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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

MEXICAN EXPLORATIONS OF

WILSON POPEÑO.

1918-1919.



○ Important Avocado Regions.
— Route 1918-1919.

THE
 NATIONAL GEOGRAPHIC MAGAZINE
 MAP OF
MEXICO
 PREPARED BY J. G. BASTIENEN,
 ALBERT R. STRASSER, ENIGER.
 Scale: 1:1,000,000
 Published by the National Geographic Society, Washington, D.C.

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Seedling avocado of the West Indian race at the
Dos Rios plantation, near Santa Lucrecia, Veracruz.
April 19, 1918. 1584.



The Plantation House, Dos Rios, near Santa Lucrecia,
Veracruz. April 19, 1918. 1585.



Attalea cohune, the coyoli palm, a possible
source of oil. Dos Rios, near Santa Lucrecia, Veracruz,
April 19, 1918. 1586.



The coyoli palm, *Attalea cohune*, in fruit at Dos Rios, near Santa Lucrecia, Veracruz. April 18, 1918.
1587.



A single fruit cluster from the coyold palm, *Attalea cohune*, bearing more than 3200 fruits. Dos Rios, near Santa Lucrecia, Veracruz, April 19, 1916. 1588.



Fruits of the chicozapote, *Achras zapota*.
Tehuantepec, Oaxaca, June 34, 1918. 1805.



Fruits from the parent tree of the Fuerte avocado,
in the garden of Alejandro LeBlanc. About two
thirds natural size. Atlixco, Puebla, December
22, 1918. 1737.



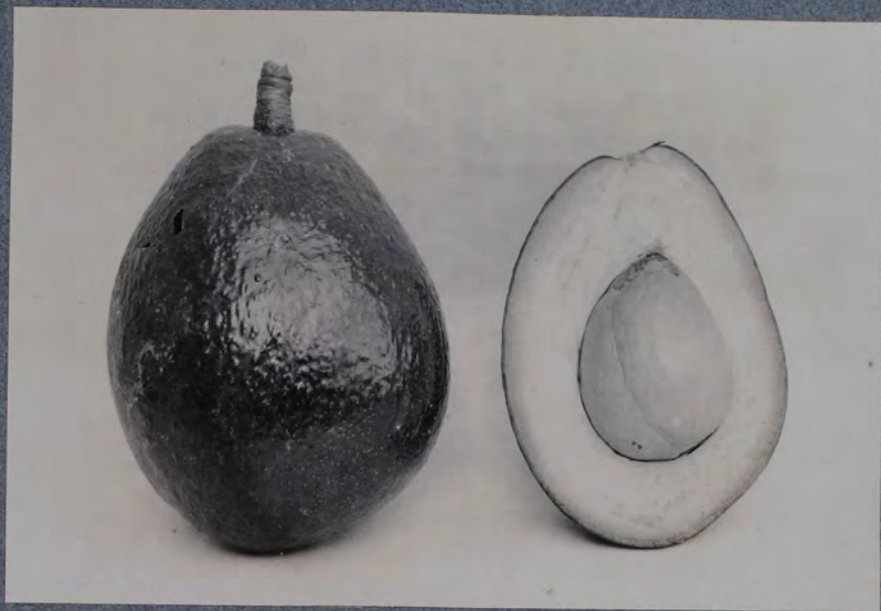
Fuerte avocados from the parent tree in the garden
of Alejandro LeBlanc. About two thirds natural size.
Atlixco, Puebla, December 22, 1918. 1735.



Parent tree of the Fuerte avocado, in the garden
of Alejandro LeBlanc. Atlixco, Puebla, December
22, 1918. 1729.



Schmidt's No. 20, a Guatemalan variety from the
Huerta of Isaac Guillen. Not established in
California. Reduced in size. Atlixco, Puebla,
December 22, 1918. 1726.



Fruits from the parent tree of the Alto avocado,
a variety introduced into California from this
region. Reduced in size. Atlixco, Puebla,
December 22, 1918. 1735.



Avocado of the Guatemalan race, grown by Pedro
Carrera. Reduced in size. Atlixco, Puebla,
December 22, 1918. 1723.



A fine Guatemalan avocado, representative of the best grown in Atlixco. So far as known, this variety was not introduced into California. Atlixco, Puebla, December 22, 1918. 1733.



Fruit of the Redondo avocado from the parent tree
in the garden of Salvador Amor. About two thirds
natural size, and somewhat immature. Atlixco,
Puebla, December 22, 1918. 1731.



Pedro Carrera, avocado grower, holding some branch-
lets with young avocados of the Guatemalan race.
Atlixco, Puebla, December 22, 1918. 1718.



Fernando Garcia, Assistant Agricultural Explorer, and a group of choice Guatemalan avocados, representative of the best grown here. Atlixco, Puebla, December 22, 1918. 1717.



Vicente Pineda, a typical avocado grower.
Atlixco, Puebla, December 23, 1916. 1715.



The parent fuerte avocado tree, in the garden
of Alejandro LeBlanc. Atlixco, Puebla, December
23, 1918. 1733.



The principal street thru the solares
grandes. Avocados and other fruit trees
on both sides. Atlixco, Puebla, December
22, 1918. 1714.



