Muscovado Sugar

Muscovado is pure whole, unrefined, non-centrifugal cane sugar. It is also called 'poor peoples sugar. Muscovado retains all of the natural ingredients of sugar cane, making it wholesome and healthy. Only pure bee's honey can compare to Muscovado for natural goodness. The nutritional qualities alone are quite exceptional and can be compared with honey. Muscovado is also a natural high energy food source that quickly replaces lost vigor.

White sugar is pure carbohydrate, 99.5% sucrose. It is stripped of all its natural components: water, minerals and vitamins. These empty calories provide absolutely no nutritional benefit.

Other highly refined sweeteners such as fructose and corn syrup are put through similar processes. However, natural sweeteners that have been concentrated by means of dehydration or boiling still contain minerals and other nutrients.

The more refined our food is, the more our bodies have to compensate by drawing the missing nutrients from other sources. These can be other foods eaten at the same time, or from the body's own stores in tissue and bone.

More about Muscovado Sugar

These can be other foods eaten at the same time, or from the body's own stores in tissue and bone. When we eat sugar, we lose B vitamins, minerals such as calcium, iron, phosphorus and other nutrients from our own healthy cells. As the alkaline minerals are depleted from our bodies, we become more and more acidic. Our bones become weakened as calcium is constantly withdrawn from them to accommodate our sweet tooth and the resulting decline in the body's pH.

One reason sugar gives us intense cravings is that our bodies are looking for these missing nutrients. Ironically, we often look for more sugar to fix it, which makes the cycle worse and leads to perpetual snacking and binges. It also leads to chronic over-stimulation of the endocrine system, which detects that the body has just loaded up with calories, but can't find the nutrients that should naturally accompany them.

Natural sugar, such as Muscovado, still contains the mineral and vitamins originally in the sugar cane plant. Refined white sugar is almost totally void of these healthy bio-chemicals.

How is Refined Sugar Made?

Sugar cane is a tropical grass that grows 10-20 feet high. It is grown in most tropical countries and in four states within the US. A stalk of the sugar cane plant contains 12-14% sucrose. The process of separating the sugar from the
**sugar cane plant** is accomplished in two steps: at sugar mills and at sugar refineries.

The largest producer of **sugarcane** is Asia, which is then followed by South America and North America. In the U.S. a major crop is grown in Hawaii and in Louisiana.

The Sugar Mills are located near the sugar cane fields. It is here that the **raw sugar** is separated from the plant and shipped to a refinery. **Raw sugar** that leaves the sugar mills is similar to "turbinado" sugar, and "sugar in the raw". It is similar to white refined sugar, but the crystals have a light tan color. A 4 gram serving size contains 4 grams of carbohydrates, and is not considered a source for any vitamins, minerals or fiber.

**Extraction**

At the mill, the sugar cane is chopped with knives and then crushed by large rollers. The extracted juice is then clarified/cleaned to remove soil and impurities. The extracted juice is clarified by adding milk of lime and carbon dioxide.

**Clarification**

- The process of separating insoluble suspended matter and some soluble substances from cane juice, to produce a clear juice.

**Carbonatation**

- The first stage of processing the liquor is aimed at removing the solids which make the liquor turbid. Coincidentally some of the color is removed, too. One of the two common processing techniques is known as carbonatation, where small clumps of chalk are grown in the juice. The clumps, as they form, collect a lot of the non-sugars, so that by filtering out the chalk, one also takes out the non-sugars. Once this is done, the sugar liquor is now ready for decolorisation. The other technique, phosphatation, is chemically similar but uses phosphate rather than carbonate formation.
  - The carbon dioxide bubbles through the mixture forming calcium carbonate, a chalk-like crystal, which attracts the non-sugar plant materials like wax, fats, and gums from the juice. In a clarifier, the calcium carbonate and the other materials fall out of the sucrose solution and settle to the bottom.
  - The juice is next, concentrated into a syrup by boiling off excess water, seeded with raw sugar crystals in a vacuum pan, and boiled until sugar crystals have formed and grown. This is the Concentration process. By removing water from the clarified juice in multiple stages under vacuum, the juice boils at lower temperatures to protect the sugar from becoming caramelized. The juice becomes a clear, rich brown syrup during this step. The next step the cane juice has to pass through is the second stage of concentration. More vacuum and water removal as we approach crystallization.
Boiling

- In the pan even more water is boiled off until conditions are right for sugar crystals to grow. You may have done something like this at school, but probably not with sugar, because it is difficult to get the crystals to grow well. In the factory the workers throw in some sugar dust to initiate crystal formation. Once the crystals have grown, the resulting mixture of crystals and mother liquor is spun in centrifuges to separate the two. The crystals are then given a final dry with hot air before being packed and/or stored, ready for dispatch.

