



Scientific Paper

# Gastronomy and the citron tree (*Citrus medica* L.)

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Received 15 December 2015; accepted 16 March 2016

Available online 21 March 2016

## Abstract

In the area of primary domestication, the fruit of the citron tree (*Citrus medica* L.), and to a limited extent its leaf and flower, have traditionally been used as a raw condiment, candied, or more rarely, salted. In the area of secondary domestication – the hot Mediterranean climate – culinary uses multiplied during an active phase of cultivar development in the 10 to 16th centuries. In the 19th century, citron products were widely used in the gastronomy of Northern Europe, mainly in sweet dishes.

The establishment and dissemination by the Tintori nursery in Tuscany of a remarkable collection of citron trees and, later, the appearance on markets of the fingered 'Buddha's Hand' cultivar revived interest in citron tree products. Initial results from a methodical examination of their current culinary applications reveal a positive contribution to savoury cuisine as a result of contemporary cooking, maceration and extraction techniques. Cultivars are selected specifically for these different uses. The use of steam extraction to create "citron floral water" (hydrosol) is promising.

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**Keywords:** *Citrus medica*; Citron; Gastronomy; History of cuisine; Fruit domestication

## Introduction

The Citron (*Citrus medica* L. or *Citrus medica cedra* Ferr.) is the Cinderella of citrus gastronomy despite having been the first citrus fruit to spread far from its primo-domestication zone (Tolkowsky, 1938). If the leaves, flowers and fruit have been used in the past, modern culinary research shows that it is far

from having achieved its potential. In light of actual gastronomic technologies the citron definitely has a wide range of new applications.

### Gastronomic uses in the domestication areas from the beginning to the 19th century

*Early culinary uses of the leaf, flower and fruit of the citron tree*

*The four main uses of citron (*Citrus medica* L.) are as*

- an ornamental tree (Andrews, 1961)
- a medicinal plant (Lanzoni, 1690) whose anti-inflammatory properties are proven (Kima et al., 2013)
- a culinary plant and
- a liturgical fruit (Scora, 1975).

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Peer review under responsibility of AZTI-Tecnalia.

In the Western world, the inclusion of the citron in the *lulab*, the ritual bouquet used for the Jewish holiday of Sukkot, is a tradition likely adopted by the Jews from the Mesopotamians who, according to *Nabatean Agriculture*,<sup>3</sup> a Late Antiquity treatise cited by Ibn al-'Awwām,<sup>4</sup> believed the citron represented purity. Its use in this ritual ensured that there was strong homogeneity among cultivars (Nicolosi, 2005). According to Isaac (1959), it contributed to the wider use of the citron in Mediterranean cuisine: candied citron has been documented in the Jewish communities of North Africa. In 17th century Italy candied citron was preserved and presented in the *ḥārōset*, the fruit dish served at Passover, or at the festive meal on the 15th of Šebat (New Year of the Trees).<sup>5</sup>

A fingered cultivar originally from Southern China, the 'Buddha's Hand' citron, has been also used as a ritual fruit, placed on Buddhist altars. Due to its widespread distribution, this citron has experienced a revival in Europe as a fashionable exotic fruit (Brigand, 2010).

The citron tree's first domestication area was the south-eastern section of the Eastern Himalayas with its subtropical climate and monsoons (Swingle and Reece, 1967). Wild types were reported in Assam and Bhutan, with possibly acclimatized varieties in Yunnan, Vietnam and Thailand (Froelicher et al., 2011) as well as in the Middle East (Chapot, 1963). The fruit is still consumed fresh and candied in the region. The tree migrated to the Southeastern Mediterranean through Mesopotamia in ancient times (Loret, 1891; Ramón-Laca 2003). It has been attested in Egyptian digs dating to the 21st century BC (Gallésio, 1811); Albertini (2013: 299) dates the citron tree's arrival in Egypt at around 1590 BC where it was grown only marginally. The Babylonian Talmud (2nd century) mentions its consumption in the Middle East stating that the citron symbolizes a wise man of visible and known value because "it has a pleasant scent and **tastes delicious**"<sup>6</sup>; it was eaten by children at the end of the holiday of Sukkot.<sup>7</sup>

However, it appears that, in the Western world, the fruit of the citron tree was valued primarily for its decorative rather than comestible features. The three *citrium* recipes provided by Apicius (1st century AD),<sup>8</sup> in which *citrium* is often translated by "citron", should actually be treated as recipes for Calabaza squash (*Cucurbitacea* of the *Lagenaria* genus). The only true reference to the citron tree (*citrus*, -i) was to the use of its leaf (*Folia citri*) in an aromatic maceration, in this case, in a recipe for rose wine without roses.<sup>9</sup>