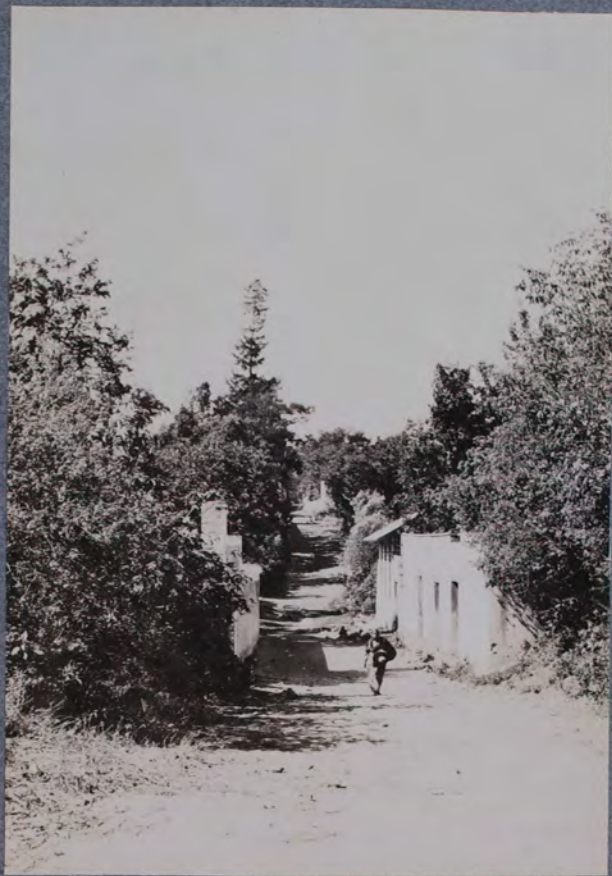
Irrigating ditch running thru a plantation
of avocados and coffee. Atlixco, Puebla,
December 23, 1918. 1713.



Mango tree in front of a small church,
Atlixco, Puebla, December 23, 1918. 1711.



Packing crates of the type used to ship avocados
from Atlixco to Puebla and Mexico City. Atlixco,
Puebla, December 23, 1918. 1712.



Street leading from the center of town
into the solares grandes. Atlixco,
Puebla, December 33, 1918. 1710.



Monstera deliciosa, the pinanona, growing
in a local garden. Atlixco, Puebla, December
23, 1918. 1709.



Six-year-old tree of the Guatemalan race,
fruiting this season for the first time.
Huerta of Isaac Guillen. Atlixco, Puebla.
December 22, 1918. 1707.



A fine cherimoya tree (on left) in the huerta
of Isaac Guillen. Squash vines in the foreground.
Atlixco, Puebla, December 23, 1918. 1708.



A fine avocado tree of the Mexican race, one of
the handsomest seen in this region. Atlixco,
Puebla, December 32, 1918. 1705.



An old avocado tree of the Mexican race,
growing in an orchard of sweet limes. Atlixco,
Puebla, December 22, 1916. 1704.



Group of avocado trees along the edge of a field,
in the outskirts of town. Atlixco, Puebla, December
28, 1918. 1703.



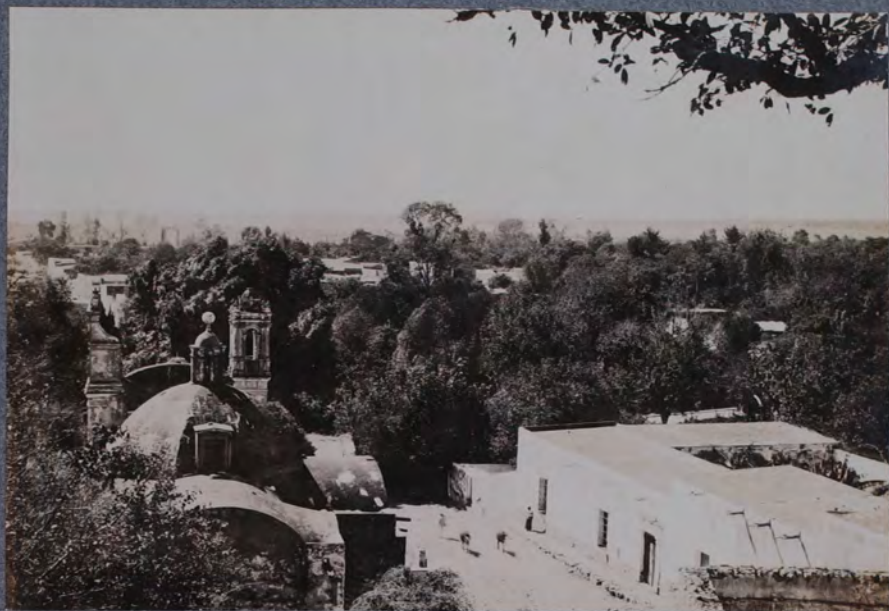
In the huerta of Isaac Guillen. Avocado trees in
the rear, a guava bush on the right. Atlixco,
Puebla, December 23, 1918. 1702.



A street in the edge of town. On the left, avocado trees in the huerta of Isaac Guillen. Atlixco, Puebla, December 21, 1918. 1701.



A road along the lower slopes of the Cerro de San Miguel, with Popocatepetl in the distance. Atlixco, Puebla, December 21, 1918. 1700.



Orchards in the edge of town,—some of the solares
grandes. Atlixco, Puebla, December 21, 1918. 1699.



Looking across the edge of the solares chicos section. The trees are largely avocados. Atlixco, Puebla, December 31, 1918. 1698.



Looking toward Popocatepetl from the Cerro de San Miguel. Scattered avocado trees in the foreground. Atlixco, Puebla, December 21, 1918. 1697.



Looking over some of the solares chicos from the Cerro de San Miguel. Many of the trees are avocados. Atlixco, Puebla, December 31, 1918. 1898.



A fruit orchard and cultivated fields in the edge
of town. Atlixco, Puebla, December 21, 1918. 1695.



Looking across the town and valley of Atlixco from
the Cerro de San Miguel. Atlixco, Puebla, December
31, 1918. 1693.



Looking up an unimportant street toward the Cerro
de San Miguel. Atlixco, Puebla, December 21, 1918.
1692.



