Pohnpei Bananas

A Photo Collection

CAROTENOID-RICH VARIETIES

By Lois Englberger and Adelino Lorens

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 Secretariat of the Pacific Community
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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.

References


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:

<table>
<thead>
<tr>
<th>Pohnpei cultivar</th>
<th>Other names</th>
<th>Classification</th>
<th>Flesh color</th>
<th>Other comments</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akadahn</td>
<td>Lakadahn</td>
<td>AAA; Green Red</td>
<td>Yellow</td>
<td>Green peel, different from Akadahn Weitahta.</td>
<td>18, 24</td>
</tr>
<tr>
<td>Akadahn Weitahta</td>
<td>Akadahn en Hawaii</td>
<td>AAA; Red</td>
<td>Yellow</td>
<td>Fruit have red peel.</td>
<td>13, 18, 24, 25</td>
</tr>
<tr>
<td>Dukuru</td>
<td></td>
<td>ABB; Ney Mannan variant</td>
<td>Cream</td>
<td>Very similar to Inahsio Pehsehs, but fruit is short, there are more fingers and a tightly packed bunch.</td>
<td>20</td>
</tr>
<tr>
<td>lemwahn</td>
<td></td>
<td>AAB; 2</td>
<td>Yellow</td>
<td>Large finger.</td>
<td>14, 25</td>
</tr>
<tr>
<td>Ihpali</td>
<td></td>
<td>AAB; Laknau-like</td>
<td>Yellow</td>
<td>One or sometimes two hands. Large long fingers.</td>
<td>13</td>
</tr>
<tr>
<td>Ihpalihn Palau</td>
<td>?</td>
<td></td>
<td></td>
<td>Ihpalihn Palau may be the same as Mangat en Angaur.</td>
<td></td>
</tr>
<tr>
<td>Ihpalihn Seipahn</td>
<td>?</td>
<td></td>
<td></td>
<td>Ihpalihn Seipahn may be the same as Mangat en Seipahn.</td>
<td></td>
</tr>
<tr>
<td>Inahsio Mweimwei</td>
<td>ABB; Bluggoe</td>
<td>Cream</td>
<td></td>
<td>Peel is spotted compared to other Inahsio.</td>
<td>19</td>
</tr>
<tr>
<td>Inahsio Pehsehs</td>
<td>ABB; Bluggoe</td>
<td>Cream</td>
<td></td>
<td>Peel color is like ashes, light green in color.</td>
<td>19, 24</td>
</tr>
<tr>
<td>Inahsio Poh Rotorot</td>
<td>ABB; Bluggoe</td>
<td>Cream</td>
<td></td>
<td>Dark-colored peel compared to other Inahsio.</td>
<td>19</td>
</tr>
<tr>
<td>Kaimana</td>
<td>Kundihna</td>
<td>ABB; Pisang Awak</td>
<td>White</td>
<td>Produces many suckers.</td>
<td>21</td>
</tr>
<tr>
<td>Karat en Iap</td>
<td>AAB; Maia Maoli/Popoulu</td>
<td>Yellow</td>
<td>Bunch is not erect; fingers are large.</td>
<td>11, 17</td>
<td></td>
</tr>
<tr>
<td>Karat Kale</td>
<td>Karat Pwonapwon</td>
<td>Fe’i</td>
<td>Yellow-orange</td>
<td>Round-shaped finger.</td>
<td>10, 12</td>
</tr>
<tr>
<td>Karat Pako</td>
<td>Fe’i</td>
<td>Yellow-orange</td>
<td></td>
<td>Large finger; peel is rougher than other Karat.</td>
<td>9, 10, 23</td>
</tr>
<tr>
<td>Pohnpei cultivar</td>
<td>Other names</td>
<td>Classification</td>
<td>Flesh color</td>
<td>Other comments</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>--------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Karat Pwehu</td>
<td>Fe’i</td>
<td>Yellow-orange</td>
<td></td>
<td>Smaller finger than Karat Pako.</td>
<td>7, 9, 10, 11, 12, 13, 24, 25, 27</td>
</tr>
<tr>
<td>Kudud</td>
<td>Uht Rais, Kirihm</td>
<td>AA; Sucrılır</td>
<td>Yellow</td>
<td>Fast cooking. Kudud and Uht Rais may be slight variants.</td>
<td>18</td>
</tr>
<tr>
<td>Macao</td>
<td>AA/AAA; Lakatan?</td>
<td>Yellow</td>
<td></td>
<td>Recently introduced.</td>
<td></td>
</tr>
<tr>
<td>Mangat en Alohkapw</td>
<td>AAB; 3</td>
<td>Yellow</td>
<td></td>
<td>Dark-colored skin compared to other Mangat.</td>
<td></td>
</tr>
<tr>
<td>Mangat en Angaur</td>
<td>AAB; 2</td>
<td>Yellow</td>
<td></td>
<td>Mangat en Angaur may be the same as Ihpalihn Palau.</td>
<td>15</td>
</tr>
<tr>
<td>Mangat en Kariki</td>
<td>AAB; 3</td>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mangat en Pohnpei</td>
<td>AAB; 3</td>
<td>Yellow</td>
<td></td>
<td>Many hands compared to other Mangat.</td>
<td></td>
</tr>
<tr>
<td>Mangat en Ruk</td>
<td>AAB; 3</td>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mangat en Seipahn</td>
<td>AAB; Plantain</td>
<td>Yellow</td>
<td></td>
<td>Mangat en Seipahn may be the same as Ihpalihn Seipan</td>
<td>15, 24</td>
</tr>
<tr>
<td>Mangat Kingit</td>
<td>AAB; 3</td>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peleu</td>
<td>Utin Koruhr</td>
<td>AAB; Maia Maoli/Popoulu</td>
<td>Yellow</td>
<td>Stem and corm often used for medicinal purposes.</td>
<td>17</td>
</tr>
<tr>
<td>Preisihl</td>
<td>Brazil</td>
<td>AAB; Pome</td>
<td>Cream</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>Sapwtehreng</td>
<td>?</td>
<td>Yellow</td>
<td></td>
<td>Mangat family.</td>
<td></td>
</tr>
<tr>
<td>Taiwang</td>
<td>AAB; Pisang Kelat</td>
<td>Yellow</td>
<td>Produces many suckers; hardy. Very sweet fruit.</td>
<td>7, 16, 26, 27</td>
<td></td>
</tr>
<tr>
<td>Tikahp</td>
<td>Uthinwel</td>
<td>Musa textilis</td>
<td></td>
<td>Wild banana. Formerly used for fiber production.</td>
<td></td>
</tr>
<tr>
<td>Uht Mwot</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utiak en Angaur</td>
<td>Utiak en Palau</td>
<td>?</td>
<td>Yellow</td>
<td>Larger plant compared to Utiak en Pohnpei.</td>
<td></td>
</tr>
</tbody>
</table>
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.

