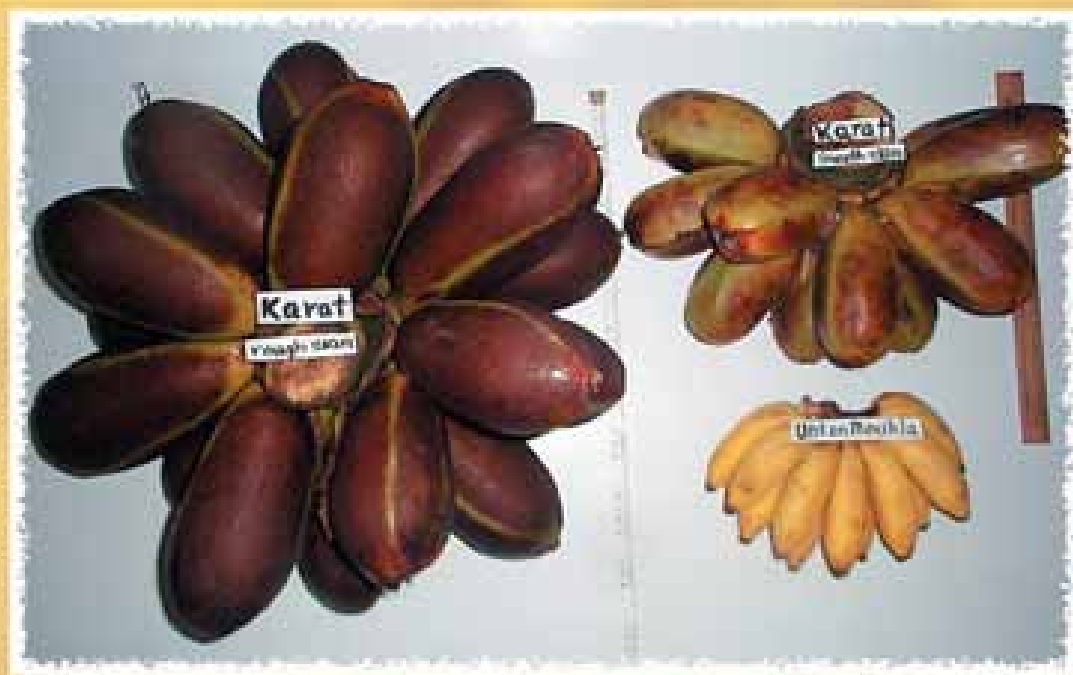


Pohnpei Bananas

A Photo Collection Carotenoid-Rich Varieties

By Lois Englberger and Adelino Lorens



A Project of the Island Food Community of Pohnpei

With support by the Centers for Disease Control and Prevention (CDC),
United Nations Children's Fund (UNICEF),
Pohnpei State Agriculture, College of Micronesia- FSM, Australian Embassy,
Sight and Life, Pacific Agricultural Plant Genetic Resource Network (PAPGREN)
of the Secretariat of the Pacific Community (SPC), and SPC Lifestyle Health



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Secretariat of the Pacific Community

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Island Food Community of Pohnpei
P. O. Box 2299, Kolonia
Pohnpei 96941
Federated States of Micronesia

Lois Englberger: nutrition@mail.fm
Adelino Lorens: pniagriculture@mail.fm

Secretariat of the Pacific Community
Suva Subregional Office
Private Mail Bag
Suva
Fiji Islands
Tel: +679 337 0733
Fax: +679 337 0021
Email: spc@spc.int

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Introduction

Studies have shown that yellow or orange coloration of the edible flesh is a good indication of high carotenoid content in bananas. Pohnpeians are encouraged to plant and consume more of the high carotenoid types in order to help protect themselves and their families against vitamin A deficiency, anemia, diabetes, heart disease, and certain cancers.

At a Farmers Meeting in October 2003, 42 banana cultivars were documented for Pohnpei. Photographs of 31 cultivars are included in this collection. The cultivars with the highest carotenoid content are presented first in the photo collection, followed by the cultivars of lower carotenoid content. Some of these bananas are rare, so Pohnpei Agriculture has initiated a project for producing banana planting material for distribution.

The list of bananas prepared at the October 2003 Farmers Meeting and some comments by Pohnpei farmers on those bananas are provided on the following pages. Common names vary for some bananas, depending on location on the island and people's opinions. There are also various spellings for some banana names, due to people's opinions and different spelling systems. This listing uses the spellings of Regt and Sohl (1979) (some names in the photographs have variant spellings).

Acknowledgements

Acknowledgement is made to Mark Kostka, Amy Levendusky, Bill Raynor, Ben Namakin, Konrad Englberger, Maiomy Lorrin, Yumiko Paul and Dr Martin Frigg who assisted in developing this booklet. Warm thanks are given to Mark Kostka, who identified some bananas and their characteristics and advised on the layout of the booklet; to Yumiko Paul for her recipes; to Jeff Daniells for assistance in the banana classifications and other comments; and to Dr Mary Taylor for her coordination with the printer and great assistance in getting the booklet printed. Appreciation is also extended to the funding agencies including the Centers for Disease Control and Prevention (CDC), United Nations Children's Fund (UNICEF), Australian Embassy, Sight and Life, Pacific Agricultural Plant Genetic Resource Network (PAPGREN) of the Secretariat of the Pacific Community (SPC), and SPC Lifestyle Health.

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Terms

"Finger" refers to an individual banana fruit. "Hand" refers to a cluster of fruits. "Bunch" refers to the entire set of clusters of fruit. "Sucker" refers to a young plant beside the mother plant. "Cultivar" in this booklet refers to a variety produced by cultivation.

