BANANAS

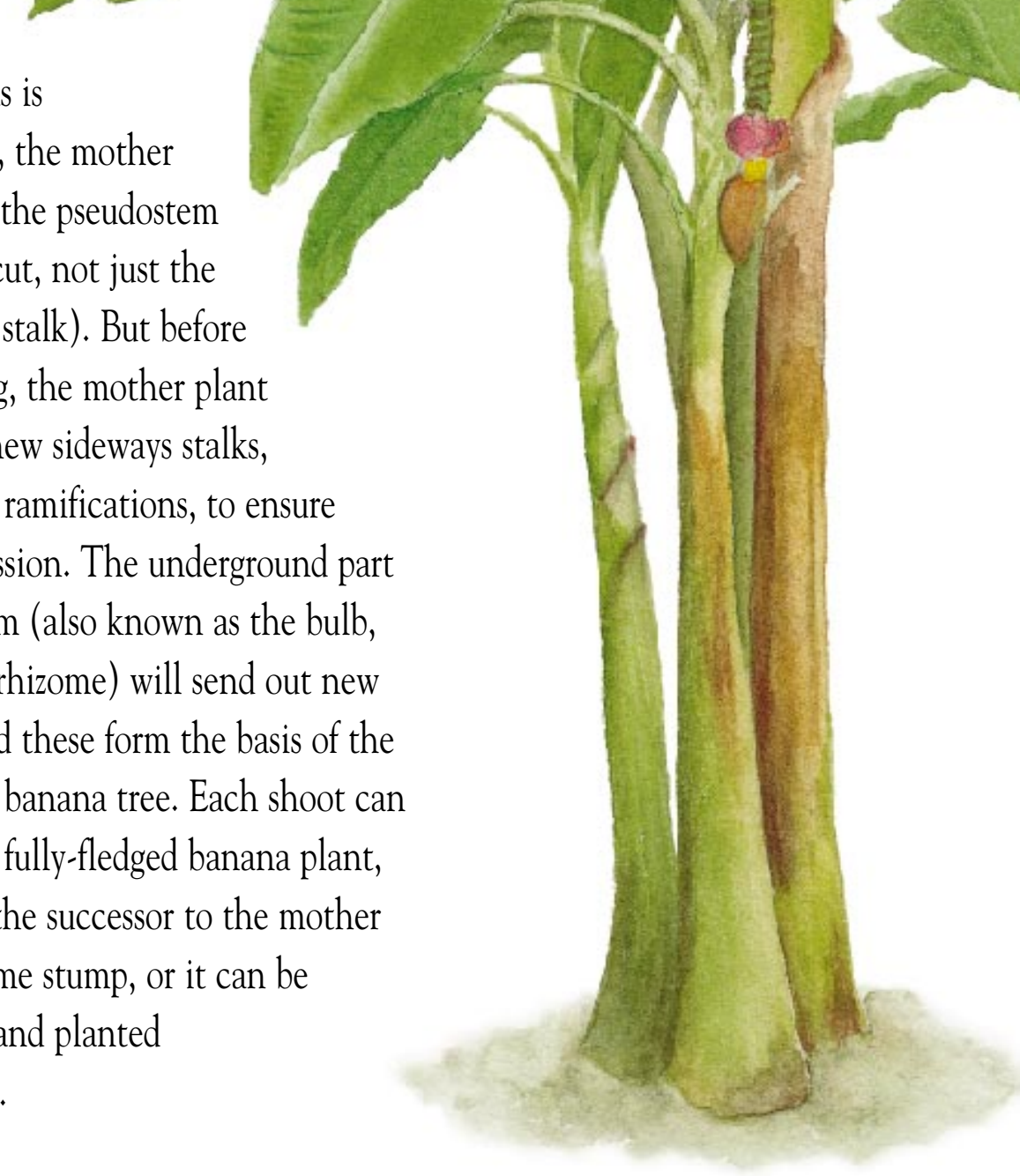
The world's largest herb

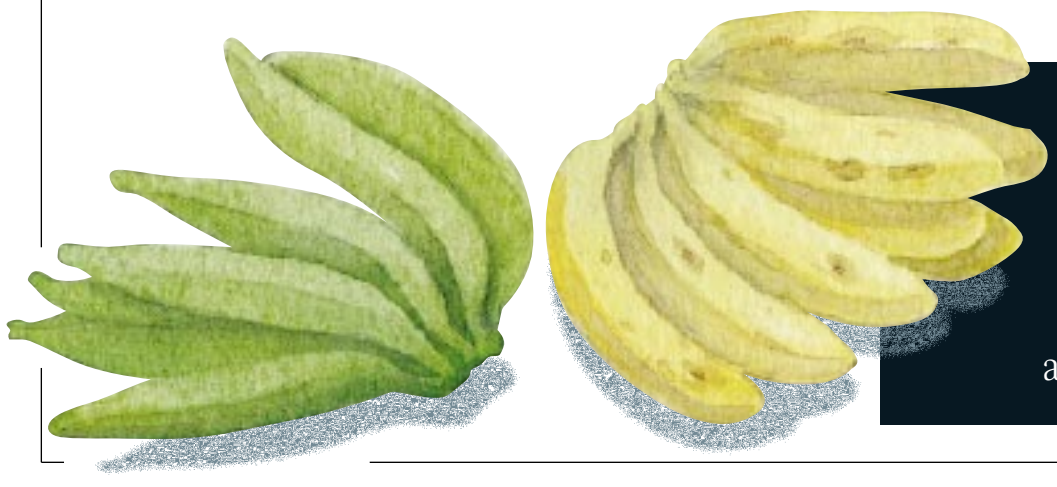
It's called the banana tree, but it is not a tree. It is a massive herb—it can grow up to 15 metres high. In fact, it is the largest herb in the world.

When the leaves unfold, they cover one on top of the other and together form the 'pseudostem', which looks like a tree trunk but has no wood. Then the limbs of the leaves spread out over the pseudostem, like a tree's foliage. The banana plant grows in warm, humid regions, and is mainly just water (80% worth!). Another amazing fact: there are almost 1000 varieties of bananas in the world.

Can it live for ever and ever?

The banana is a strange plant; as a perennial, it replaces itself. When the bunch of bananas is harvested, the mother dies (it is the pseudostem which is cut, not just the flowering stalk). But before harvesting, the mother plant puts out new sideways stalks, known as ramifications, to ensure her succession. The underground part of the stem (also known as the bulb, stump or rhizome) will send out new shoots and these form the basis of the perennial banana tree. Each shoot can become a fully-fledged banana plant, either as the successor to the mother on the same stump, or it can be removed and planted elsewhere.