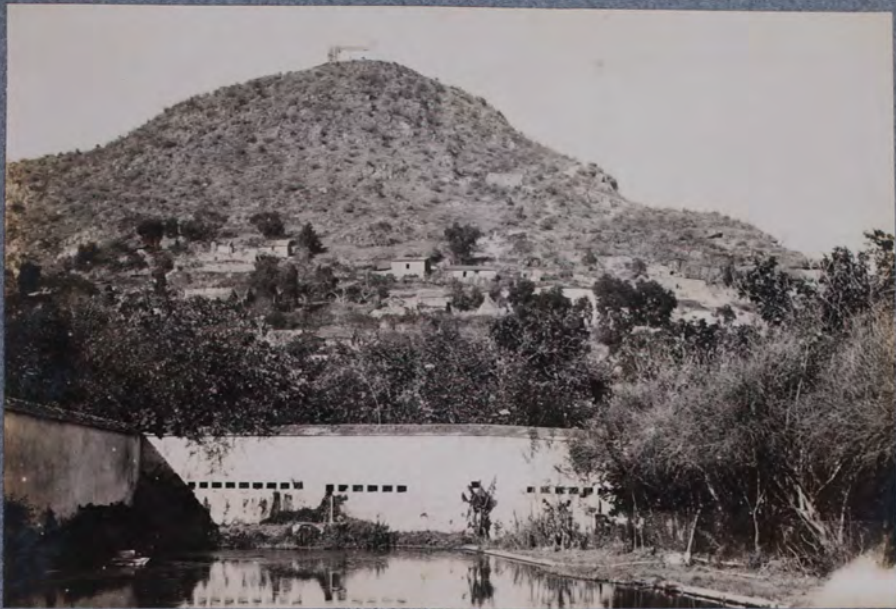
The old ahuehuete (*Taxodium mucronatum*) of Atlixco. Half of the tree has recently been cut away. One of the landmarks of Atlixco, and a tree of great age. Atlixco, Puebla, December 31, 1918. 1891.



Indian shelling his corn crop. Atlixco, Puebla,
December 21, 1918. 1690.



One of the main streets of Atlixco. The parent Fuerte
avocado tree is growing in a garden just beyond the
windmill. Atlixco, Puebla, December 21, 1918. 1889.



A reservoir in the garden of Alejandro Le Blanco.
Atlixco, Puebla, December 21, 1918. 1688.



Cultivated fields in the edge of town. Tomatoes
being grown for the winter market in Puebla.
Atlixco, Puebla, December 21, 1918. 1687.



Street along the foot of the Cerro de San Miguel.
Atlixco, Puebla, December 21, 1918. 1686.



Popocatepetl and Ixtaccihuatl seen from the slopes
of San Miguel, avocados and other trees in the fore-
ground. Atlixco, Puebla, December 21, 1918. 1685.



Looking across the solares grandes, the fruit
gardens of Atlixco. Atlixco, Puebla, December 21,
1918. 1684.



View from the slopes of San Miguel, showing some
of the sclares, containing avocados and other fruit
trees. Atlixco, Puebla, December 31, 1918. 1683.



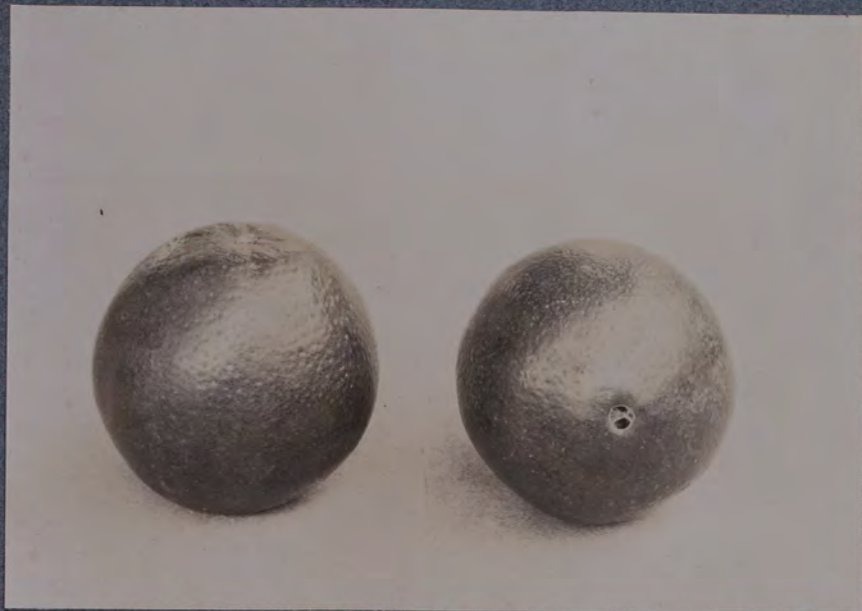
Atlixco and the Cerro de San Miguel. Atlixco,
Puebla, December 21, 1918. 1882.



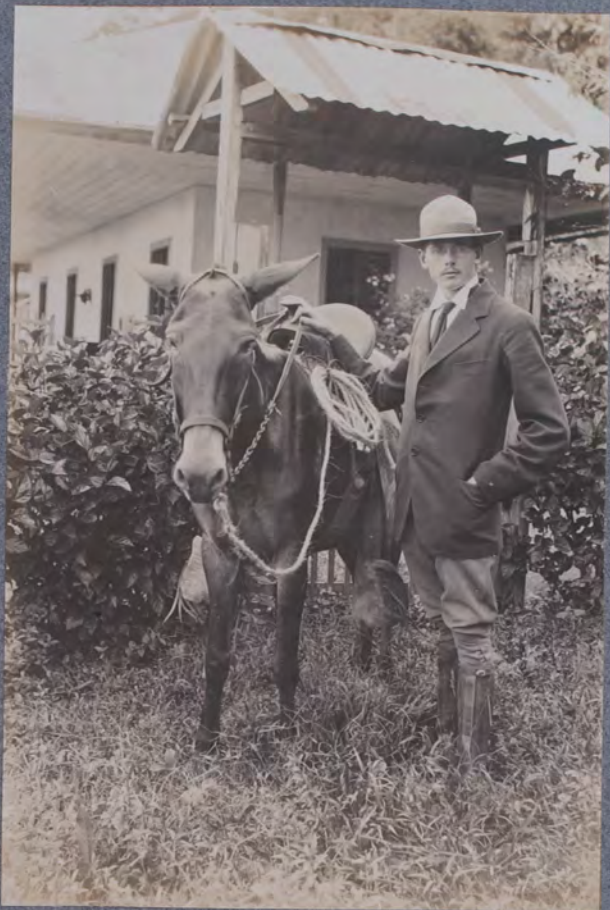
A basket of small avocados of the Mexican race, obtained in the market. Reduced in size. Veracruz, December 5, 1918. 1681.



