
American Botanical Council

HerbClip

FILE: · Diabetes
· Mexican Edible
and Medicinal Plants

Date: January 28, 1996 HC 10-31-5-3

TO: General Distribution

Re: Mexican Plants Used in Folk Medicine for Diabetes

Roman-Ramos, R., J.L. Flores-Saenz, and F.J. Alarcon-Aguilar. Anti-hyperglycemic effect of some edible plants. *Journal of Ethnopharmacology*, Vol. 48, 1995, pp. 25-32.

In Mexican folk medicine, some of the medicinal plants used to control diabetes mellitus are edible plants. These plant remedies are of special interest because they combine two basic diabetes mellitus control factors: food and medication. A menu developed including these types of plants could enable diabetes patients to control their disease and potentially reduce their use of other anti-hyperglycemic agents. The purpose of this study was to determine the anti-hyperglycemic effects of twelve edible plants used by Mexicans as anti-diabetic remedies. Traditional preparations of plant material were administered to healthy rabbits that underwent subcutaneous glucose tolerance tests throughout the experiment.

The plant species used in this study were: bottle gourd (*Cucurbita ficifolia*), cauliflower (*Brassica oleracea* var. *botrytis*), cucumber (*Cucumis sativus*), cumin (*Cuminum cyminum*), garlic (*Allium sativum*), guava (*Psidium guajava*), kidney bean (*Phaseolus vulgaris*), nopal (prickly pear) (*Opuntia streptacantha*), onion (*Allium cepa*), romaine lettuce (*Lactuca sativa* var. *romana*), savoy cabbage (*Brassica oleracea*), and spinach (*Spinacea oleracea*). Bottle gourd (which is related to *Momordica charantia* which has shown insulin-like activity in rabbits), kidney bean, nopal, spinach, cucumber, and cumin were found to decrease significantly the area under the glucose

tolerance curve and the hyperglycemic peak. Cauliflower, onion, and garlic decreased the hyperglycemic peak only. The glycemic decreases caused by guava, savoy cabbage, and romaine lettuce were not significant.

Some researchers have attributed the antihyperglycemic effect of nopal to the decrease in intestinal glucose absorption provoked by the high content of dietary fiber. Indeed, the anti-diabetic effects reported by the population for guava, savoy cabbage, and romaine lettuce may in fact be due to a similar dietary fiber effect, undetectable by our experimental model. Edible plants containing high dietary fiber may also have a positive effect in the prevention of cardiovascular and oncological disease; this positive effect is in contrast to certain synthetic hypoglycemic agents, which can produce serious side effects. The authors conclude by remarking that "the integration of a menu that includes edible plants with hypoglycemic activity for the control and prevention of diabetes mellitus may be possible and recommendable."