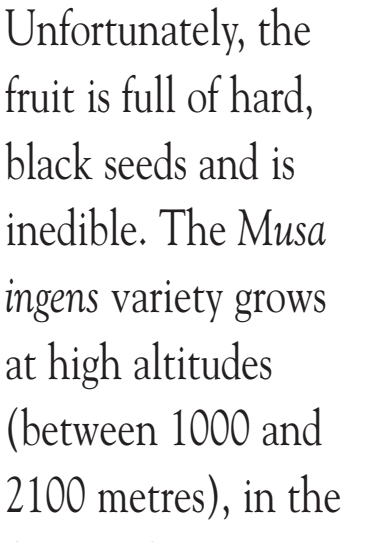
Dessert banana or plantain?

There are two subgroups of cultivated bananas (known as cultivars): the sweet or dessert banana, and the cooking banana, of which plantains are by far the most frequent type.

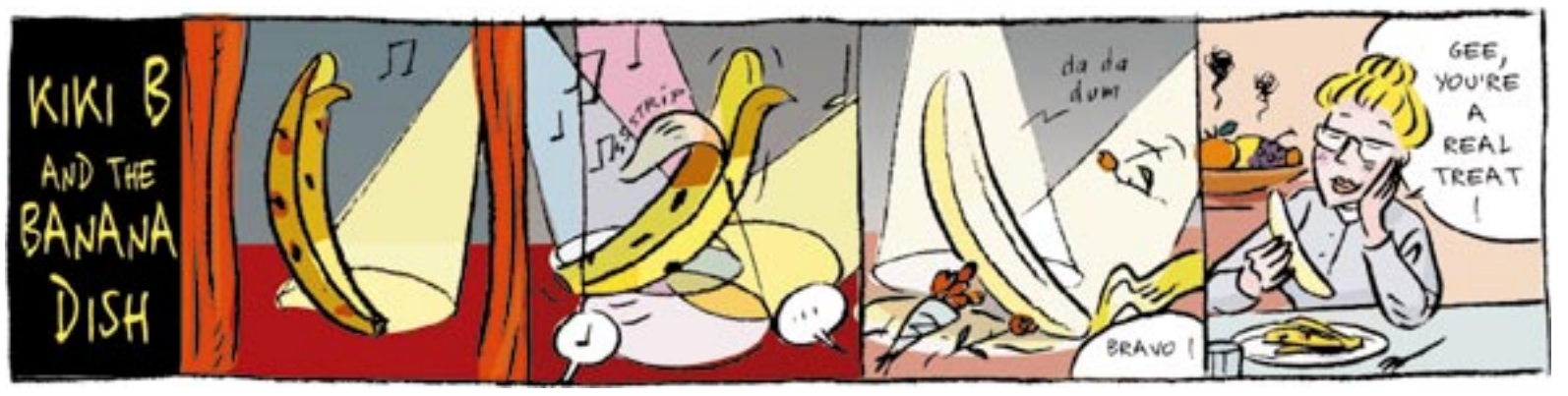
1000 types of bananas

With around 1000 types of bananas, which can be subdivided into 50 groups of varieties, there really are a great many different bananas in the world. There are bananas with seeds, or seedless ones, tiny ones, massive ones, short, square, round, straight, bent, green, yellow, pink, spotted, silvery, striped. They are eaten raw, or cooked, and there are bananas to satisfy all kinds of tastes and consumers. In West Africa, one plantain can produce fruit up to 50 centimetres long! The type we most commonly eat is the "Cavendish" dessert banana which is produced for export.

Wild thing: the biggest banana plant



The biggest banana in the world is a wild plant known as *Musa ingens*. Its pseudostem can grow up to 15 metres, and have a circumference of 2.5 metres. Its bunch of bananas can weigh up to 50 kilos. Unfortunately, the fruit is full of hard, black seeds and is inedible. The *Musa ingens* variety grows at high altitudes (between 1000 and 2100 metres), in the forests of Papua New Guinea.



The much-travelled banana

The banana is a bit of a traveller. If we follow the routes it has travelled over the centuries, it's like tracing human voyages through the ages.

The banana came originally from Southeast Asia. It still grows wild in the Philippines, Papua New Guinea and Indonesia. It migrated to the Indian peninsula, eastern Africa and the islands of the Pacific. Travel changes people, and travel changed the banana too: it gradually lost its seeds, and filled out with flesh. By propagating, it diversified. Consumer demand for bananas really started to grow at the end of the nineteenth century. In 1915, Europe imported more than 100,000 tons of bananas from Jamaica. In those days, the principal variety grown was a dessert banana called 'Gros Michel'. But in 1940 the so-called 'Panama'disease decimated the plantations, and this variety gradually disappeared. From 1960 onwards, it was systematically replaced by disease-resistant varieties from the Cavendish group, which to this day provides virtually all export dessert bananas. Not that there aren't other varieties to be had, such as the scented varieties from the Caribbean, Guadeloupe or Martinique. Or how about striped ones from the Canary Islands, or big long ones from Africa and further away in the Americas?

The famous French singer Joséphine Baker helped to make the banana popular in France. She is often remembered for her costume, which consisted of a belt of bananas. They were plantain bananas, soon nicknamed "Oh, la, la! Madame" by people in the French-speaking Caribbean and the island of Réunion in the Indian Ocean.

Turn of the century: the first large banana plantations in Latin America

"On Wednesday a group of engineers, agronomists, hydrologists, topographers, and surveyors arrived who for several weeks explored the places where Mr. Herbert had hunted his butterflies. Later on Mr. Jack Brown arrived in an extra coach that had been coupled onto the yellow train and that was silver-plated all over, with seats of episcopal velvet, and a roof of blue grass. Also arriving on the special car, fluttering around Mr. Brown, were the solemn lawyers dressed in black who in different times had followed Colonel Aureliano Buendía everywhere, and that led the people to think that the agronomists, hydrologists, topographers, and surveyors, like Mr. Herbert with his captive balloons and his coloured butterflies and Mr. Brown with his mausoleum on wheels and his ferocious German shepherd dogs, had something to do with the war. There was not much time to think about it, however, because the suspicious inhabitants of Macondo barely began to wonder what the devil was going on when the town had already become transformed into an encampment of wooden houses with zinc roofs inhabited by foreigners who arrived on the train from halfway around the world, riding not only on the seats and platforms but even on the roofs of the coaches."

From: *One hundred years of solitude*, by Gabriel García Márquez, 1970, Harper & Row, Publishers, Inc. New York.

Mexico
In the 1940s, banana cultivation was one of the major sources of revenue in the Tabasco region. Intensive production started there in 1890.

