

Marketing Cactus to Restaurants

Jay McCarthy
Chef, Cascabel Restaurant
Sheraton Fiesta
San Antonio, Texas

The quality and availability of product is most important to any restaurant wanting to use cactus pads or fruit. The Texas A&M 1308 nopalito variety needs to be promoted for its health aspects as well as ease of preparation because it is spineless and free of glochids. A significant opportunity to use the 1308 nopalito variety occurs during the Lenten season and for vegetarian menus and diets throughout the year.

There is some potential for cactus mucilage (slime) as a nondairy binding agent for sausage or as an egg-white substitute. Some of my preliminary work indicates that nopalitos incorporated into a low-fat nilgai (domesticated antelope) sausage provides mouth feel similar to high-fat sausages. Clearly, the potential of a nondairy meringue from nopalitos provides an exciting new product for the food industry. While there is considerable knowledge of the chemical composition of the mucilage of cactus (Ting, 1994) there is little known about its potential use in the food industry. Further research and study is necessary to define these possibilities.

Getting people to try cactus pads by using different cooking techniques is another way to promote its use, for example, tempura-battered cactus fries (Tempura is a light crispy batter used in Japanese cooking.)

The prickly pear (tuna) is more versatile than cactus pads for culinary uses. Karen Caplan of Friedas suggested that the fruit be referred to as "Cactus Pear" because the name was consumer friendly.

Perfect Puree of California is marketing a frozen cactus pear concentrate in a 32 oz jar for institutional use. It works well for desserts, sorbets, and cactus margaritas. This frozen product also ensures year round availability and a consistent product.

I have found that dried and ground cactus seeds are great for moles and as a dusting for sauteed shrimp or chicken. It has a chocolaty, cumin flavor. I am also trying to extract oil from the seeds. Avocado oil extracted from seeds retails for about \$7 for 5 oz. If cactus seed oil turns out to have nutritional value it probably would be accepted in health-food markets.

Pimienta (1991) reported that most of the fatty acids in cactus seeds were unsaturated. The seed oil ranged from 6% to 20% of the weight of the seeds of 12 cactus pear varieties. Pimienta also reported fatty acids for 10 cactus pear varieties. The most common fatty acid was linoleic (60-70% of oil), followed by oleic acid (13-22%), palmitic (9-16%) and stearic (0.7-2.4%)

Assuming a fruit yield of 10,000 kg/ha and a seed/fruit fresh-weight percentage of 3-5% as reported by Pimienta (1991) for 13 varieties, there would be 300 to 500 kg of seeds/ha. Assuming a value of 12% seed oil for the domesticated fruit varieties, there would be about 36 to 60 kg of oil/ha.

Khan and Sawaya (1982) found that whole seeds of *Opuntia ficus-indica* contained 13.6% oil with 82% of the oil being unsaturated. These authors also found that linoleic acid was the dominant fatty acid (73.4%) followed by palmitic (12.7%), oleic, 8.8% and stearic acid (5.8%). These authors remarked, "In general the higher level of unsaturation, and particularly high level of linoleic acid in conjunction with the absence of linolenic acid, which adversely affects the stability of the oil, indicated *Opuntia ficus-indica* seeds might be an excellent potential source of edible oil for human and or animal consumption."

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