*The Mediterranean: second domestication area – late appearance of a cuisine using the fruit and flower of the citron tree*

During the middle ages and at the beginning of the Renaissance period, the Mediterranean region and the Arabian Peninsula were an active secondary domestication area. To the extent that "the citron tree presents very little gene diversity due to strong homozygosity and weak polymorphism between cultivars" (Rocca Serra and Ollitrault, 1992), only a few hybrids and mutants appeared during this time of more frequent cultivation. In Seville in the 12th century, Ibn al-Awwām described a number of varieties: "the Cordoba citron is a large pointed fruit, the *Qosty*, large and smooth, the Chinese citron as large as an eggplant, round and acidic..."

The author likely included under the term "citron" varieties of the lemon with a thick mesocarp (which the Italians refer to as *pane* "bread"), a frequent occurrence until the 10th century. Raw and candied versions of the fruit were exported from al-Andalus to the north. In Egypt, the *Kanz al-Fawâ'id fî tanwi*<sup>10</sup> provided a recipe for candying the fruit. *L'Anonyme Andalou*,<sup>11</sup> cited by Lucie Bolens (1990), mentions using the leaf of the citron tree ("used widely in Andalusian cuisine" according to Derenne 1999) in lamb stew, in a mint and borage drink, and in the Jewish recipe for chicken with fennel, garum, etc.

Domestication of the citron and the development of cultivars and hybrids continued until the 16th century. The diversity of citrons (5 cultivars) can be seen in a 1715 painting by Bartolomeo Bimbi,<sup>12</sup> depicting the Medici collection, which contained the Mediterranean cultivars of the time. The collection was started by Cosimo I (1554–1568) and was at its best under Cosimo III.

Cuisine using the flower and fruit of the citron tree came into its own during the Renaissance. In the 16th century, Bartolomeo Scappi,<sup>13</sup> chef to Pope Pius V (1500–1577), documented a variety of recipes with a notably Arab influence: candied fruit (*scorza di cedro e di melangole confette asciutte* and *Polpa di cedro confetta asciutta*), citron flowers in spices (*Fiore de cedro conditi*) or in a mixed salad (*Fiori di cedro in insalata* – menu 12, dish 12), and slices of fresh citron in a recipe for roasted turkey or pheasant, served cold with sugar and small capers on citron slices marinated in sugar, salt and rosewater. In 1593, there is also mention of a sweet/acidic citron verjuice (Di Romolo Rosselli, 1996).

In the late 16th century, with the orange tree and orangeries coming into fashion, the citron tree spread throughout Europe. There is a wealth of iconography with its fruit,<sup>14</sup> by such artists as Josefa de Óbidos (1630–1684) and Antonio de Pereda,<sup>15</sup> in

<sup>3</sup>This work exists only in an Arabic translation published by Fahn (1993).

<sup>4</sup>Ibn al-'Awwām. *Kitab al filāha* [The book of agriculture] (Seville, 12th Century), article 29, chap. VII (cited from Ibn al-Awwām (2000)).

<sup>5</sup>See also Marks (2010) for other mentions of Jewish culinary uses of the citron.

<sup>6</sup>Babylonian Talmud, tractate *Menachot*, 27a.

<sup>7</sup>Babylonian Talmud, tractate *Succah*, 4:3.

<sup>8</sup>Marcus Gavius Apicius. *De re coquinaria*, compilation from the late 4th century, texts partially from the 1st century, Northern Italy. Cited from André (1974).

<sup>9</sup>The question of the Latin name for citrus will be the subject of a note by Peter Nahon in the *Revue des études latines* to appear in late 2016.

<sup>10</sup>*Kanz al-fawâ'id fî tanwî' al-mawâ'id* [Treasury of good advice for preparing the table], 10th century Egypt; recipe quoted by Zaouali (2010).

<sup>11</sup>*Kitab al tabih fi al Maghib was al-Ar Muwahidin* [Anonymous Andalusian Manuscript] – see Bolens (1990).

<sup>12</sup>Oil on canvas, 174 × 233 cm, Paggio a Caiano, Museo della Natura Morta.

<sup>13</sup>Cited from Luccichenti and Di Schino (2008).

<sup>14</sup>See Killermann (1916).

<sup>15</sup>*Still-Life with Fruit*, 1650, Museu Nacional de Arte Antiga, Lisbon.

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