Canary Islands
The Cavendish banana was introduced to the Canary Islands by the English, from Kew Botanical Gardens, before it reached South America.

China
The edible banana comes originally from China and moved on to the West, passing through Asia Minor and Africa.

Jamaica
The first plantations of dessert bananas started here in the nineteenth century, supplying Europe and North America.

Panama
In 1919, 7 million boxes of bananas were shipped from Almirante.

Colombia
The first banana plantations were established near the port of Santa Marta, in the area of Ciénaga in the late 19th century. On 24 October 1891, the steamship "Claribel" was loaded with the first shipment of bananas (1582 bunches). Destination: New Orleans!

Ecuador
Between 1982 and 1983, exceptional rainfall submerged more than 27,000 hectares of banana plantations. Nonetheless, Ecuador soon bounced back to its position as leading exporter in the world.

West Africa
Travellers, then traders, introduced the banana to the west coast of Africa in the sixteenth century.

Central Africa
Plantains have probably grown in central Africa for 8000 years.

India
The domesticated banana goes back more than 1000 years in India. It is depicted on the famous sculptures of Ajanta and Ellora (300 to 400 B.C.).

The tree of paradise, symbol of fragility

The banana has been more than just a travelling companion for humanity; it has also fed our imagination. So it's quite normal to find the banana popping up in countless legends. There are claims that it is the tree of paradise: Musa paradisiaca. *There were contesting claims for the date palm tree. The fruits of both trees were considered to be equally succulent, but the banana won, just, thanks to the added bonus of its leaves being useful in covering up mankind's instruments of nudity! It was close, mind. Because the mother plant disappears after bearing fruit, Buddha ascribed it to be the symbol of fragility, of the instability of life's tenets. One of the founding texts of Buddhism says that "mental constructs are the same as a banana". And in Chinese painting we often find the theme of the wise man meditating on the impermanence of life, at the foot of a banana plant.*

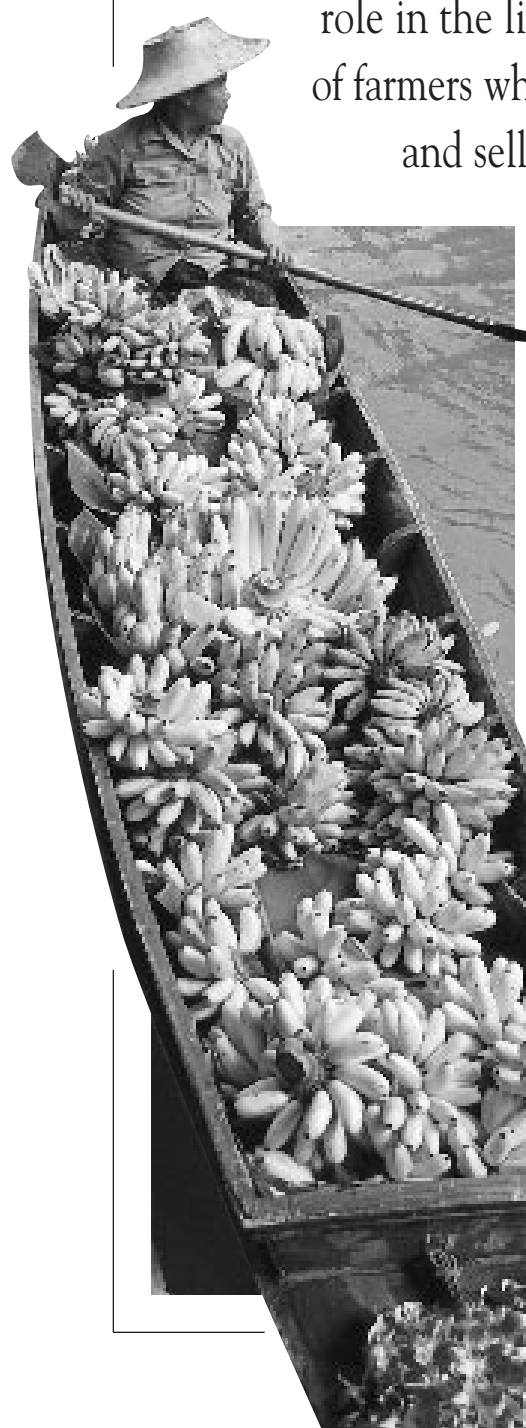
Banana – a basic food

More than 700 million people today suffer from malnutrition. One of the greatest challenges we face is how to feed the planet.

The banana provides, more than other food crops, a steady source of nutrition for people who consume it as their subsistence food.

And for many developing countries, export earnings from bananas are a precious source of revenue.

It is, developing countries that are most threatened by this state of affairs. Bananas and plantains contribute to food security in these countries, being a important source of nutrition for more than 400 million people in tropical countries. They play a vital role in the lives of millions of farmers who produce, consume and sell them in local markets.



One of the world's major food crops

Banana is fourth on the list of the developing world's most important food crops, after rice, wheat and maize. Local consumption accounts for 90% of production, mainly in the poorest countries of Africa, Latin America and Asia. In some areas, it is the

principal food crop,
and there, banana purée is often the first solid food given to babies. Of course consumption levels vary from country to country. In China, banana consumption is 2 kg per person a year; in Oceania, 50 kg, and in eastern Africa (Uganda, Burundi, Rwanda), people eat up to 250 kg mainly as a cooked dish, or in beer.

More than 120 countries produce bananas

World production is estimated to be 85 million tonnes, of which 30 million tonnes are plantains. Developing countries account for 98% of the production of bananas and for 100 % of plantain production. The poorest countries provide 42% of total production. As for cooking bananas (plantains and other bananas), about 20 million tonnes are produced in Africa, which yields 50% of all plantains in the world (South America yields 25%, Asia 15% and Central America 10%).