Washington Navel oranges, grown at Coatepec, state
of Veracruz. Two thirds natural size. Veracruz,
December 5, 1918. 1879.



Washington Navel orange grown at Coatepec, state
of Veracruz. Two thirds natural size. Veracruz,
December 5, 1918. 1878.



Ready to take the road, Finca Acapulco,
near Tapachula, Chiapas. November 18, 1918.
1877.



Worn-out coffee plant pruned to develop
new growth. Finca Acapulco, near Tapachula,
Chiapas, November 12, 1918. 1675.



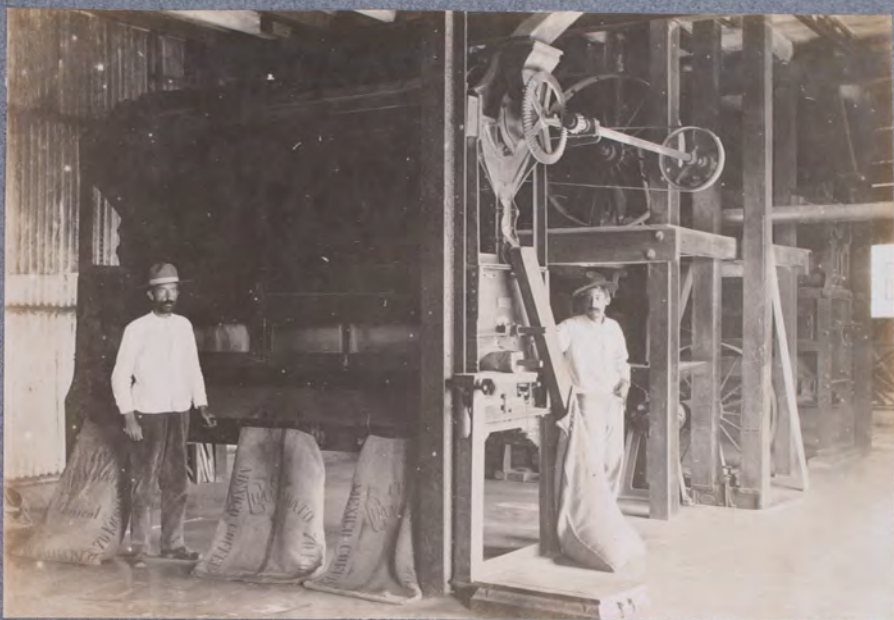
Worn-out coffee, finca Acapulco, near Tapachula, Chiapas. November 12, 1918. 1674.



Worn out coffee, Finca Acapulco, near
Tapachula, Chiapas. November 12, 1918.
1673.



Road thru the coffee, Finca Guanajuato, near Tapachula, Chiapas. November 13, 1918. 1872.



Machinery for hulling and grading coffee in the mill
at the Finca Guanaajuato, near Tapachula, Chiapas.
November 12, 1918. 1671



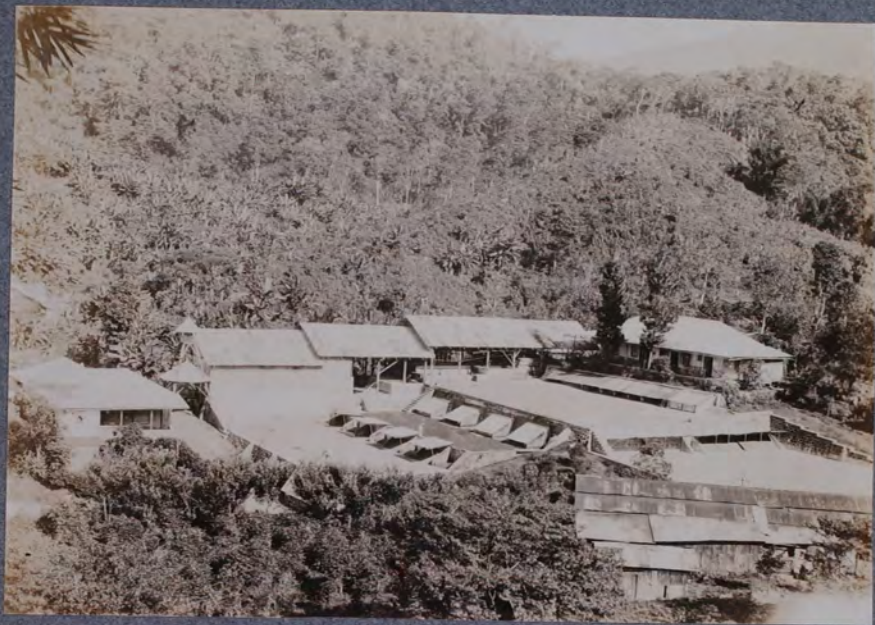
Coffee drying on the patio at the Finca Hidalgo, near Tapachula, Chiapas, November 12, 1918. 1670.