Pohnpei banana cultivars as documented at October 2003 Farmers Meeting:

Pohnpei cultivar	Other names	Classification ¹	Flesh color	Other comments	Page
<i>Akadahn</i>	<i>Lakadahn</i>	AAA; Green Red	Yellow	Green peel, different from <i>Akadahn Weitahata</i> .	18, 24
<i>Akadahn Weitahata</i>	<i>Akadahn en Hawaii</i>	AAA; Red	Yellow	Fruit have red peel.	13, 18, 24, 25
<i>Dukuru</i>		ABB; Ney Mannan variant	Cream	Very similar to <i>Inahsio Pehsehs</i> , but fruit is short, there are more fingers and a tightly packed bunch.	20
<i>Iemwahn</i>		AAB; 2	Yellow	Large finger.	14, 25
<i>Ihpali</i>		AAB; Laknau-like	Yellow	One or sometimes two hands. Large long fingers.	13
<i>Ihpalihn Palau</i>		?		<i>Ihpalihn Palau</i> may be the same as <i>Mangat en Angaur</i> .	
<i>Ihpalihn Seipahn</i>		?		<i>Ihpalihn Seipahn</i> may be the same as <i>Mangat en Seipahn</i> .	
<i>Inahsio Mweimwei</i>		ABB; Bluggoe	Cream	Peel is spotted compared to other <i>Inahsio</i> .	19
<i>Inahsio Pehsehs</i>		ABB; Bluggoe	Cream	Peel color is like ashes, light green in color.	19, 24
<i>Inahsio Poh Rotorot</i>		ABB; Bluggoe	Cream	Dark-colored peel compared to other <i>Inahsio</i> .	19
<i>Kaimana</i>	<i>Kundihna</i>	ABB; Pisang Awak	White	Produces many suckers.	21
<i>Karat en Iap</i>		AAB; Maia Maoli/Popoulu	Yellow	Bunch is not erect; fingers are large.	11, 17
<i>Karat Kole</i>	<i>Karat Pwonopwon</i>	Fe'i	Yellow-orange	Round-shaped finger.	10, 12
<i>Karat Pako</i>		Fe'i	Yellow-orange	Large finger; peel is rougher than other <i>Karat</i> .	9, 10, 23

Pohnpei cultivar	Other names	Classification ¹	Flesh color	Other comments	Page
<i>Karat Pwehu</i>		Fe'i	Yellow-orange	Smaller finger than <i>Karat Pako</i> .	7, 9, 10, 11, 12, 13, 24, 25, 27
<i>Kudud</i>	<i>Uht Rais</i> , <i>Kirihm</i>	AA; Sucrier	Yellow	Fast cooking. <i>Kudud</i> and <i>Uht Rais</i> may be slight variants.	18
<i>Macao</i>		AA/AAA; Lakatan?	Yellow	Recently introduced.	
<i>Mangat en Alohkpw</i>		AAB; 3	Yellow	Dark-colored skin compared to other <i>Mangat</i> .	
<i>Mangat en Angaur</i>		AAB; 2	Yellow	<i>Mangat en Angaur</i> may be the same as <i>Ihpalihn Palau</i> .	15
<i>Mangat en Kariki</i>		AAB; 3	Yellow		
<i>Mangat en Pohnpei</i>		AAB; 3	Yellow	Many hands compared to other <i>Mangat</i> .	
<i>Mangat en Ruk</i>		AAB; 3	Yellow		
<i>Mangat en Seipahn</i>		AAB; Plantain	Yellow	<i>Mangat en Seipahn</i> may be the same as <i>Ihpalihn Seipan</i>	15, 24
<i>Mangat Kingit</i>		AAB; 3	Yellow		
<i>Pelev</i>	<i>Utin Koruhr</i>	AAB; Maia Maoli/Popoulu	Yellow		17
<i>Preisihl</i>	<i>Brazil</i>	AAB; Pome	Cream	Stem and corm often used for medicinal purposes.	21
<i>Sapwtehreng</i>		?		<i>Mangat</i> family.	
<i>Taiwang</i>		AAB; Pisang Kelat	Yellow	Produces many suckers; hardy. Very sweet fruit.	7, 16, 26, 27
<i>Tikahp</i>	<i>Utinwel</i>	<i>Musa textilis</i>		Wild banana. Formerly used for fiber production.	
<i>Uht Mwot</i>		?			
<i>Utiak en Angaur</i>	<i>Utiak en Palau</i>	?	Yellow	Larger plant compared to <i>Utiak en Pohnpei</i> .	

Pohnpei Bananas

A Photo Collection

Pohnpei cultivar	Other names	Classification ¹	Flesh color	Other comments	Page
<i>Utiak en Pohnpei</i>		?	Yellow	Smaller plant compared to <i>Utiak en Angaur</i> .	16
<i>Utihdol</i>		Fe'i	Orange	<i>Utin lap</i> family.	
<i>Utimwas</i>		Fe'i	Orange	<i>Utin lap</i> family. <i>Mwas</i> (worm) refers to small fingers.	7, 8, 24
<i>Utin lap</i>		Fe'i	Orange	Larger finger and darker red peel than <i>Utimwas</i> .	8
<i>Utin Kerenis</i>	<i>Kirou Rohi</i>	AAB; Pisang Raja	Yellow	Good cooking banana.	16
<i>Utin Kuam</i>	<i>Uht Laud</i>	AAB; Silk	White	A type of <i>Utin Menihle</i> but finger is larger.	
<i>Utin Lihli</i>	<i>Ilario</i>	ABB; Saba	White	Like <i>Utin Ruk</i> but smaller finger.	20
<i>Utin Menihle</i>	<i>Uht Tikitik</i>	AAB; Silk	White	Finger is smaller than <i>Utin Kuam</i> .	7, 9, 13, 14, 18, 21, 25
<i>Utin Pihsi</i>	<i>Utin Fiji</i>	AAB; Mysore	Cream	Very sweet and strong aroma when ripe.	22, 23, 25
<i>Utin Ruk</i>	<i>Poupoulap</i>	ABB; Saba	Cream	Large plant. Produces many suckers.	20, 24, 25
<i>Utin Wai</i>	<i>Utin Wai</i> <i>Mwoatomoat</i>	AAA; Cavendish	White	William's Hybrid.	22