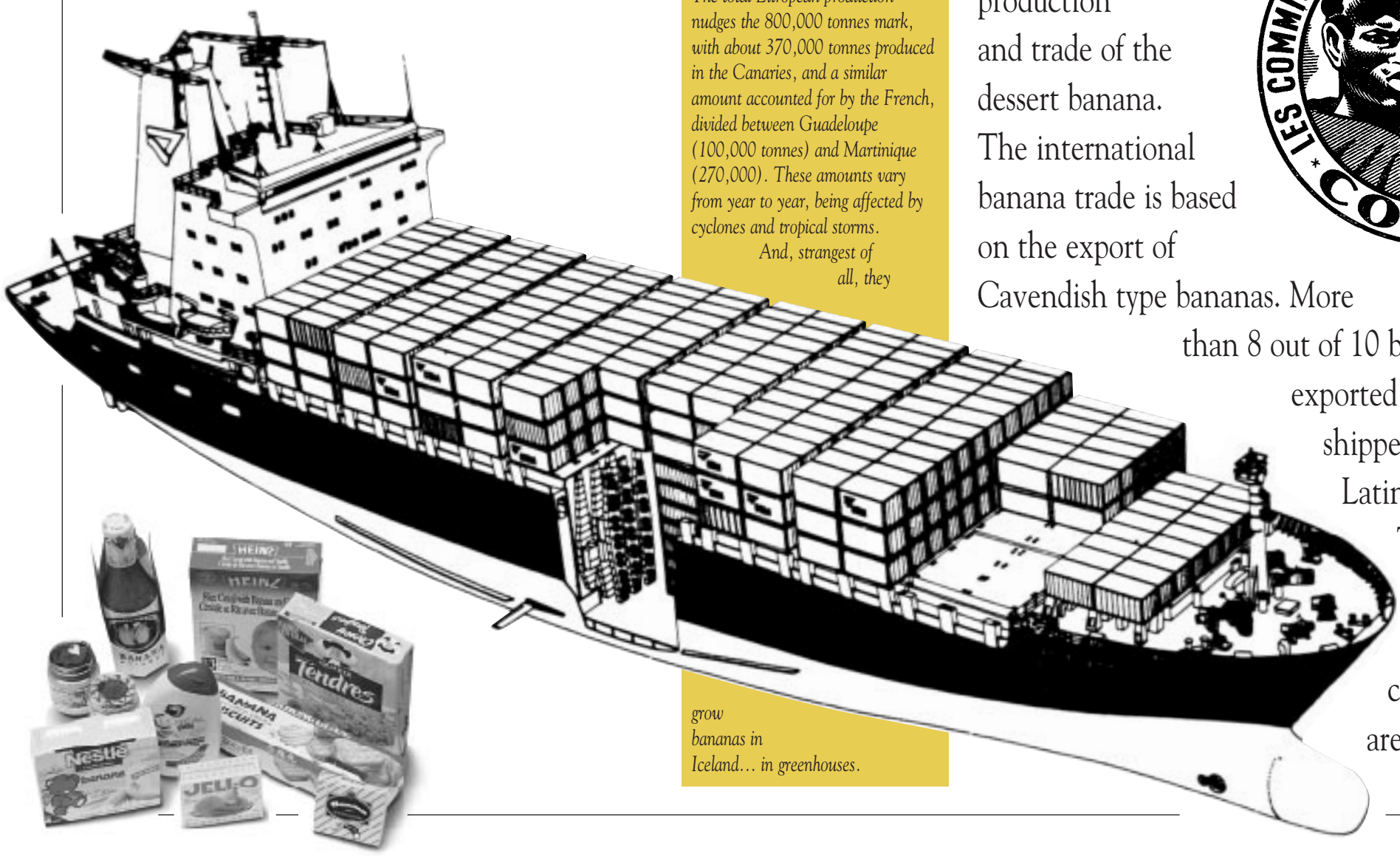
The industrial chain of the dessert banana

In 1997, exports of dessert bananas exceeded 12 million tonnes, mainly to the United States, the European Union, Eastern Europe and Japan.
In the last 30 years, world production of dessert bananas has more than doubled and exports have tripled.

Now at 55 million tonnes, production of the dessert banana is the second highest of all fruits in the world, just behind the orange, but ahead of the grape. But less than a quarter of its production is traded on the international market. There are significant economic and political interests at stake in the production and trade of the dessert banana.
The international banana trade is based on the export of Cavendish type bananas. More than 8 out of 10 bananas exported are shipped from Latin America.
The three leading exporting countries are Ecuador,

They grow in Europe too, you know

Four member states of the European Union are producers of bananas:
Spain (Canary Islands);
France (Guadeloupe, Martinique);
Greece (Crete and Laconia);
and Portugal (Madeira, Azores, Algarve).
The total European production nudges the 800,000 tonnes mark, with about 370,000 tonnes produced in the Canaries, and a similar amount accounted for by the French, divided between Guadeloupe (100,000 tonnes) and Martinique (270,000). These amounts vary from year to year, being affected by cyclones and tropical storms.
And, strangest of all, they grow bananas in Iceland… in greenhouses.



The dessert banana is harvested while it is still green, and it has a long road to travel before it reaches the consumer's table. Here are the major steps it takes:

- The 'hands' of the bunch of bananas are cut off the stem.
- The hands are washed and rinsed, and cut into smaller bunches.
- These are treated to prevent the growth of fungus during storage.
- The bananas are measured and passed through quality control, and packed in boxes which are weighed and placed on pallets.
- The pallets are shipped off to the ports, in temperature-controlled lorries or containers.
- They are loaded onto container ships or reefer boats.
- On arrival, the bananas are taken to ripening halls.
- They are ripened as needed, and distributed.

Costa Rica and Colombia. The other exporting regions are Asia (where the main exporter is the Philippines), Africa (principally Côte d'Ivoire and Cameroon) and the Caribbean. Developed countries account for 82% of world banana imports. The main markets are North America, the European Community, Japan and countries of Eastern Europe and the former USSR.

World banana trade is dominated by a small number of companies. In 1997, the three largest banana firms accounted for 65% of the world exports.

The banana that breathes

All fruits 'live' and breathe, but they do not all ripen in the same way. The banana is a climacteric fruit, meaning it needs a climax, rather than a gradual process, to ripen. Like the avocado, pear, mango, apple and plum, the banana will only ripen if its breathing suddenly intensifies. While it is still green, the banana starts to produce ethylene. The emission of this gas produces a biochemical reaction which kick-starts a sharp increase in the way the fruit breathes. This kick-start sets off the process of ripening: the starches change into sugars, the tissues soften up, the chlorophyll on the skin is destroyed, and the banana turns yellow. The ethylene then escapes from the banana and helps to ripen its neighbours. Nowadays bananas are ripened on demand. They are stocked in ripening halls which are often in areas classified as Markets of National Interest, and near to major centres of demand. The storage temperature varies from 13 to 18°C, depending on needs, and is checked regularly. The ripening process is set off by releasing ethylene into the air in the ripening chambers.

Watch that plant grow!

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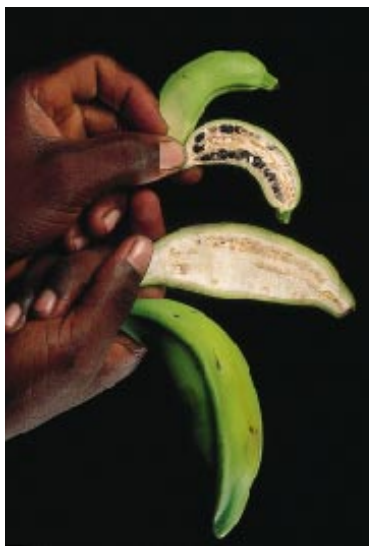
The quality of its fruit though depends on how well it is tended from the time of planting onwards.