Coffee beneficio at the Finca Santa Rosalia, near
Tapachula, Chiapas, November 12, 1918. 1888.



The Puebla avocado, reduced in size, from the
parent tree. Atlixco, Puebla, December 22, 1918.
1719.



Coffee drying on the patios at the Finca Hidalgo,
near Tapachula, Chiapas, November 12, 1918. 1666.



The Finca Acapulco, not far from Tapachula, Chiapas.
November 12, 1918. 1865.



The Finca Guanajuto, not far from Tapachula,
Chiapas. November 12, 1918. 1664.



Typical avocados from the Canyada. Querétaro, July
24, 1918. 1658.



Avocados on sale in the public market. Querétaro,
July 24, 1918. 18557.



Typical avocados grown in the Canyada, two thirds
natural size. Querétaro, July 24, 1918. 1661.



Avocados from the Canyada, two thirds natural size.
All of the avocados grown at Querétaro are of the Mex-
ican race. Querétaro, July 23, 1918. 1650.



A scene in the Canyonada,—avocado trees
growing beside the stream. Querétaro,
July 23, 1918. 1649.



Looking thru one of the avocado plantations in the
Canyada. Querétaro, July 23, 1918. 1648.



A young avocado tree in one of the best groves in
the Canyada. Alfalfa is planted as a secondary crop.
Querétaro, July 23, 1918. 1647.



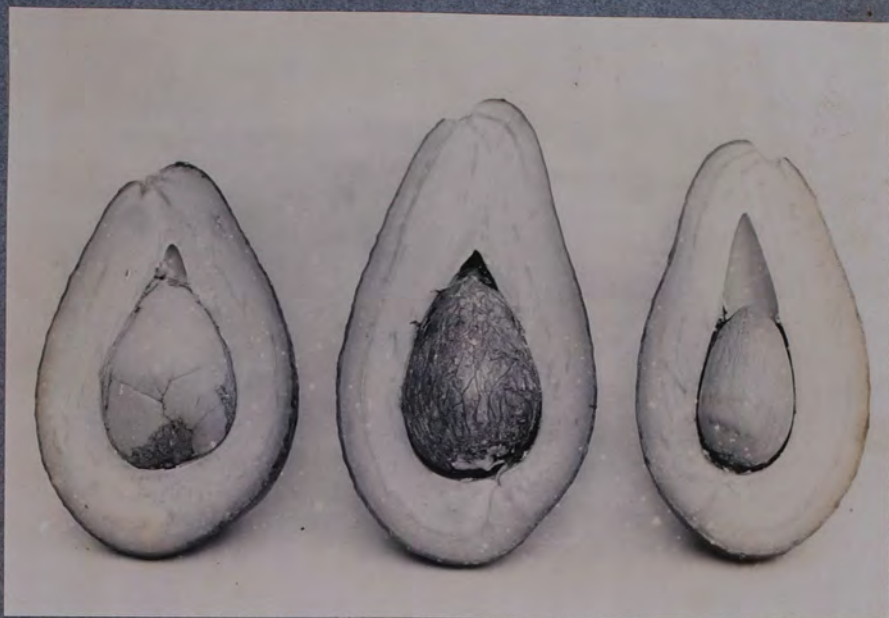
Typical avocados from the Canyada, two thirds natural size. Querétaro, July 24, 1918. 1657.



The solares grandes. These gardens contain many avocados and other fruit trees. Atlixco, Puebla, December 21, 1918. 1694.



Trunk of the large avocado tree shown in
photograph 1705. Atlixco, Puebla, December
23, 1918. 1706.



Half fruits of the three Fuerte avocados shown
in photograph No. 1737. Atlixco, Puebla, December
23, 1918. 1738.



Alejandro LeBlanc Jr., holding Fuerte
avocados from the parent tree. Atlixco,
Puebla, December 22, 1918. 1734.



Typical avocados from the Canyada, two^o thirds natural
size. Querétaro, July 24, 1918. 1654.



Small boy holding fruits of the chinini,
Persea schiedeana, a wild species which grows in
southern Mexico. Puerto Mexico, Veracruz, June 15,
1916. 1595.



Papaucea (*Annona diversifolia*) hanging
upon the tree, Tapachula, Chiapas, July 2, 1918.
1819.



Close view of the trunk of the large
avocado tree shown in photograph 1640.
Quarétaro, July 23, 1918. 1641.



Typical avocados from the Canyada, two thirds
natural size. Querétaro, July 24, 1918. 1652.



Schmidt's No. 8, from the Canyonada. Two thirds
natural size. This variety was introduced into
California but not established in that state.
Querétaro, July 24, 1918. 1853.



An avocado of the Mexican race, grown by Vicente Pineda. About two thirds natural size. Atláxco, Puebla, December 22, 1918. 1720.



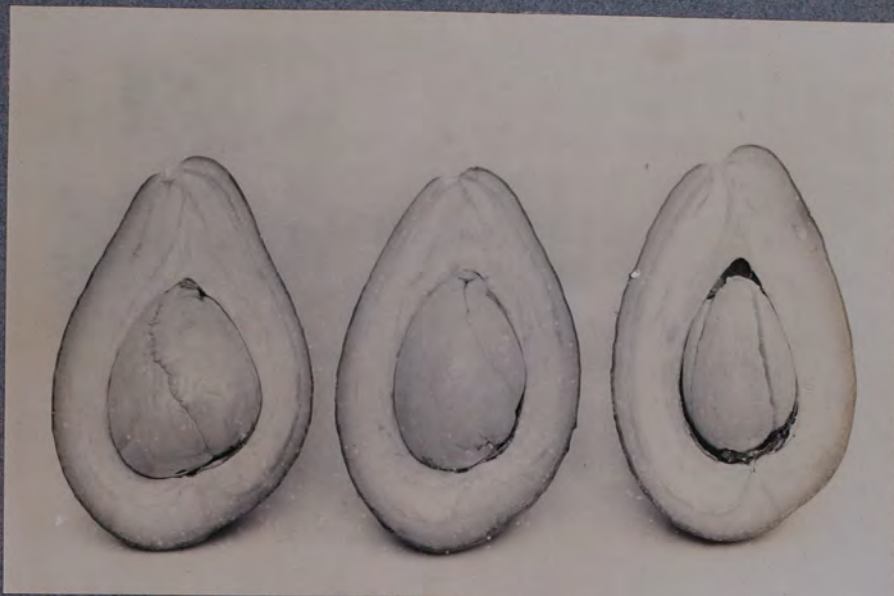
Alfred Harvey eating a Manila mango. Tehuantepec,
Oaxaca, June 24, 1918. 1613.