¹ The Stover and Simmonds classification by genome and subgroup is used.

² Maia Maoli/Popoulu-like.

³ The Mangat group of cultivars includes more than one of the Stover and Simmonds sub-groups. The exact sub-group for each cultivar is yet to be determined.

Cultivars reported and seen in Pohnpei by other informants but not known to participants at the meeting:

Pohnpei cultivar	Flesh color	Page
<i>Dukerehda</i>	Yellow	23
<i>Kundihna</i> (which is not <i>Kaimana</i>)	Light yellow	23
<i>Uht Kapakap</i>	White	23

Studies are continuing in order to determine if these bananas are included in the list above under another name.

Cultivars heard of but not seen by participants at the meeting: *Inen Pahnipur*, *Karat Ihsilu*, *Keren Lasi*.

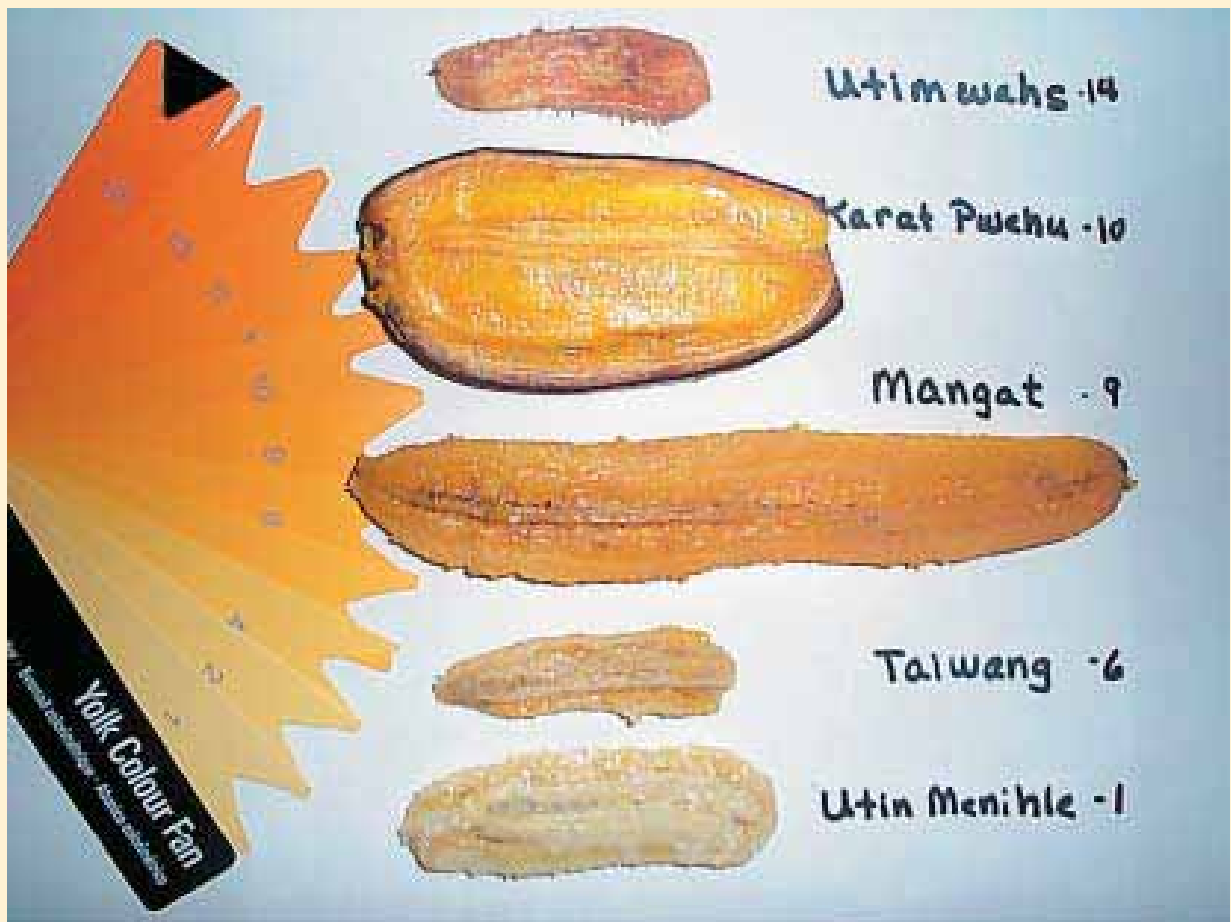
Eight additional cultivars have been newly introduced to Pohnpei from the Secretariat of the Pacific Community, Suva, Fiji Islands: *Grande Naine*, *Yangambi Km5*, and the FHIA banana cultivars FHIA-01, FHIA-02, FHIA-03, FHIA-17, FHIA-18 and FHIA-23.