In the beginning, in Asia, there were two types of bananas with seeds, *Musa acuminata* and *Musa balbisiana*. A mixture of natural selection, crossings and breeding by humans gave rise to several varieties of sterile bananas…. much to the joy of the consumer, as the female flowers started to produce seedless fruit.



From planting to harvest

It takes between 9 to 12 months between the time a banana plant is planted and when its bunch of fruit, which will weigh 20 to 25 kg on average, is harvested. In the sixth or seventh month the flower appears. This is when several steps are taken with an eye on selling the fruit. First the flowers are counted, to calculate the likely harvest and plans for transport. The fruit is harvested by cutting the flowers'stalk. It is a tricky operation: one man holds the stalk and another puts the bunch onto a padded tray. The bunch is then transported in various ways (on carts, or on cables) to the packing station. Care has to be taken to avoid any jolt or rubbing, as this could damage the quality of the fruit.

The birth of the dessert banana

❶ The growing banana plant spreads out its leaves.

❷ When the plant has grown to its adult size, a small spear-like stem emerges from its top. This is the floral induction (or flowering).

❸ The inflorescence sags towards the ground, with the male bud hanging vertically.

❹ The inflorescence has a set of purplish bracts.

❺ The bracts grow up one by one, fold over, fall off and the flowers emerge.

❻ The female flowers appear first, followed by hermaphroditic flowers and then the males.

❼ The flower's long ovaries turn into fruits (or fingers) which point towards the sky, in search of light.

❽ The bunch of bananas has reached its final shape. It is made up of several groups of fruit known as 'hands'.

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Needed: tender loving care

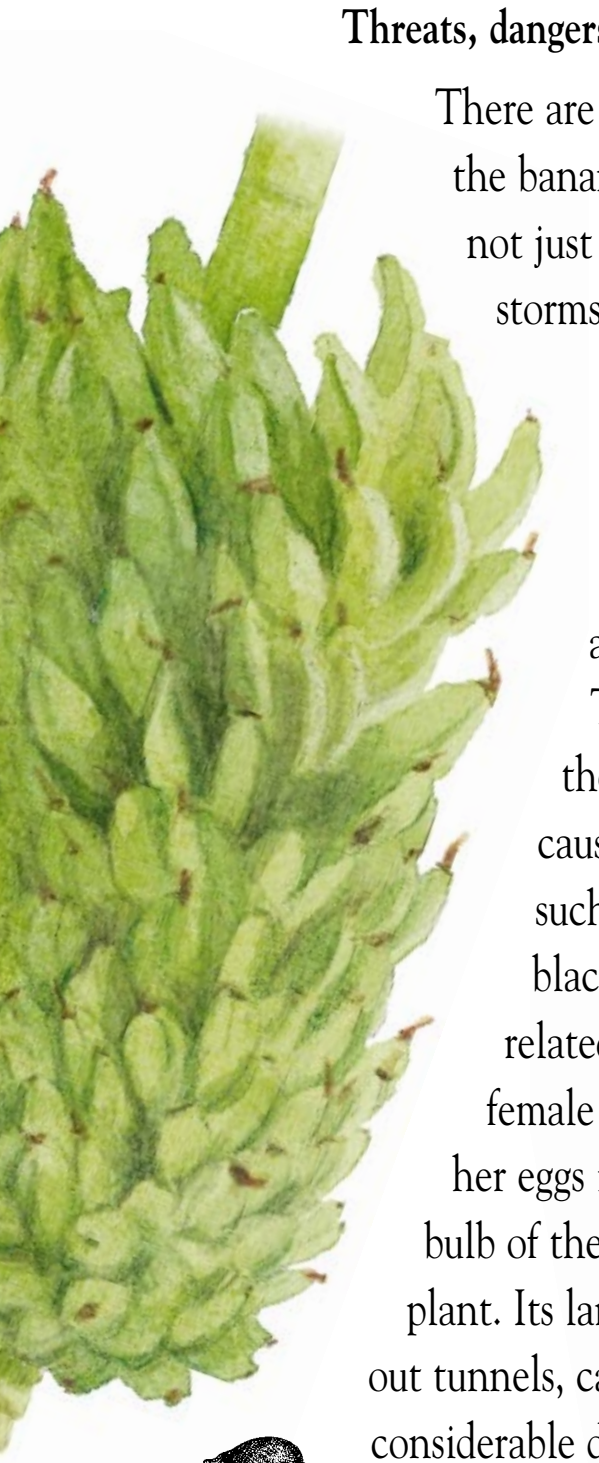
The banana usually grows in humid tropical regions, in open spaces, on the edges of forests and in clearings. It grows on healthy, well-ventilated soils that are rich in nitrogen and potassium. The plant is sensitive to low temperatures and draughts, and

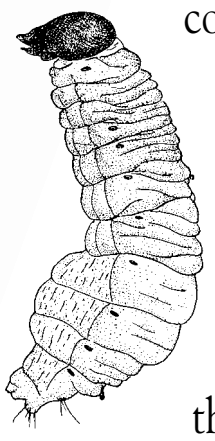
needs to be looked after carefully. It is essential to fix the plant to stakes, to prevent uprooting and damage. The plant must be weeded and watered regularly. In the industrial plantations there are a great many methods of irrigation: spray irrigation, drip irrigation, irrigation by flooding. To focus the plant's growth, the shoots growing on the stem have to be removed regularly. This is known as desuckering.

Care also has to be taken of the bunch itself. The last flowers to appear, at the extremities of the bunch (the male inflorescence) will not become bananas but they will sap the plant's strength and so they have to be cut off. The other flowers, which tend to stay on the end of the fruit when it has grown, also need to be removed to prevent pest and disease attack. Some leaves might rub against the fruit and damage them, so they need to be removed too. Finally, the bunch is enveloped in a sheath made of a polythene bag, which provides protection against insect bites and a temperature that will allow the fruits to develop properly.

Threats, dangers and risks

There are many threats to the banana's well-being: not just gusts of wind, storms, and cyclones, but also viruses, bacteria, nematodes, insects (weevils) and fungus. The fungi attack the leaves and can cause serious illnesses such as yellow and black Sigatokas and related diseases. The female borer weevil lays her eggs in the bulb of the banana plant. Its larvae gouge out tunnels, causing considerable damage. And the roots get attacked by microscopic worms known as nematodes. As for the fruit itself, that gets visited by the small thrips insect. Not an easy life, being a banana plant.