Fuerte avocados, from the parent tree
in the garden of Alejandro LeBlanc.
Reduced in size. Atlixco, Puebla, Decem-
ber 22, 1918. 1733.



Royal palms (*Oreodoxa regia*) in the Plaza de
Armas. Tapachula, Chiapas, Mexico. July 2, 1918.
1918.



Half fruits of the three Fuerte avocados shown
in photograph 1735. Atlixco, Puebla, December
23, 1918. 1736.



A street leading thru the avocado groves of the
Canyada. Querétaro, July, 33, 1918. 1634.



Renewing an old avocado tree by means of
sprouts formed around the base of the trunk.
1832 .



Avocado trees in the Canyada, near its upper end.
Querétaro, July 23, 1918. 1630.



A pasture in the upper end of the Canyada, avocado
trees in the distance. Querétaro, July 23, 1918.
1829.



Looking across the Canyada near the upper end
of cultivation. Querétaro, July 23, 1918. 1638.



Avocado trees in the upper end of the Canyada. Quer-
étaro, July 23, 1918. 1637.



Lower end of the Canyada, a solid plantation of avocado trees. They are all of the so-called Mexican race (properly *Persea drimifolia*). The canyada is about two and a half miles long. Querétaro, July 23, 1918. 1636.



Fourth of July gathering at the Zacualpa Rubber
Plantation. Left to right: E.N.Hedin, Wilson
Popenoe, George Graven, and Graham M. Ker. La
Za cualpa, Chiapas, July 4, 1918. 1625.



Avocado tree of the West Indian race, growing in a dooryard. Tapachula, Chiapas, July 3, 1918. 1623.



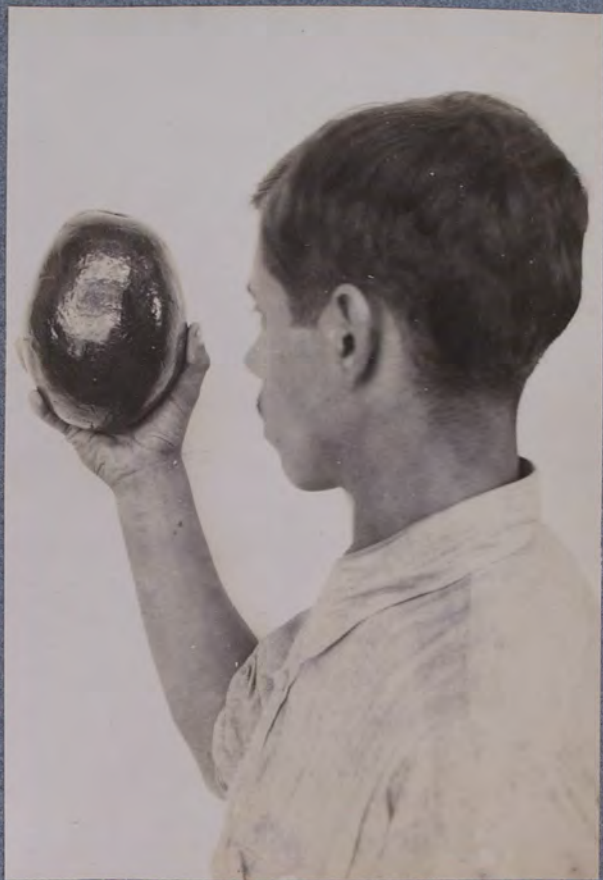
A two pound avocado of the West Indian race, one of the largest and finest encountered in Mexico. Tapachula, Chiapas, July 2, 1918. 1317.



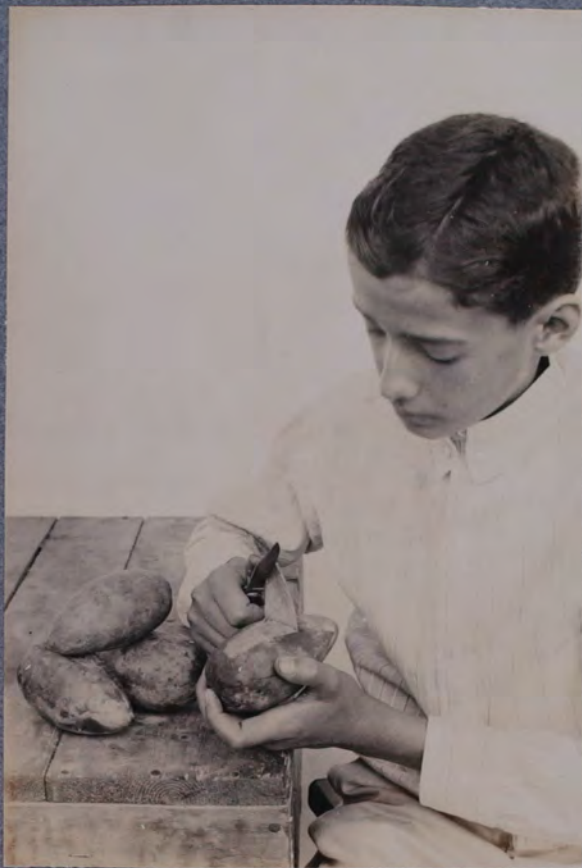
Two fruits of the delicious papauce (*Annona diversifolia*), reduced in size. Tapachula, Chiapas, July 2, 1918. 1620.