COOKED BANANAS: COLOR AND CAROTENOID DIFFERENCES

Studies on the nutritional content of five types of banana showed that the levels of beta-carotene of these cultivars, in micrograms per 100 grams of banana, were:

<i>Utin Iap (Utimwas is in the Utin Iap family)</i>	1250 to 6360 micrograms
<i>Karat</i>	670 to 918 micrograms
<i>Mangat</i>	575 micrograms
<i>Taiwang</i>	400 micrograms
<i>Utin Menihle</i>	30 micrograms

The photograph shows the stronger color in the cultivars with the higher levels of beta-carotene.



Pohnpei Bananas

A Photo Collection



Utin lap (orange-fleshed) bunch



Utimwas (orange-fleshed) bunch



Karat Pako (left) and *Karat Pwehu* (above right), both yellow/orange-fleshed, showing the large size of the *Karat Pako* fingers, compared with the small *Utin Menihle* fingers.



Karat Pako (yellow/orange-fleshed) hand showing close-up of peel.

Pohnpei Bananas

A Photo Collection



Karat Pako (left), not quite ripe, and *Karat Pwehu* (right), fully ripe, both yellow/orange-fleshed.



Karat Kole (yellow/orange-fleshed) bunch.

Karat Pwehu (yellow/orange-fleshed) bunch.



Another yellow-fleshed banana, known as *Karat en lap*, is pictured on page 17.

Although it is called *Karat* because it has fat-shaped fingers similar to *Karat* fingers, this banana is not a proper *Karat* banana in the Fe'i banana group because, as the photograph on page 17 shows, *Karat en lap* does not have an erect bunch.

Pohnpei Bananas

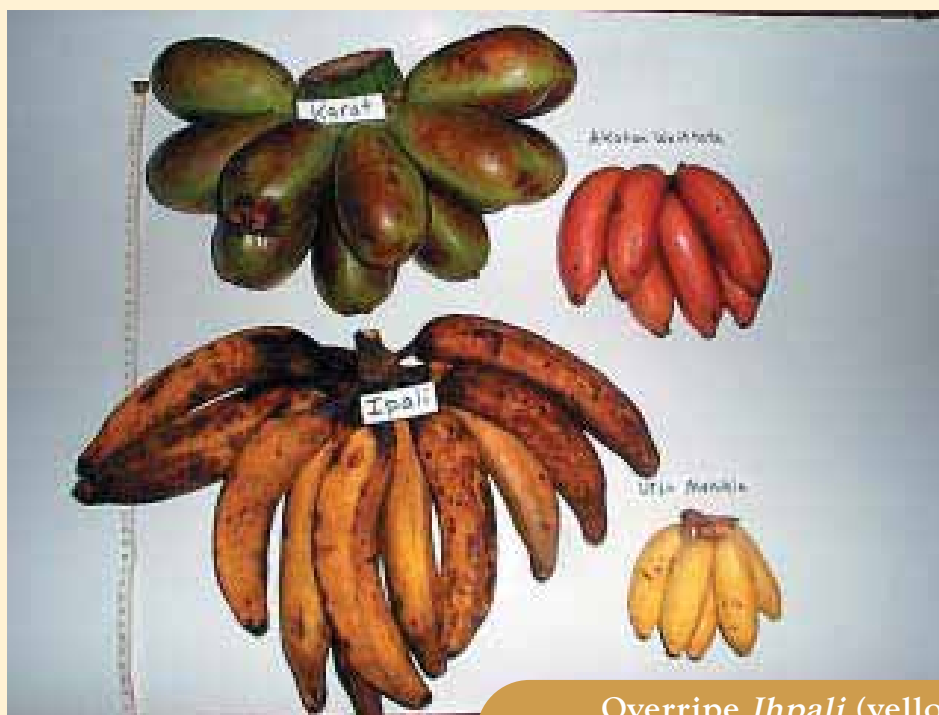
A Photo Collection



Karat Pwehu (yellow/orange-fleshed),
erect bunch on plant.



Karat Kole (yellow/orange-fleshed)
erect bunch on plant, with the erect male
bud still on bunch. Photo: Luigi Guarino,
Secretariat of the Pacific Community.



Overripe *Ihali* (yellow-fleshed) compared with *Karat Pwehu* (yellow/orange-fleshed), *Akadahn Weitaha* (yellow-fleshed) and *Utin Menihle*, (white-fleshed).



Ihali (yellow-fleshed) whole bunch.

Pohnpei Bananas

A Photo Collection



Lemwahn (yellow-fleshed) bunch.



Size of *Lemwahn* fingers compared with *Utin Menihle*.

Mangat en Seipahn
(yellow-fleshed) bunch.



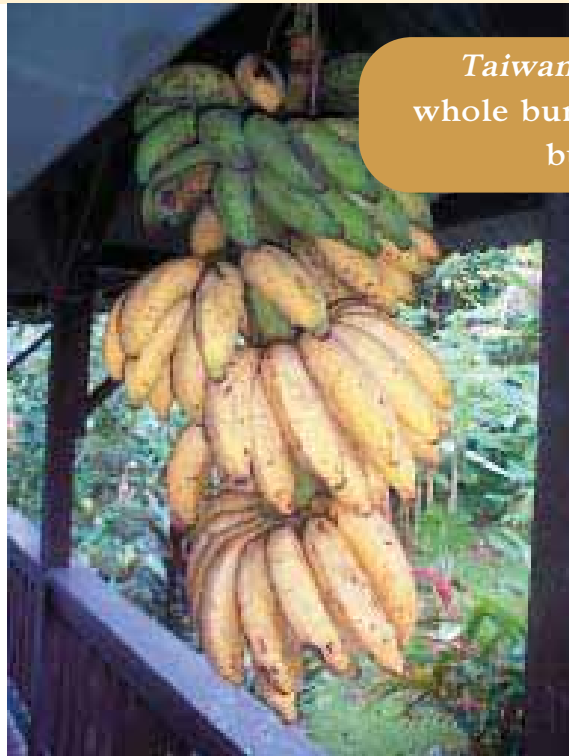
Mangat en Seipahn
(yellow-fleshed) on plant.