- Crystallization takes place by evaporating the last portion of water under very tight controls. In a vacuum, pulverized sugar is fed into the pan to seed the process (much like seeding a cloud to make it rain), as the water evaporates, crystals begin to form. The mixture leaves the vacuum as a thick crystal mass and is sent to a centrifuge.

- The boiled mixture is centrifuged to separate the molasses from the crystals, which are tumble dried and placed in large storage bins for transport to bulk sugar terminals or refineries. The centrifuge is actually a large perforated basket that spins very rapidly much like a washing machine in the spin cycle, where the sugar is spun and dried, leaving the mineral rich molasses behind. The two products produced are molasses and raw sugar. The raw sugar will go on to the refinery for further processing. From the centrifuge, damp sugar is dumped onto a conveyor tray. Unlike conventional conveyors, the belt is fixed. The entire bed vibrates and is tilted toward large dryers. This spreads the sugar out in a more even fashion. If you were to touch the sugar at this process, you would find it damp and somewhat clumpy. The last step at the mill is to dry the raw sugar, then it is sent off to the refinery.

At the refinery, the raw sugar crystals are washed and dissolved in hot water to form a syrup. This first step is called:

Affination

- Phosphoric acid and lime are added to the melted sugar to remove any impurities in the clarification process. The liquor, which results from dissolving the washed crystals, still contains some color, fine particles, gums and resins and other non-sugars.

- The syrup is pressure filtered through cloth, passed through decolorizing columns containing activated carbon, boiled in a vacuum pan and seeded with fine sugar crystals.

Decolorisation

- There are also two common methods of color removal in refineries, both relying on absorption techniques with the liquor being pumped through columns of medium. One option open to the refiner is to use granular activated carbon [GAC] which removes most of the color, but little else. The carbon is regenerated in a hot kiln where the color is burnt off from the
carbon. The other option is to use an ion exchange resin which removes less color than GAC, but also removes some of the inorganics present. The resin is regenerated chemically, which gives rise to large quantities of unpleasant liquid effluents.

- The clear, lightly colored liquor is now ready for crystallization, except that it is a little too diluted for optimum energy consumption in the refinery. It is therefore evaporated prior to going to the crystallization pan. When the crystals are large enough, they are discharged from the pan, centrifuged to remove excess liquid and then tumble-dried. The dried sugar is then graded into required sizes prior to packaging and supply to customers.

Recovery

- The liquor left over from the preparation of white sugar and the washings from the affination stage both contain sugar which it is economically viable to recover. They are therefore sent to the recovery house, which operates rather like a raw sugar factory, aiming to make a sugar with a quality comparable to the washed raw sugar after the affination stage. As with the other sugar processes, one cannot get all of the sugar out of the liquor and therefore there is a sweet by-product made: refiners' molasses. This is usually turned into a cattle food, or is sent to a distillery where alcohol (Rum) is made.

So How is Muscovado different?

- **Muscovado** is pure whole, unrefined, non-centrifugal cane sugar. It is also called 'poor peoples sugar'.
- **Muscovado** retains all of the natural ingredients of sugar cane, making it wholesome and healthy. Only pure bee's honey can compare to **Muscovado** for natural goodness.
- The nutritional qualities alone are quite exceptional and can be compared with honey.
- **Muscovado** is a natural high energy food source that quickly replaces lost vigor.
- **Muscovado** (from the Spanish mascabado, meaning unrefined) in South Asia is also known as **gur**, **jaggery**, and **khandsari**. In Latin America it is known as **rapadura**, **pamela** or **piloncillo**. In Colombia it is called **chancaca**. Whatever name you may know if by, this product is unrefined, non-centrifugal cane sugar with a high molasses (mineral) content. Although commonly used in Latin America and south east Asia, these products are relatively difficult to find in the US.