Crop protection

Bend me, shape me, any way you want me

Science is the banana's best friend

Science has a role to play at every point in the 'banana chain', in a variety of ways:

- Improving cultivation techniques by selecting high-yield plants, or by developing techniques which are appropriate both to methods of cultivation and the plant's growth processes.
- Breeding new varieties. Researchers are using genetic improvement and biotechnology to breed new bananas, incorporating banana genetic diversity, which is a valuable source of agronomic characters, and resistance to diseases.
- Developing environmentally-friendly strategies for controlling parasites and pests. They should be based on methods of biological and climatic early-warning systems which are most respectful of the environment.
- Improving the quality of fruit care, from the transport of the plant to the field, to the treatment station and all along the banana chain.

INIBAP

The International Network for Improvement of Banana and Plantain Banana (INIBAP) was created in 1984 with the goal of developing improved varieties of bananas, and adding an international dimension to research already underway on this crucial crop. INIBAP's founders opted to operate as a network organisation rather create a new research centre. With the mission of increasing the productivity of bananas and plantains produced by small-scale farmers, INIBAP works to develop partnerships and supports the research efforts of different players in this field, both in developing and industrialised countries.Many banana producing countries only have limited research capacity, and by participating in the regional networks set up by INIBAP they can make maximum use of their limited resources. INIBAP is also the repository of the largest in vitro *collection of banana germplasm in the world, and has set up a reliable system for distributing these varieties for the benefit of the international community. The germplasm is made available free of charge all over the world. INIBAP also provides a specialised documentation service to national research programmes. Since 1994, INIBAP is a programme of the International Plant Genetic Resources Institute.*

Protect the environment

Industrial cultivation of bananas for export can lead to significant environmental degradation (due to deteriorating water quality, reduced soil fertility, heavy use of pesticides…). It is important that banana cultivation should take more account of the environment, and that it is based on sustainable systems which balance the need for economic returns with the imperative of environmental conservation.

Maintaining bananas' biodiversity

The bananas which are eaten in Europe are the product of only two or three varieties. But

in Southeast Asia, more than 500 different varieties of bananas are traditionally grown by small farmers in plots near their homes – and this is in addition to the wild varieties that still grow in many areas. In Southeast Asia, bananas often grow alongside other subsistence food crops, and even other large-scale crops. In this region, considered as the centre of origin of bananas, banana biodiversity is carefully conserved in field collections, for example in India, Indonesia, Papua New Guinea, Philippines. In West Africa, large field collections of plantain cultivars are maintained in Cameroon and Nigeria. The same also grow in Latin America. We need to protect the rich diversity of bananas, because it provides breeders with the source of valuable agronomic characters and resistance to important diseases. Several leading research centres are working to maintain banana diversity on behalf of the international community. At the Neufchâteau research station in Guadeloupe, CIRAD maintains a field collection of 400 different varieties. In Central America, the Honduran Foundation for Agricultural Research (FHIA) maintains the oldest field collection in the region. INIBAP, for its part, is the repository of the largest *in vitro* collection of banana germplasm in the world. The consumer has a role to play too, by taking an interest in the new varieties of bananas which are gradually coming onto the market.

The largest *in vitro* collection of bananas in the world

Placed under the auspices of FAO in 1994, the world's largest in vitro *banana collection is held in trust at the INIBAP Transit Centre at the* Katholieke Universiteit Leuven, *Belgium.*
A total of 1136 varieties are conserved in test tubes, including wild species as well as local, commercial and improved varieties, representing a large proportion of the genetic diversity in the genus Musa.

Conservation

The plant material is conserved in the form of small pieces of plant tissue placed in a gelatinous nutritive growth medium containing plant hormones. Low temperature (16°C) and low light intensity reduce plant growth rates. On average, one subculture each year is sufficient to maintain the plants. Scientists at the genebank are also developing methods of cryopreservation (conservation at very low temperatures – about 170°C – usually in liquid nitrogen). This technique appears to be ideal for the low cost, long-term maintenance of banana plants. Already some of the varieties held at the Transit Centre have been placed in cryopreservation and eventually all the material will be conserved this way.
Ideally, for increased security, a partner institute should conserve a duplicate of each accession (duplication centre). So far, half the collection has been duplicated in INIBAP partners institutes in Costa Rica and Taiwan.

Distribution

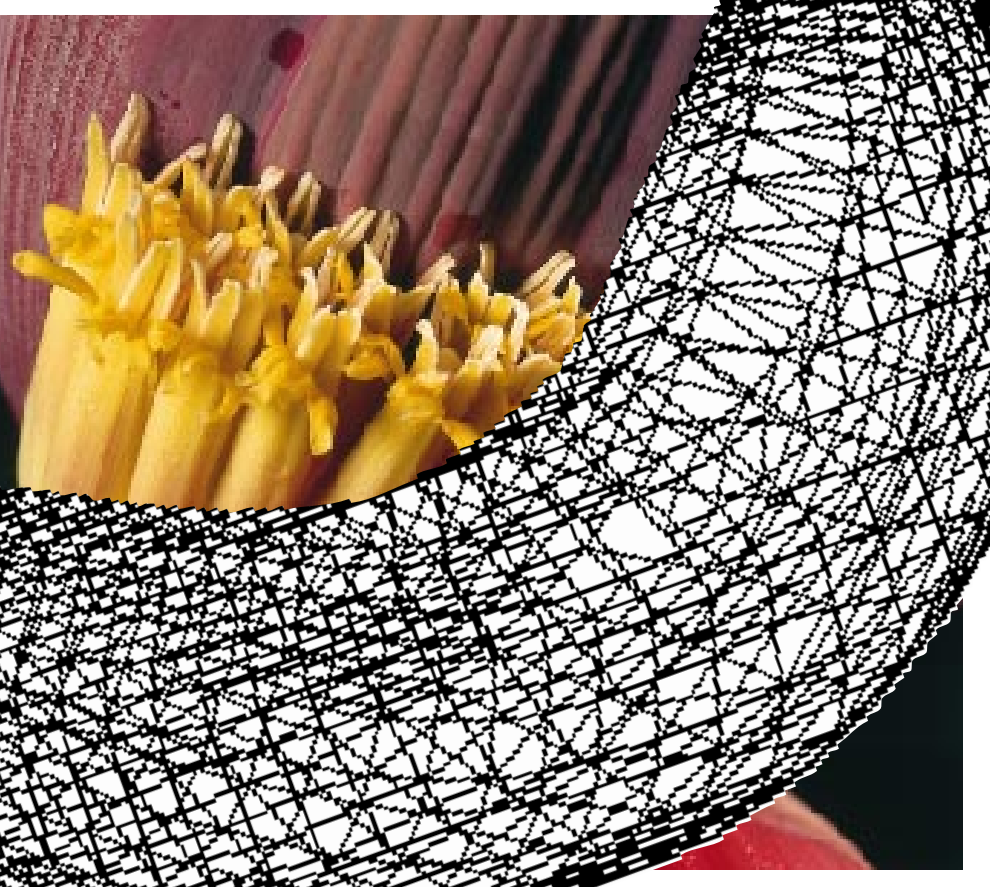
After screening for virus infection, material is distributed to users in the form of proliferating meristems or rooted plantlets. Since 1985, the INIBAP Transit Centre has distributed over 7000 accessions to 165 organisations in 79 countries. Regional multiplication centres assist the Transit Centre to multiply and distribute the most frequently requested varieties.