Mangat en Angaur
(yellow-fleshed) bunch.

Pohnpei Bananas

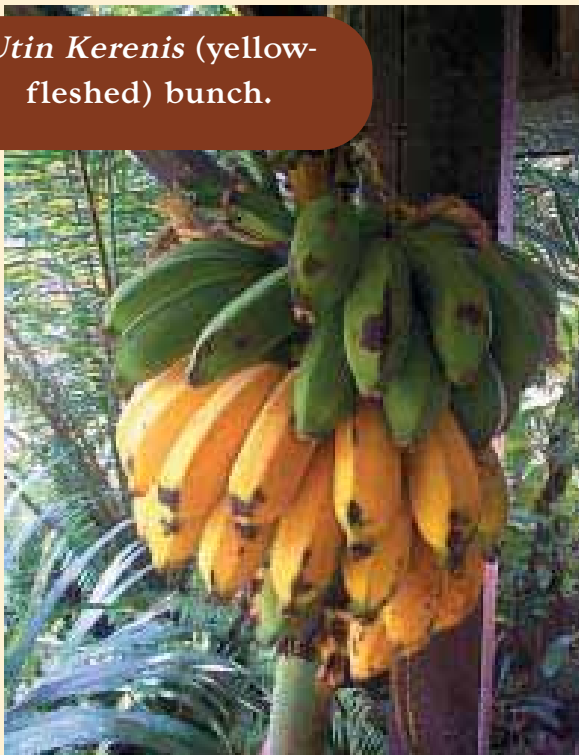
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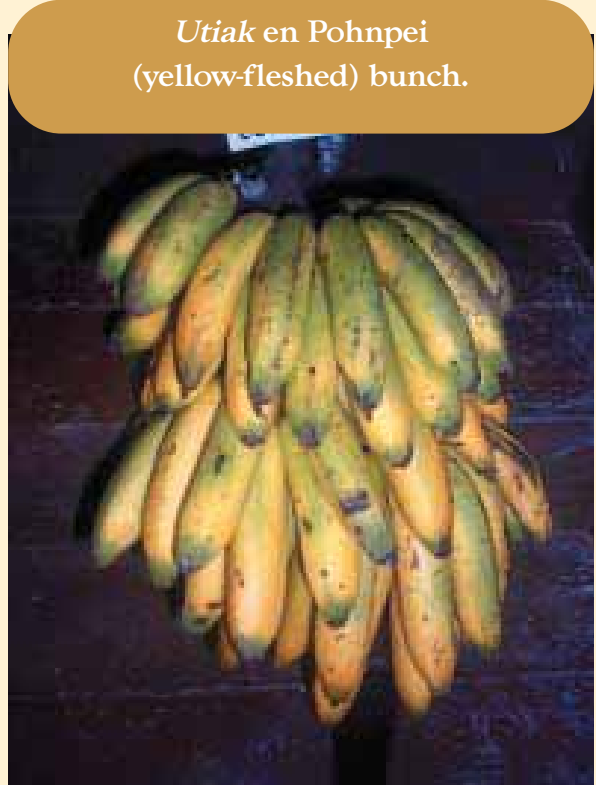
Taiwang (yellow-fleshed) whole bunch (left) and part of bunch (right).

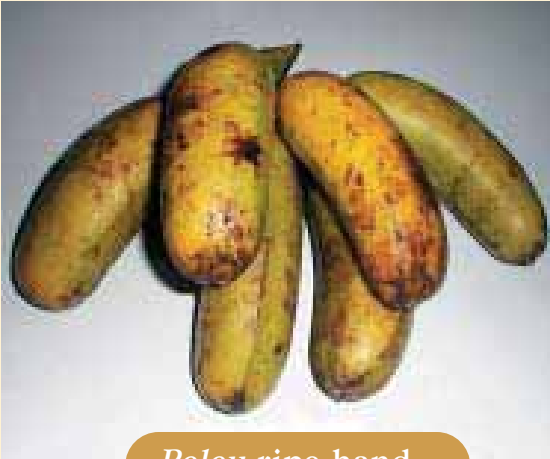


Utin Kerenis (yellow-fleshed) bunch.



Utiak en Pohnpei (yellow-fleshed) bunch.