This is how Muscovado Sugar is made

1. Our **Muscovado** is made the old fashioned way with Kalmansi (a tiny native lime similar to Key Limes in Florida) and fresh coconut milk. First the sugar cane is cut/harvested (by hand). It is washed and then chopped, soaked and pressed to extract the juice from the sugar cane. This juice is
heated with a little lime juice added. They also cut coconuts off the trees, grate the coconut meat and press out fresh coconut milk, which is sprinkled into the heating cane juice. This keeps the juice from foaming as it heats. The resulting Muscovado is actually about 0.2% coconut milk.

2. Once this cane juice becomes thick, it is poured into cups where it finishes by sun drying. The dried cane juice is then pounded to yield a natural, unprocessed sugar, very high in minerals. It is not uniform in color or texture. It is more "raw" or unprocessed than any other sugar we have found.

3. This "unrefined" sugar is darker in color than "refined" sugar because it contains what sugar producers call "impurities." But these so-called impurities are essential minerals such as calcium, potassium, magnesium, copper, and iron, as well as small amounts of fluorine and selenium. So "refined" sugar has zero nutritional value, while "unrefined" sugar has significant nutritional value.

http://www.wildernessfamilynaturals.com/muscovado_sugar.htm#more
FEATURE : Why Muscovado is a Must These Days

By Tina Arceo-Dumlao
Philippine Daily Inquirer
Posted date: May 25, 2008

MANILA, Philippines - Muscovado or raw sugar is an indelible part of the daily routine of Maricel Almojuela-Tolentino, a program officer of the Asian NGO Coalition. Tolentino puts about a teaspoon of muscovado in her coffee or tea and a little bit more to flavor her champorado. She swears that it provides that extra zing to her spaghetti sauce and can be relished alone with rice.

Three-year-old Aya is following in her mother’s footsteps, having picked up the habit of snacking on the dark brown muscovado granules.

Tolentino says she prefers muscovado over refined white sugar because it does more than just sweeten her food or drink. “It is nutritious, environmentally sound and helps small farmers,” she declares, adding that she does not mind paying more to indulge in this habit.

Ong and Tolentino are just two of the growing number of Filipinos who now regularly stock muscovado in their homes and offices.

Muscovado is also just 80 percent sucrose, unlike white sugar which is almost pure sucrose, that can wreak havoc on the body’s metabolism, according to Dr. Omar Arabia, who owns the Blissful Belly vegetarian restaurant on Xavierville Avenue. Arabia also notes that white sugar can deplete the body of many minerals it needs to remain healthy and productive.

“So many studies have also shown that refined white sugar can accelerate tumor growth. Oncologists seem to agree on this,” adds Arabia, who has been practicing natural medicine for the past 35 years.

Chef David Pardo de Ayala, corporate chef for the Discovery group, likewise uses muscovado, especially during the Christmas season, to make glazes and sauces. Pardo de Ayala says he was inclined to find other uses for muscovado in his renowned dishes served in Discovery Shores Boracay and Discovery Country Suites in Tagaytay, as it is healthier than white sugar.

Muscovado was one of the Philippines’ main export products in the 1800s, but its glory days faded in the 1900s with the coming of the Americans and the introduction of their modern sugar milling facilities to produce their preferred
refined white sugar. Thus, muscovado production was pushed back to where it came from—the backyard.

The muscovado industry, however, managed to survive in Antique, Pangasinan, Tarlac, Iloilo, Batangas, Negros Occidental, Bukidnon, Davao del Sur, Sultan Kudarat and North Cotabato.

The foreign market’s search for healthier food, fortunately, has put the spotlight back on muscovado and export volume has consequently been increasing, particularly to Germany, Netherlands and Japan.

These markets are willing to pay as much as P250 a kilo for muscovado, over four times the selling price in the Philippines of about P60 a kilo. Refined white sugar, on the other hand, costs only P32 a kilo as it has the benefit of economies of scale and an established production and distribution network.

PDAP, through its Promoting Rural Industries and Market Enhancement (PRIME) program, wants the muscovado industry, especially the farmers, to have a taste of the same benefits.

This is why PDAP is involved in making the muscovado equipment more efficient and standardizing production so that sugar farmers can ride on the growth of the industry. The PDAP Prime program, funded by the Canadian International Development Agency, likewise wants to connect the farmer groups directly with the markets here and abroad so they can truly cash in on the burgeoning demand for this raw sugar.