Breeding

Not only is the banana plant vulnerable to damage from various natural enemies, but the damage is aggravated by the fact that industrial plantations only grow a few varieties, all of which are closely related. Starting in the 1920s, research programmes focused on breeding banana hybrids that are resistant to the most serious diseases. The absence of sexual reproduction in most cultivated varieties however makes the development of new hybrid varieties using conventional breeding methods very difficult. The emergence of biotechnological techniques (in vitro *culture, embryo rescue etc.), has helped to knock down some of the barriers to breeding. As a result, new hybrids of dessert and cooking bananas have been developed by research institutes such as CIRAD (France), EMBRAPA (Brazil), FHIA (Honduras) and IITA (Nigeria). These varieties are resistant to black Sigatoka, a particularly virulent disease which represents a significant threat to banana production around the world. In addition, the development of systems to regenerate the banana plant (through somatic embryogenesis), and new methods of molecular biology and genetic manipulation are allowing further rapid advances in the production of improved banana varieties.*

Will tomorrow's banana be yellow or pink, sugary or acidic, long or short…?

In the future there will be bananas available, to match every imaginable taste: sugary, acidic… The banana flesh will be creamy white, or orange, the banana skin will be thick, or thin, a lemony yellow, or a golden yellow, and maybe even pink! They will grow on plants which are cultivated in a way that is more in harmony with the environment, and they will be resistant to their major enemies. And, who knows, tomorrow's "trees of paradise" may even be grown for other reasons than their fruit (like use in medicines, or textiles…). Tomorrow's bananas, have quite a future in store.



Is it a fruit or a vegetable?

Resourceful, or better still resource-full, that's the banana. Nothing is wasted, everything is used. And there are a thousand and one ways to eat it.

Consumers in the West tend to enjoy bananas most as a dessert, but in many countries they are eaten as a vegetable. These are cooking bananas, and plantains in particular.

Bebek betutu (Roast duck in banana leaf)
The rich flavour of duck is greatly enhanced by a host of pungent roots, herbs and seasonings in this dish, which is a great favourite with visitors to Bali. The Balinese have great admiration for the duck and consider it to be a particularly strong animal as it is, like the turtle, able to survive on land as well as water. **Ingredients:**
1 whole duck, about 2kg; 18 shallots, peeled, cut in half and sliced; 6 cloves of garlic, peeled, halved and sliced, 3 stalks lemongrass, finely sliced; 5 fragrant lime leaves, finely sliced; 6 candlenuts, chopped; 5 cm ginger root, peeled and chopped; 8 cm fresh turmeric, peeled and chopped; 5cm *keneur* root, peeled and chopped; 1 teaspoon black peppercorns, crushed; 5 birds-eye chillies, sliced; 1 teaspoon coriander seeds, crushed; 2 teaspoons dried shrimp paste (blacan), roasted and coarsely crushed; 11/2tablespoons salt; 3 tablespoons oil; banana leaves, parchment paper or aluminium foil for wrapping.
Wipe the duck dry and set aside. Combine all the remaining ingredients, except leaves, in a bowl and mix well. Rub the duck outside with this mixture and fill the centre of the duck with the remainder. Close the openings of the duck with satay skewers. Wrap in several layers of banana leaves, parchment paper or foil and steam for 50 minutes. Transfer duck to a moderate oven and bake at 180 °C for 30 minutes. Remove banana leaves, cut duck meat up in small pieces and serve with stuffing. When cooked, the meat should be so tender that it falls off the bones.
Extract from: *The Food of Bali*, by H. von Holzen and L. Arsana 1999, Periplus Edition (HK) Ltd, Singapore.

Cooking bananas are loved in the tropical regions where they are eaten in many ways: they can be fried, grilled, boiled, stewed when ripe, or stewed when green. They can be cooked with or without their skin, or wrapped up in banana leaves, cooked whole or grated and mixed with a bit of coconut milk. They can be kept for a long time, most usually in dried form. When green bananas are dried and ground into flour they can be used in baking bread. Ripe bananas are used to make sweets. People in the Philippines enjoy banana ketchup, and in Africa people brew beer by fermenting the fruit.

The incredible dietary properties of the banana
The banana is full of energy (90 calories/100 gr). Eating a banana a day provides all our daily requirements in potassium. Nutritive, easy to digest, it is also rich in carbohydrates, phosphorus, calcium, iron, vitamins A, B and C. Contrary to popular belief, banana is not fattening.

Nothing gets wasted

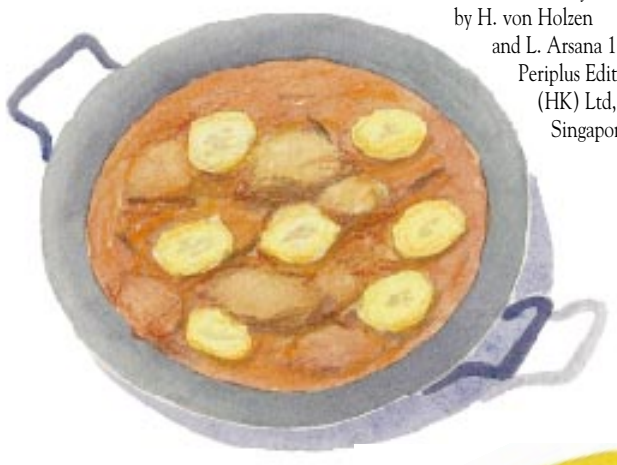
That's the banana fruit, but more gets used than just the fruit. The heart of the stem is a delicacy in India and Ethiopia, and in the Far East, the buds are eaten in salads.
The pseudostem is used to make dams,