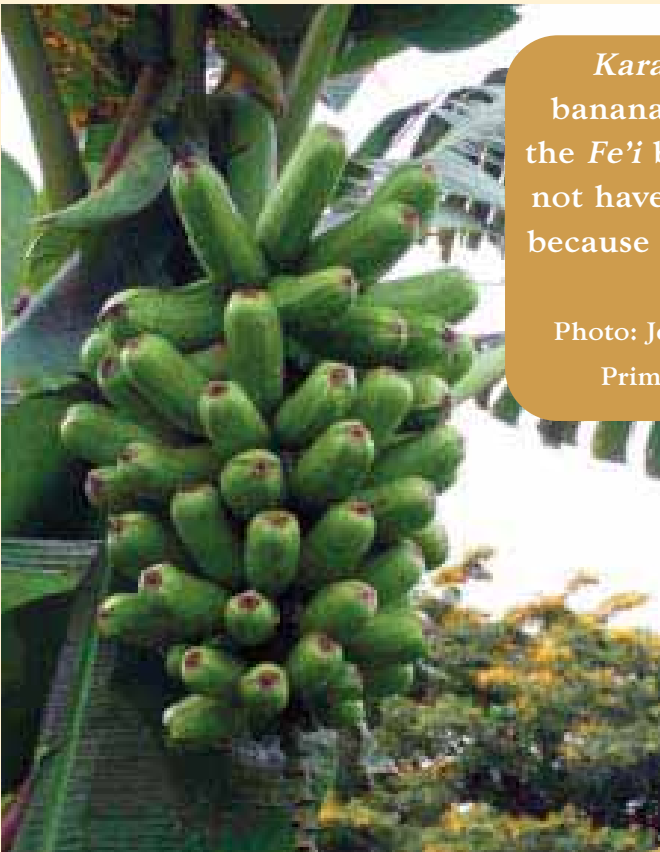




Peleu ripe hand.



Peleu (yellow-fleshed) bunch.

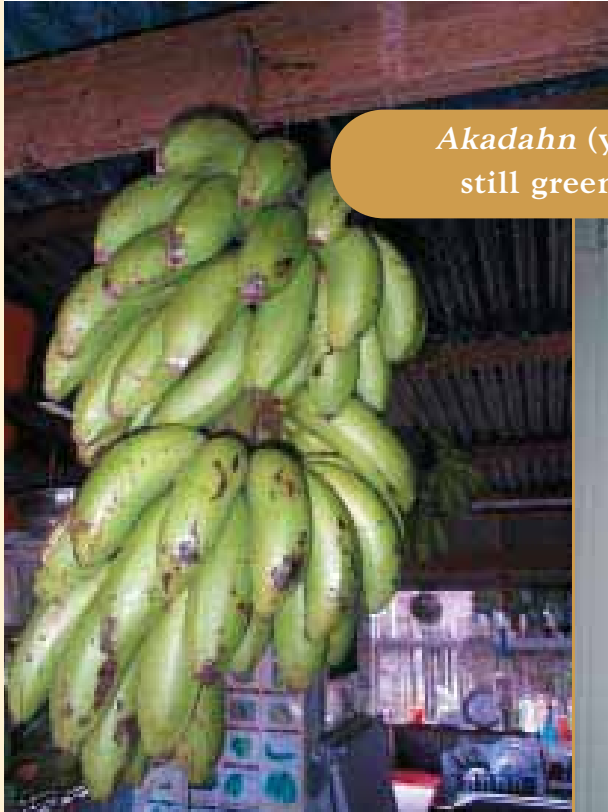


Karat en Iap (yellow-fleshed). This banana is not a proper *Karat* banana in the *Fe'i* banana group as *Karat en Iap* does not have an erect bunch. It is called *Karat* because it has fat-shaped fingers similar to *Karat* fingers.

Photo: Jeff Daniells, Queensland Department of Primary Industries and Fisheries, Australia

Pohnpei Bananas

A Photo Collection



Akadahn (yellow-fleshed) bunches, still green (left) and ripe (right)



Red-skinned *Akadahn Weitahta* (yellow-fleshed) bunch of red-skinned fingers (right) compared with *Utin Menihle* hands (left).



Kudud (yellow-fleshed) bunch (also called *Uht Rais*).

Inahsio Poh Rotorot (left) and Inahsio Pehsehs (right) bunches.



Inahsio Mweimwei bunch.



Inahsio Pehsehs bunch.



Pohnpei Bananas

A Photo Collection

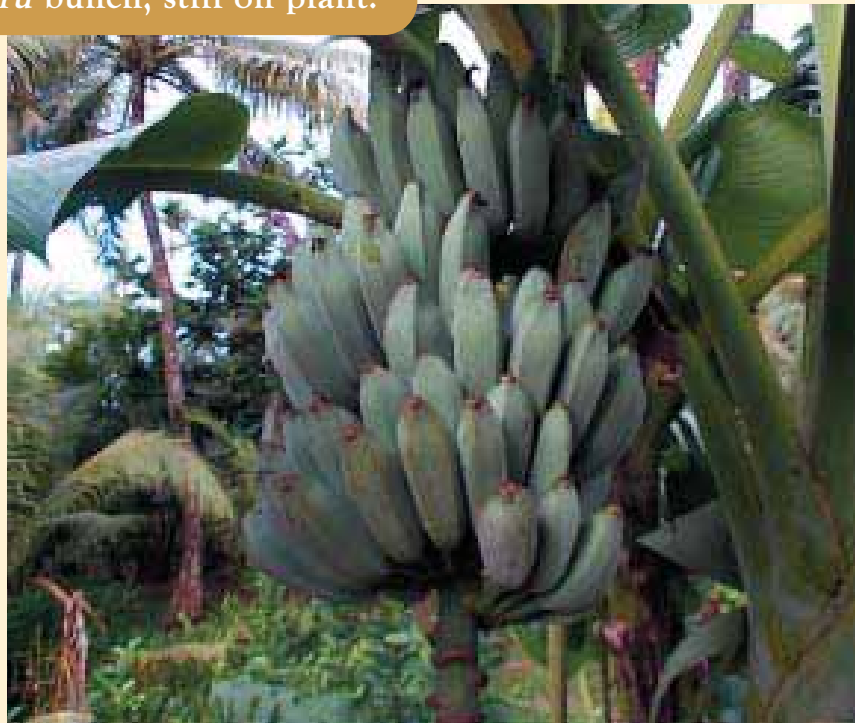
Utin Ruk bunch.