The prospects for muscovado are sweet, indeed.

©Copyright 2001-2008 INQUIRER.net, An Inquirer Company
What is muscovado?

by Santi Meintjes

Muscovado is an unrefined light or dark brown sugar and is sourced by many companies from the island of Mauritius.

Most of the sugar that is commercially available is made from sugar cane - about 30% is made from sugar beet but it is impossible to tell the origin just by taste.

Table sugar is in the form of sucrose which is a combination of equal parts of fructose and glucose. Fructose is sweeter than sucrose, but glucose is less sweet. Because fructose does not require insulin to be digested, it is a popular and safe alternative to table sugar for diabetics. Sucrose is a carbohydrate known chemically as a saccharide.

Muscovado sugar is also a sucrose made from sugarcane, but it is unrefined, whereas the common white table sugar is refined. The refining process is intended to remove "impurities" so that the resulting product is "pure" sugar. For sugar, this does not so much mean "clean" as "unmixed". In other words, pure white sugar consists only of sucrose (99%).

Unrefined sugars do go through a clarification process where foreign matter such as pieces of cane, soil, etc is removed, so it is clean, i.e. fit for human consumption - it is not a raw sugar as defined by the American FDA. The "impurities" that are found in unrefined sugar in fact consists of other saccharides, some protein, some phenolics, and minerals such as calcium, potassium, magnesium, copper, and iron, as well as small amounts of fluorine and selenium - hardly a handful of dirt. These substances are removed in the sugar refinery and sold as molasses.

Muscovado sugar is therefore a sugar that differs from white sugar by still having the minerals and other biochemicals that were present in the sugar cane and that have been removed from white sugar. The crystals are coarser and "stickier" - often described as full-bodied and moist. Light brown muscovado is said to smell like fudge or toffee and is good in drinks and biscuits, while dark brown muscovado has a flavour more like molasses or treacle and is particularly good for fruit cake and chocolate based baking. Dark brown muscovado is especially
What is muscovado?

by Cynthia Siow

Muscovado so called red or black sugar is a natural made by simply pressing out, cleaning and crystallizing the juice from sugar cane. Most of the people didn’t realize it is a “precious” of ingredients that contain unique effectual for nourishing and beauty.

Muscovado or red sugar reserve well in nutrition, beside cane sugar, it also rich in mineral such as potassium which maintain the function of heart muscles and digestive system; iron, which helps to make hemoglobin and enhance body’s immune system; calcium, which helps to build teeth and bone. According to a research, every 1000g of red sugar contain 900 mg of calcium, 100mg of iron and etc.

Chinese physician believed that red sugar able to strengthen spleen and keep the stomach warm, it is good for women to enrich blood, beside pregnant women, every women who perplex with pre-menstrual syndrome or feels weak are recommended to have a cup of red sugar drink before lunch, or take more if feels weaker.

Copyright © 2002-2008 Helium, Inc. All rights reserved.
Culturefront:  **Muscovado-- The Sugar for Health**

Diana A. Galang (Manila Bulletin)  
*Saturday, December 1, 2007*

Today, with the growing awareness of the importance of healthy food, alternative and traditional food-ingredients are given considerable regard in matters of both cooking and health.

The scientific and culinary importance of sugar and sugar substitutes has been given priority in recent years because of diabetes, its different complications, and the cultural, traditional, and medical fact that "sugar, or sugar-enriched food is a very important element of a person’s sustenance and dietary nourishment.

However, of the different kinds of sugars and sweeteners scientifically tested for proper nutrition, the muscovado is considered by most doctors and scientists to be the healthiest because it contains vitamins and minerals that are usually not available in most of the processed and refined sugar substitutes.

Because of modern medicine, there has been renewed interest in muscovado sugar which was considered traditionally as a "secondary priority" sweetener in cuisine, and our country’s viewpoint that it is just the poor man’s sugar.

In earlier times, processed and refined sugars were the most expensive. This changed with contemporary medicine; the humble muscovado—alongside commercial sugar-substitute brands—is now considered one of the high-priced sweeteners in the market. In some European countries it is considered rare and very expensive.

**Facts about Muscovado**

The word muscovado came from the Spanish word mascabado (which means unrefined); it is known in other South Asian countries as gur, jaggery and khandsari, while it is known as rapadura, pamela and piloncillo in Southern America.