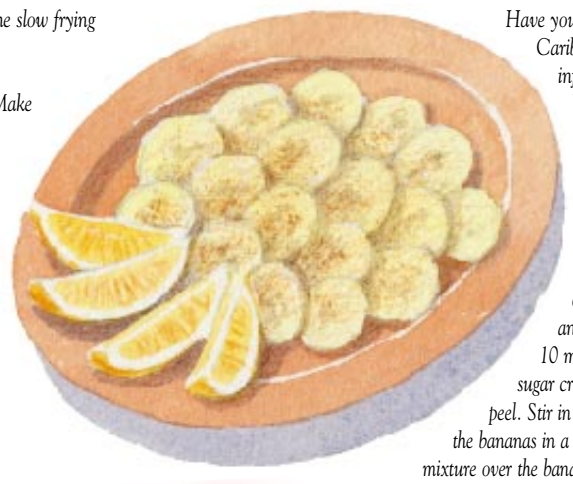
GODOH **(Fried bananas)**

Fried bananas are a popular and inexpensive treat throughout Southeast Asia. The slow frying technique used in this recipe ensures that the bananas remain crisp.

Ingredients: 1 cup of rice flour; 2/3 cup water; 1/4 teaspoon salt; 8 small finger bananas; oil for frying. *Place rice flour in deep mixing bowl. Make a well in the middle of the flour, and add water and salt. Whisk vigorously until batter is evenly smooth for coating and not too thin (if too thin, add more rice flour). Peel bananas and cut in half lengthwise. Dip into batter to coat generously. Heat oil in wok or deep fryer until moderately hot. Add bananas and fry slowly until golden brown and crispy. This will take about 15 minutes. Remove bananas from oil, drain on paper napkins. Can be served with unti (baked roasted coconut) used as a dip.*

Extract from: *The Food of Bali*, by H. von Holzen and L. Arsana 1999, Periplus Edition (HK) Ltd, Singapore.





RUM-DRENCHED BANANAS MARTINIQUE STYLE

Have you noticed that it's impossible to get away from rum in the Caribbean? In this dessert the alcohol is not burned off but infused – warmly – onto the bananas.

Ingredients: 1 cup sugar; 1/2 cup water; 2 strips of lemon peel; 1 orange; 2 tablespoons orange liqueur; 1/2 teaspoon vanilla extract; 1/2 teaspoon fresh lemon juice; 1/4 teaspoon ground cinnamon; 4 firm, ripe bananas, peeled and sliced; 1/2 cup dark rum. *Preheat the oven to 375 degrees. Combine the sugar, water and lemon peel in a saucepan and heat over low heat until the sugar dissolved. Turn up the heat and boil until the syrup turns an amber colour, after 10 minutes. Scrape down the sides of the pan occasionally if sugar crystals form. Remove from the heat and remove the lemon peel. Stir in the liqueur, vanilla, lemon juice and cinnamon. Arrange the bananas in a single layer in a shallow baking dish. Pour the caramel mixture over the bananas and bake for 10 minutes. In a small saucepan, heat the rum over very low heat until hot. Transfer the bananas and caramel sauce to four serving plates and drizzle the rum over all.*

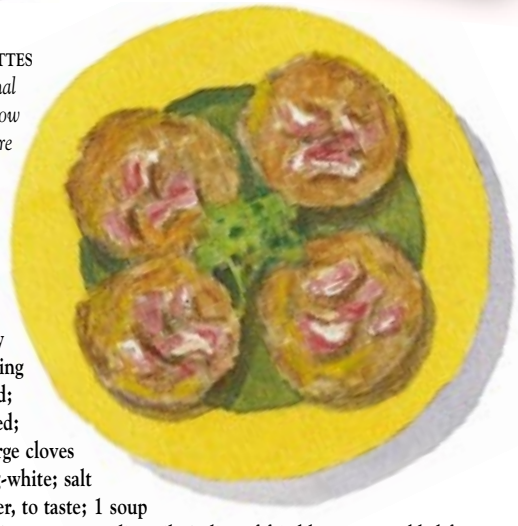
Extract from: *La cuisine cubaine de Miami* by Sue Mullin. Könemann.

PLANTAIN AND APPLE CROQUETTES

Apples are not part of the traditional Cuban diet because they do not grow well in tropical conditions. They are therefore considered as an exotic fruit and are somewhat rare. This mixture of apples and plantains can be topped with pieces of crumbled bacon or served as an accompaniment to pork or ham.

Ingredients (4 persons): 2 very ripe plantains, mashed; 2 cooking apples, peeled, cored and grated; 1 medium onion, finely chopped; 2 teaspoons of cinnamon; 2 large cloves of garlic, finely chopped; 1 egg-white; salt and freshly ground black pepper, to taste; 1 soup spoon of butter or margarine; 1 soup spoon olive oil; 1 slice of fried bacon, crumbled for garnish (optional). *Mix together well the grated apples and mashed plantain. Add the onion, cinnamon, garlic, egg-white, salt and pepper. In a frying pan, heat the butter and oil. Add large spoonfuls of the mixture to the pan and fry until golden on both sides. Place on a piece of kitchen paper before serving.*

Extract from: *La cuisine cubaine de Miami* by Sue Mullin. Könemann.



PLANTAIN AND CURRIED FISH

Ingredients (4 persons): 20 ml oil; 4 fish steaks; 160ml lime, grapefruit or lemon juice; 3ml curry powder; 2 firm, ripe plantains. *Preheat oil in a frying pan. Fry fish steaks over a low heat, turning once. Mix juice and curry powder and add to pan. Continue cooking covered for another 5-7 minutes. Cut plantains into quarters lengthways, add to frying pan and cook for another 5 minutes. (From: http://www.ultra.net.au).*

TUM WRAPPING (DOUBLE-FOLDING BANANA LEAVES)

1. *Place ingredients in the centre of clean leaf and pleat in side as shown.*

2. *Repeat on other side.*

3. *Fold one end of pleat to the front and the other to the back.*

4. *Repeat on other side to firmly enclose contents.*

5. *Put bundle in centre of strip of leaf to hold the plants together.*

6. *Secure with a toothpick.*

Extract from: *The Food of Bali*, by H. von Holzen and L. Arsana1 1999, Periplus Edition (HK) Ltd, Singapore.

or feed livestock. Its fibres are used to make straps, clothes, hats, fishing nets, composite materials such as car fittings and partitions, and even banknotes. On some islands, in the Pacific, the seeds from wild plants are used to make necklaces. Its leaves are useful as roofing material, umbrellas, or organic plates – so much so that in some countries in Asia the banana is grown exclusively for its leaves. And the flowers of some banana plants are so beautiful that they are used in highly attractive floral arrangements.

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