



CHARACTERIZATION OF NATIVE TEJOCOTE (*Crataegus Mexicano*), AREA OF SAN MATEO CUANALÁ, PUEBLA, FOR A USE INTEGRAL

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Introduction. *Crataegus Mexicano* also called Tejocote is a plant native to Hispanic Mexico, whose season runs from September to January. It is a reddish-orange fruit, 3.5 cm in diameter, with 3-5 seeds harsh, bittersweet flavor and tenuous and has a high content of pectin¹. It is mainly produced in the central plateau, and in places with semi-humid climate, highlighting the state of Puebla as the main producer^{2,3,4}. Currently there is losses up to 60% of this fruit, by a deficient use, distribution and storage thereof, representing serious losses to farmers³. In the area where is located the Polytechnic University of Puebla exist large number of fruit orchards from the municipalities of J.C. Bonilla, Calpan and Huejotzingo. Farmers in the area indicate that sow tejocote by tradition and sell it very cheap to companies that produce juice and pulp of tejocote that serves as a basis for the development of this product.

The objective of this work is to characterize the tejocote of the zone of San Mateo Cuanalá, Puebla, that will allow analysis their potential to be integrally exploited by farmers in the area.

Methods. A population of 50 fruits was weighed and also measured with a vernier averaging the lengths of the semi-axes of the ellipsoid were designated diameter (circular zone) and height (flattened poles of the fruit). The following measurements were performed: pH (potentiometer), reducing sugars by the dinitrosalicylic acid method, ascorbic acid by iodometry, ash, titratable acidity (NMX-F-102-S-1978) and pectin (NMX-F-347-S-1980). Humidity was analyzed by gravimetry and also the water retention capacity, the packing density and solubility in cold water.

Results. The fruit used in this project was produced in the zone of San Mateo Cuanalá, Puebla state and corresponds to the end of the season (Figure 1).



Fig.1 *Crataegus Mexicano* of native variety, produced in the state of Puebla, Mex. This was used in this work.

In the entire process the pulp was used with the shell, but no seed. Highlights the high percentage of pectin, reducing sugars and ash. Besides acorbico acid content, property that is used in Mexico for the traditional fruit punch

Table 1. Characterization of tejocote, expressed in dry basis, from 100 g of the fruit.

PARAMETER	VALUE
pH	4.21
Physical	Diameter=2.9448 cm ; height = 2.75076 cm Weight =12.771 g
Ascorbic Acid	37.54 mg/100 g (wet weight) 224.25 mg/100 g (dry weight)
Fruit without seed	humidity 83.26%
	Total Solids 16.74%
Ash	10.15 %
Reducing sugars	11.44%
Titratable acidity	3.21% anhydrous acetic acid.
Water holding capacity	1.3033 ml/g
Packing density	0.4438 g/cm ³
Density in cold water	52.2%

It is noted that pH, sugars, titratable acidity and physical appearance differ from what was reported⁵, in which use a different variety of Cuanalá area.

Conclusions. The high content of pectin in the tejocote is relevant in the search for the utilization of this fruit that is normally wasted; pectin is of a higher market value than the fruit itself. In the same way sugar content could allow the production of bioethanol from other pulp.

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