The very reason for the revival of muscovado is its lower calorie content than white sugar which explains its popularity with the public.

Muscovado is a natural sugar that still contains vitamins and minerals from sugar cane, unlike refined ones which lose nutrients in the process of refinement.

Also known as Barbados (meaning moist sugar), it is stickier than other sugars but has good resistance to high temperatures and has a long shelf-life. Because of its great production in the country, several Philippine recipes make use of muscovado, and among them are cookies and beverages, especially whiskey.
Muscovado is made with the addition of kalamansi and coconut milk while the cane juice is being boiled. The mixture is then dried under the sun when it becomes thick. After drying, it is then pounded into small pieces that has different colors and textures but contains plenty of minerals.

http://www.mb.com.ph/issues/2007/12/01/TSTE20071201110154.html#
Muscovado Sugar: A New Sunshine Industry

Consumer interest in healthy and organic foods has revived the interest in muscovado sugar.

Did you know that excessive consumption of refined sugar can lead one to suffer from increased cholesterol levels, gallstones, and weak eyesight? For years, refined sugar has been the primary sweetener for everyone. But, recent research has shed light on some health complications caused by excessive intake of refined sugar. Because of the general trend these days for more healthy options, people are rediscovering healthy and organic foods like brown rice, muscovado, etc. These products often contain little chemicals and undergo little processing. Of these products, muscovado has one of the greatest potentials in terms of export and may be the key to revive the country’s flagging sugar industry.

Muscovado also known as “Barbados sugar” or “moist sugar,” is a type of unrefined brown sugar with a strong molasses flavor. It is dark brown, and slightly coarser and stickier than most brown sugars. Unlike most other brown sugars, which are made by adding molasses to refined white sugar, muscovado takes its flavor and color from its source, sugarcane juice. It offers good resistance to high temperatures and has a reasonably long shelf life. This unrefined sugar goes well with coffee and other beverages, and was one of the most prominent export commodities of the Philippines, especially from the Negros region from the 1800s until the late 1970s. It is commonly used in baking recipes and making whiskey.

Muscovado production is naturally labor and time intensive and was usually produced small scale in backyards. This method of production was overtaken with the rise of the large sugar plantations. Due to the access Philippine sugar had to the US market during its time as a US colony and the Cold War period, investments flowed into the local refined sugar industry at the cost of the muscovado industry. This reached its peak in 1929, when 96% of our sugar exports were refined sugar.

Numerous milling sites closed due to decades of neglect and poor marketing. Farmers also shifted from cane production to rice production. These led to poor quality and lax standards that contribute to the decline of muscovado. In a much smaller scale, muscovado continued in Antique, Pangasinan, Tarlac, Iloilo, Batangas, Negros Occidental, Bukidnon, Davao (let Sur, Sultan Kudarat, and North Cotabato. Production in these areas was restricted to a few families.
The muscovado industry was in a slump until a few years ago when consumer preferences looked towards natural and healthy products. This increased market interest breathed back life to the almost dying industry. Since then, there has been renewed interest in developing and expanding production and distribution.

Sugar is one of the prime commodities traded in the market today. Most of the sugar comes from the tropical sugar cane which can be processed either as refined or raw. Raw sugar that produces muscovado is made by heating cane juice. Further processing yields refined sugar used to make casters, granulated, and icing sugar.

Annual global sugar production reached 100 million tons with 13 million hectares planted in 2002 with most of the sugar coming from India, and Brazil. Sugar also forms the agricultural backbone of some countries like Barbados and Mauritius. Sugar from these countries is usually produced from sugarcane. Europe, on the other hand, grants heavy subsidies to their sugar industries based on sugar beets. This causes reduced revenues on other sugar producing countries.

In 2002, muscovado production was pegged at 13.8 metric tons globally with India being the top producer with 9.8 metric tons followed by Columbia and Pakistan. The Philippines was the eight largest producer with 0.1 metric tons representing 0.8% of total production.

The decentralized nature of muscovado production in the country has made it difficult to ascertain the number of mills in the country. But in 1994, the Sugar Regulatory Administration (SRA) estimated that out of 475 mills, only 304 were operational. Most of the mills were located in the traditional areas of muscovado production. According to an SRA report released in 2006, there was only 2,071 hectares allotted for muscovado production which is only a minuscule part of the 396,135 hectares planted to sugarcane. Antique tops the muscovado producing provinces followed by Negros Occidental, and Sultan Kudarat.