Utin Lihli bunch
(also called *Ilario*).



Dukuru bunch, still on plant.



Preisihl bunch



Preisihl bunch, fully ripe.

Utin Menihle bunch.



Kaimana bunch.

Pohnpei Bananas

A Photo Collection



Utin Pihsi bunch.

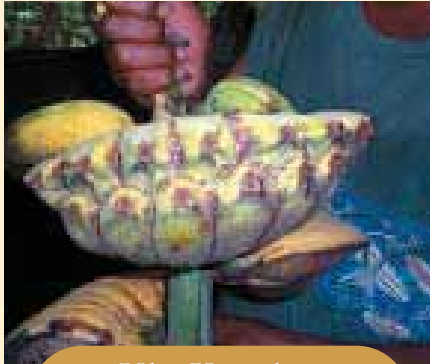
Utin Wai bunch.



Karat Pako (yellow-fleshed), Dukerehda (yellow-fleshed) and Utin Pihsi.



Dukerehda (yellow-fleshed) hand.



Uht Kapakap hand and bunch.



Kundihna (light yellow-fleshed) hand.



NOTE: *Dukerehda*, *Kundihna*, and *Uht Kapakap* were not named at the 2003 Farmers Meeting. Studies are continuing in order to determine if these are bananas included in the list under another name.

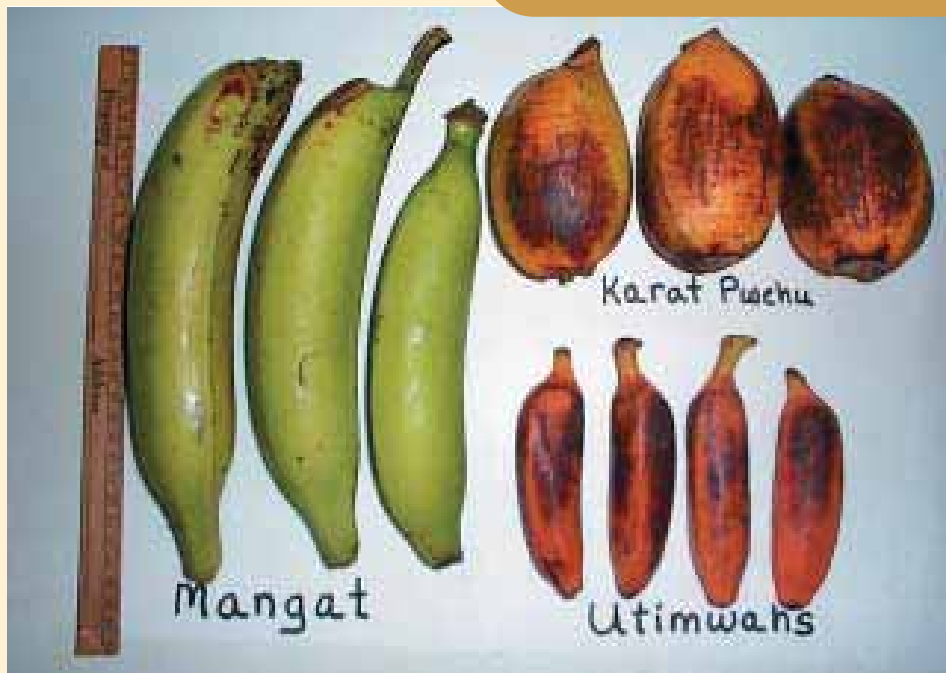
Pohnpei Bananas

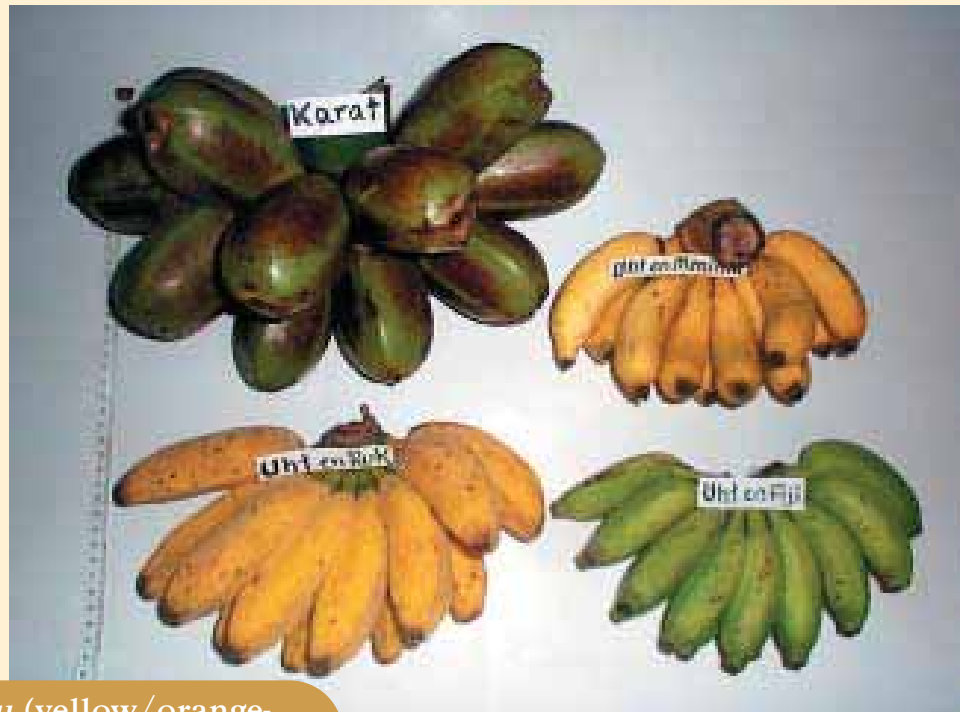
A Photo Collection



Akadahn Weitahta, Akadah (yellow-fleshed) and Utin Ruk and Inahsio Pehses.