A view in the park at Tapachula, Chiapas. July 3,
19 18. 1615.



A fine West Indian avocado. Tapachula,
Chiapas, July 2, 1918. 1614.



The Manila mango, one of the choicest fruits
of Mexico. Tehuantepec, Oaxaca, June 24, 1918. 1612.



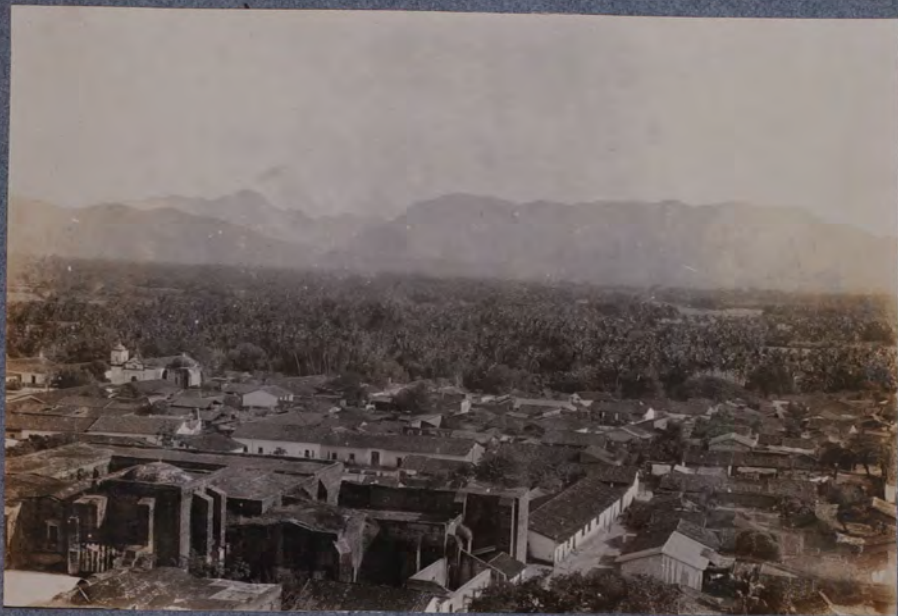
The common sweet orange as grown in this region. Tshuantepec, Oaxaca, June 24, 1918. 1604.



In the fruit groves of Tehuantepec, Oaxaca.
June 24, 1918. 1610.



Avocados of the West Indian race, typical of
the best produced in Tehuantepec, Oaxaca. June 24,
1918. 1609.



View over the town and valley of Tehuantepec,
a veritable oasis. The palms are all coconuts.
Tehuantepec, Oaxaca, June 24, 1918. 1608.



The guanábana tree, *Ammona muricata*, growing
in a dooryard. Puerto Mexico, Veracruz, June 15,
1918. 1803.



An avocado tree of the West Indian race.
Puerto Mexico, Veracruz, June 16, 1918. 1601.



A scene at the Zacualpa Rubber Plantation, showing
in the center a large avocado tree of the West Indian
race. La Zacualpa, Chiapas, July 4, 1918. 1624.



Vendor of Fruits and Vegetables. Puerto Mexico,
Veracruz, June 15, 1918. 1597.



A fruit stand in the market of Puerto Mexico, state
of Veracruz. June 15, 1918. 1598.



A fruit stand in the public market. Puerto
Mexico, Veracruz, June 15, 1918. 1598.



Avocados of the West Indian race, about two thirds natural size. The fruits of this region are small. Orizaba, Veracruz, May 30, 1918. 1593.



Avocados of the Mexican race (*Persea drimifolia*)
representative of the size and character of fruit pro-
duced in this region. Two thirds natural size.
Orizaba, Veracruz, May 30, 1918. 1592.



Typical avocados of the West Indian race as grown
at Orizaba. Two thirds natural size. Orizaba, Veracruz,
May 30, 1918. 1594.



Another view in the young avocado orchard shown in
photograph 1645. Querétaro, July 23, 1918. 1646.



One of the best young avocado groves in the Canyada.
Alfalfa is planted as a secondary crop. Querétaro,
July 23, 1918. 1645.



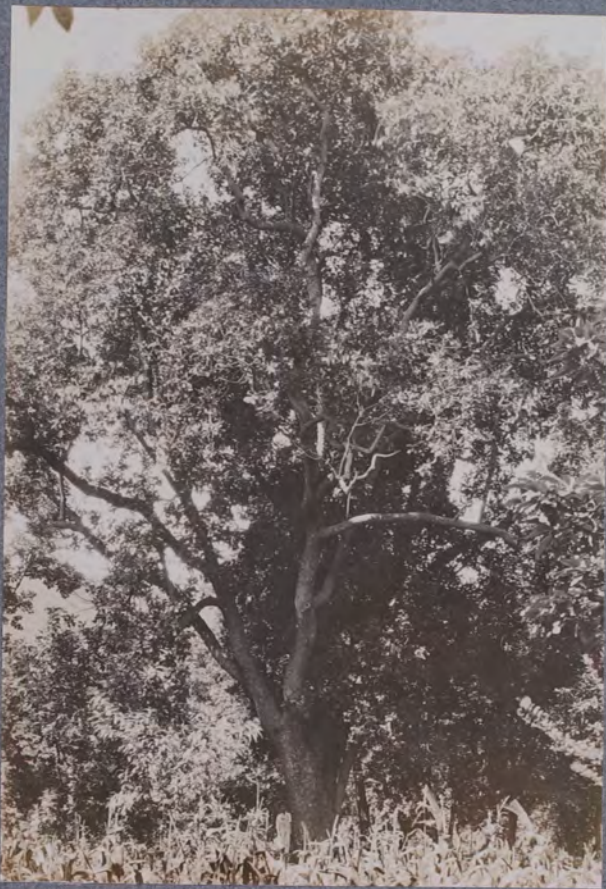
Picking avocados in the Canyada. The pole with a hook on the end is used to pull the fruits from the trees. Querétaro, July 23, 1918. 1644.



