heavy. Cloudy beer can or cannot be served with the yeast sediments swirling around in the bottle. It is characteristic of having a thick head of foam that holds up.



The *Bambusa Dunkelweizen* is a refreshing ale based on wheat and bamboo, seeking an appropriate equilibrium between wheat malts, toasted malts, two types of hops, and the organic bamboo leaf extract. Fairly dark, spicy, fruity, herby with a malt flavor.



12) Commercialization and Marketing

The official launch of *Bambusa* has had both a national and international impact. *Bambusa* is actually marketed in four of the Mexican states -- in traditional restaurants, gastro-pubs, eco-stores, craft beer boutiques, and eco-tourism hotels, as well as festivals, including cultural and ecological events. There are possibilities of expanding to more states, including the state of Chiapas in the southeast of México.

We've also received proposals for export to Columbia, Canada, The United States, Costa Rica, Uruguay, Spain, and Portugal, as well as orders from Peru, Ecuador, Chile, Argentina, Brazil, London, England, Holland and Israel.

Also in 2013, we were invited to participate in the 2nd International Bamboo Festival Viva Guadua [Bamboo] in Cali, Colombia, and the Craft Beer Festival in Burgos, Spain, as well as different festivals, tastings and events within the country. I also presented during the last International "Innovations in Bamboo" congress sponsored by INBAR in Guayaquil, Ecuador.

In the world of the beverage industry, *Bambusa*® is developing its next release: Bamboo Tea.

The future of the company is growing, consolidating the brand of craft beers nationwide, doubling production, purchasing equipment to expand production capacity, and placing our brand in niche markets.

Finally, *Bambusa*® is a grand pathway to promote the uses, benefits and business of bamboo in México.



13) Results

We've developed the extraction process of leaves of the bamboo variety, *Bambusa oldhamii* for the subsequent incorporation into the fermentation process, which gives a deep character with a remarkably refreshing body and herbal notes in the aftertaste.

It has given added value to bamboo leaves in the alcoholic beverage industry.

With the creation of *Bambusa* it is now part of the 300 craft beer brands in the business market of México.

The image of being the first and only beer made of bamboo has generated a great market acceptance having its own identity and distinctive features.

600 litres [159 gallons] of monthly production has failed to meet the demand of the local developing market. Based on the constant stream of craft beer sales in traditional restaurants, gastro-pubs, eco-stores, craft beer boutiques, and eco-tourism hotels, in addition to the demand at a national level, a positive impact on the market has been created.

Thanks to the founding of *Bambusa*®, a bamboo beer market has developed. Eyes are fixed on bamboo, with a growing interest in the many commercial endeavors which has motivated people to become more interested in this ancient plant.



Bambusa® was invited to participate in the “Bamboo Innovations” Congress in Guayaquil, Ecuador this past November with a significant presentation by Mexican and Latin American participants.

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14) Conclusion (Forward-looking)

Today *Bambusa*® belongs to one of the 300 brands of craft beer in México, as the first created of bamboo in México and Latin America. *Bambusa*® has been well accepted in the market, along with its taste, flavor, and body it is considered a “nutraceutical beer”, with functional properties thanks in part to its antioxidant qualities and high content of flavonoids. Demonstrating multiple health benefits, such as the reduction of lipid levels in the blood and the prevention heart disease.

Coupled with the craft beer culture developing in the country, there is a huge potential market growing as the annual consumption of beer in México is above 61 litres [16 gallons] per capita.