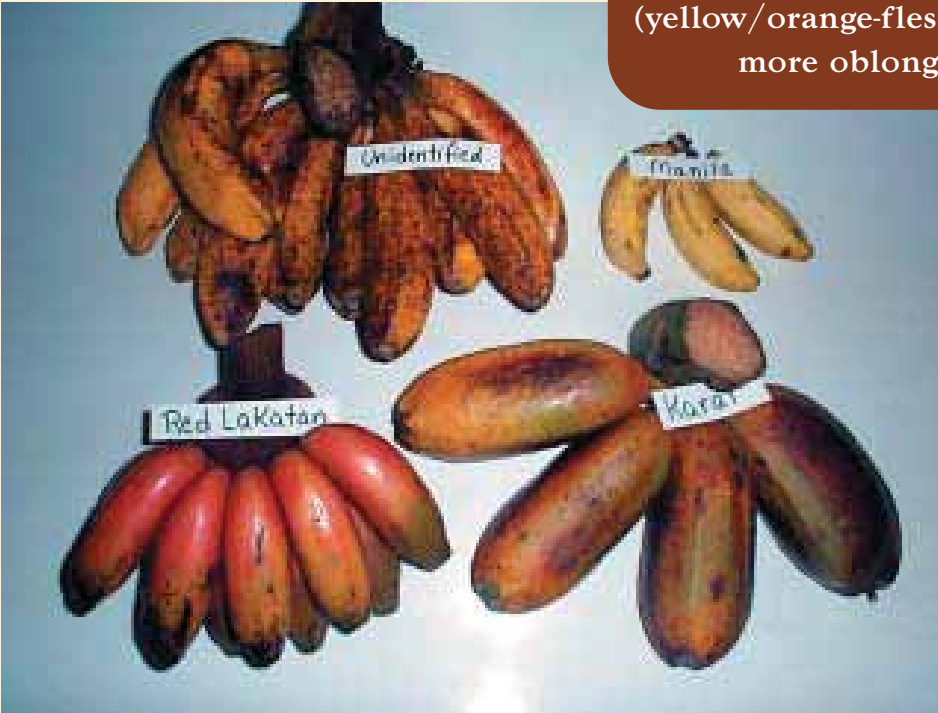
Mangat en Seipahn (yellow-fleshed) at left, Karat Pwehu (yellow/orange-fleshed) at top right, and Utimwas (orange-fleshed) at bottom right below.





Karat Pwehu (yellow/orange-fleshed), Utin Menihle, Utin Ruk, and Utin Pihsi hands.

Iemwahn (yellow-fleshed) labeled as unidentified, Utin Menihle, Akadah Weitahta (yellow-fleshed), and a Karat Pwehu (yellow/orange-fleshed) type that is more oblong in shape.



Taiwang Banana Pancakes

3 cups flour
3 teaspoons baking powder
3 tablespoons sugar, if desired
2 cups water, or as needed
1 to 2 cups ripe *Taiwang* banana (4 to 8 fruits)
Oil for frying

1. Mix flour, baking powder, and sugar together.
2. Add water to the flour mixture and mix well.
3. Mash banana and mix into the flour and water mixture.
4. Coat the frying pan with enough oil for lightly frying.
5. Add a few spoonfuls of batter and fry, one side at a time.



Taiwang or Karat Banana Bread

3½ cups flour
3 teaspoons baking powder
½ teaspoon salt
2 cups ripe *Taiwang* or *Karat* banana
2 tablespoons lemon or lime or *karertik* (citrus) juice
¼ cup butter or margarine or shortening
½ cup sugar
3 whole eggs OR substitute with ⅓ cup oil
¾ cup milk OR substitute with water or coconut cream

1. Mix flour, baking powder, and salt.
2. Mash bananas with a fork. Add lemon or lime or *karertik* juice and mix. Be sure the bananas are mashed well.
3. Beat the butter (or margarine or shortening) with the sugar until well mixed. Add eggs or oil. Beat thoroughly until light.
4. Add the dry ingredients to the egg mixture in small amounts, adding a little of the milk each time. Beat well after each addition.
5. Fold in the banana mixture. Mix well.
6. Pour mixture into two greased loaf baking pans. Bake at 350 degrees Fahrenheit (180 degrees Centigrade) for 1 hour.



Taiwang Banana Ice Cream

- 1 to 2 cups ripe *Taiwang* banana (4 to 8 fruits)
- 1 pinch salt
- ½ cup sugar
- 2 tablespoons lemon or lime or *karertik* (citrus) juice
- 1 cup evaporated or fresh milk, thoroughly chilled

1. Mash banana.
2. Add the pinch of salt, sugar and lemon, lime or *karertik* juice.
3. Whip the chilled milk until soft peaks form.
4. Fold the mashed banana mixture into the whipped milk.
5. Freeze. Makes 1 quart.

Taiwang Banana and Karertik Juice Ice Candy

- 1 to 2 cups ripe *Taiwang* banana (4 to 8 fruits)
- Juice of 6 ripe *karertik* (citrus)

1. Mash banana.
2. Mix the *karertik* juice into the mashed banana.
3. Mix well and refrigerate OR pour into ice-cube tray and freeze.
4. Serve chilled or frozen.