A road thru the avocado grove in the Canyonada. Quer-
étaro, July 23, 1918. 1643.



In the avocado groves of the Canyada, showing the
aqueduct which supplies Querétaro with water.
Querétaro, July 23, 1918. 1643.



One of the largest avocado trees in the
Canyada. Querétaro, July 23, 1918. 1640.



Trunk of an old avocado tree in the Can-
yada. Querétaro, July 23, 1918. 1639.



Old avocado trees is the Canyada. All the avocados of Querétaro are of the so-called Mexican race, properly *Persea drimifolia*. Querétaro, July 23, 1918. 1638.



Under the avocado trees in the Canyonada. Querétaro, July 23,
1918. 1637.



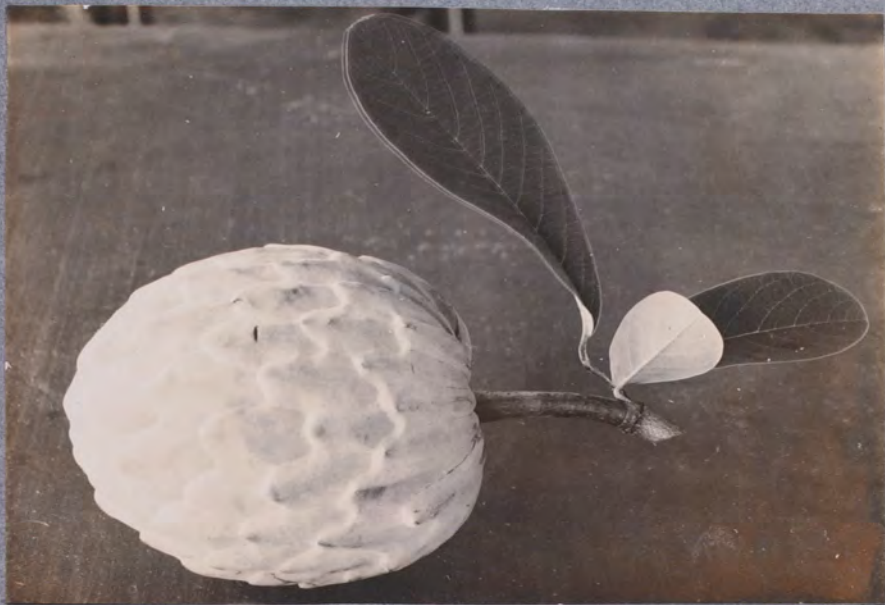
A small irrigating ditch thru the avocado groves
of the upper Canyada. Querétaro, July 23 1918.
1636.



A shapely young avocado tree growing in a
cornfield near the upper end of the Canyada.
Querétaro, July 23, 1918. 1635.



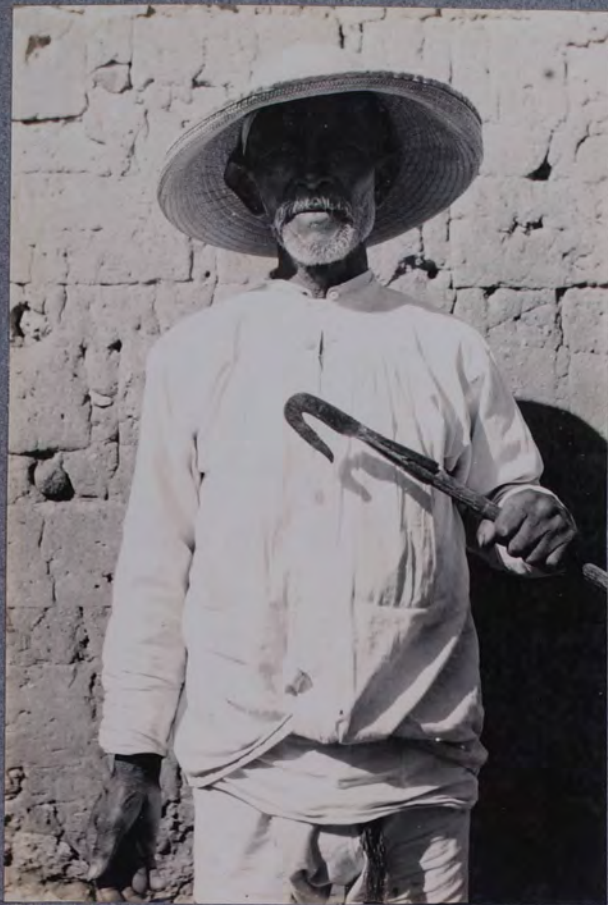
A shady road in the edge of Orizaba. The large trees are avocados of the West Indian race. Orizaba, Veracruz, May 30, 1918. 1589.



A single fruit of the rare and delicious papauce,
Ammonia diversifolia. Reduced in size. Tapachula,
Chiapas, July 3, 1918. 1616.



A basket of tejocotes (*Crataegus* sp.),
obtained in the market. Veracruz, December
5, 1918. 1680.



Digitized by Hunt Institute for Botanical Documentation, holding the hook commonly
Carnegie Mellon University, Pittsburgh, Pa. used for picking avocados and other fruits.
Atlixco, Puebla, December 23, 1918. 1716.