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

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

<table>
<thead>
<tr>
<th>Pohnpei cultivar</th>
<th>Flesh color</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dukerehda</td>
<td>Yellow</td>
<td>23</td>
</tr>
<tr>
<td>Kundihna (which is not Kaimana)</td>
<td>Light yellow</td>
<td>23</td>
</tr>
<tr>
<td>Uht Kapakap</td>
<td>White</td>
<td>23</td>
</tr>
</tbody>
</table>

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 Pahniepur, 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:

Utin Iap (Utimwas is in the Utin Iap family) .......... 1250 to 6360 micrograms
Karat ................................................. 670 to 918 micrograms
Mangat ........................................... 575 micrograms
Taiwang ........................................... 400 micrograms
Utin Menihle ........................................ 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.
Karat Pako (left), not quite ripe, and Karat Pwehu (right), fully ripe, both yellow/orange-fleshed.

Karat Kole (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.
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 Ihpali (yellow-fleshed) compared with Karat Pwehu (yellow/orange-fleshed), Akadahn Weitahta (yellow-fleshed) and Utin Menihle, (white-fleshed).

Ihpali (yellow-fleshed) whole bunch.
**Iemwahn** (yellow-fleshed) bunch.

Size of *Iemwahn* 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
A Photo Collection

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

Utin Kerenis (yellow-fleshed) bunch.

Utiak en Pohnpei (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
Akadahn (yellow-fleshed) bunches, still green (left) and ripe (right).

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

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

Kundihna (light yellow-fleshed) hand.

Uht Kapakap hand and bunch.

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.
Akadahn Weitahta, Akadahn (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, Akadahn 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

3 1/2 cups flour
3 teaspoons baking powder
1/2 teaspoon salt
2 cups ripe Taiwang or Karat banana
2 tablespoons lemon or lime or karertik (citrus) juice
1/4 cup butter or margarine or shortening
1/2 cup sugar
3 whole eggs OR substitute with 1/3 cup oil
1/4 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.