Most muscovado farmers are small scale farmers with an average landholding of just over a hectare. Due to the small size of the ventures, the farmers often have to perform multiple functions. They are usually the ones who plant, harvest, process, and even market the products. Household members all contribute to the production cycle.

In a study conducted by the Philippine Development Assistance Programme (PDAP) in 2005, it was shown that cane cultivators had three choices when it came to having their produce processed. The first was to have it processed into refined sugar. The next was processing this into muscovado, and the third was a ratio between the two.

Another finding in the study is that although Philippine muscovado in general has good quality it still doesn’t meet some standards which may hamper its prospects in the international market. Most important of the steps to improve the quality is to upgrade the mills. Most of the muscovado mills in the country are motor driven while some still use carabaos. Currently the most modern mill is located in Negros Occidental owned by Alter Trade Manufacturing Corporation.
The government has exerted efforts in helping upgrade the quality of mills by extending loans to upgrade facilities and buy modern equipment. Emphasis is put in increasing mill capacity. Mills in the Visayas are considered more efficient, which is capable of processing 2000 kg a day compared to the average of 800 kg a day in Mindanao, and 200 kg a day in Luzon.

Aside from just the muscovado, the by-products of the milling process are also useful. The bagasse produced can be used as a fuel source. While the mud/filter cake from the filters can be used as soil conditioners and are an important part of organic fertilizer production.

Compared to milling refined sugar, milling muscovado has several advantages. First, the hauling cost of the sugar cane to the mill is lower. Second, there is little waiting time in processing because there is a manageable mill-to-farmer ratio. Third, even low quality canes can be utilized and the finished product is easier to market and fetches a higher price.

The export potential of local muscovado is enormous. From 1990 to 1995, only an average of 15.5% of local production was exported. This later fell to 1.5% from 1996 to 2001. There are four types of muscovado produced in the country Class A (golden brown), B (brown), C (wood brown), and panocha. Our production in 2003 was 21.6 million kg 38% is Class A muscovado followed by Class B, C, and finally panocha.

One of the major problems in muscovado sugar is marketing. Currently, most of the muscovado produced is sold in markets by middlemen; there are also cooperatives like the Antique Muscovado Sugar producers Cooperative. There is little branding involved and standards vary from area to area. That is why a strong brand identity and establishment of product standards would ease marketing problems.

There is a great potential for profit in muscovado in 2005, farm gate prices for Class A muscovado in Antique for P14.73 per kilo and P20.80. When sold in Manila, the muscovado is retailed at an average of P50 per kilo. Muscovado exportation has been steadily increasing over the years peaking at seven million tons in 2003. Prices in 2005 were posted at $1.44 per kilogram in the world market. Most exports went to the Netherlands, United States, Japan and Italy.

The growing demand both in the domestic and international markets for muscovado has resulted in efforts to push for a Philippine National Standard to ensure and maintain its quality. The standard will define quality parameters such as color, moisture, suspended solids, etc. Laboratory analysis has shown that compared to muscovado from other countries, Antique still lags behind in terms of quality. To reach international quality, the sucrose content of the sugar must be raised, while the moisture, ash and sulfate content has to be lowered.

The need to maintain standards has raised the question of whether the trade should be regulated or not. Because currently, the volume of production is very low it may not be able to afford the fees levied by a regulating body. Also it may not be cost efficient to set up a separate regulating body. It may also be hard to set standards given that the industry is still largely a backyard type.
However regulation may lead to the establishment of cooperatives and other support systems to allow them to comply with proposed standards.

The domestic market may also prove to be just as lucrative as the export market as there is already a huge demand for muscovado. Currently, demand outstrips supply resulting in high retail prices for muscovado. Due to its unique smell and taste, there is also a huge industrial demand for muscovado. For example, Antique muscovado is currently used by banana chip manufacturers, as well as by dried fish manufacturers in Mindanao.

Consumer interest in healthy and organic foods has revived interest in muscovado sugar. Most households are now buying muscovado in lieu of refined sugar. Coffee shops are now also offering muscovado sugar. Given the rosy prospects of the muscovado industry, it is only fair to consider muskovado as a new sunshine industry.

http://www.agribusinessweek.com/muscovado-sugar-a-new-sunshine-industry/