Results of a Moringa Taste Test

Dov Pasternak

Introduction

Moringa oleifera, a tree native to India, is now acclimatized in most tropical regions of the world. Moringa leaves are highly nutritious, containing large quantities of B-carotene (the Vitamin A precursor), minerals and proteins. Moringa pods are an important component in the diet of the India subcontinent. Moringa leaves are the most popular vegetable in Niger. They are sold and consumed in much higher quantities than tomatoes or cabbage. Moringa is a very important source of income to small-scale farmers and to women who have the monopoly on trading Moringa leaves. In recent years, India developed a very productive moringa variety named PKM-1. This variety produces a very large amount of pods. It also produces many more leaves than the so-called "local" varieties of moringa in Niger.

IPALAC (the International Program for Arid Land Crops) is a joint activity between the Ben Gurion University of the Negev in Israel and ICRISAT (the International Crops Research Institute for the Semi-Arid Tropics). The main objective of this program is the judicious transfer of plant propagation material between and among the dry regions of the world. IPALAC has established a large plant introduction facility at the ICRISAT Sahelian Center in Niger.

Two *Moringa oleifera* varieties ('local" and PKM-1) and an additional moringa species (*M. stenopetala*) were planted side by side at the Sadore station of ICRISAT. The PKM-1 variety produces by far the largest amount of leaves on an annual basis. IPALAC intended to disseminate this variety in Niger. However this variety was developed primarily for pods. Thus prior to its dissemination in Niger and in the Sahelian region it was found necessary to conduct an organoleptic test (taste test) of PKM-1 in comparison with the local variety. It was decided to also include leaves of the species *M. stenopetala* in this test. Many claim that its leaves are tastier than the leaves of *M. oleifera.*

The Taste Test

Leaves of the three moringas were boiled in water and salt for one hour. Three populations participated in the test: Field workers at Sadore (25 tasters) represented the rural population; technicians and administrative staff (19 tasters) represented the urban population that consumes moringa; and scientists (8 tasters) represented a population that is not accustomed to eating moringa. Each participant tasted each of the three moringas, which were labeled as A, B, and C.

They were asked to rank the taste of each of the three samples from one to five, with five being very tasty. The results underwent an Analysis of Variance and are presented in Table 1.

Table 1. Taste ranking of three moringa varieties by three populations (SE=standard error of means)

Population	Ranking of local variety	Ranking of *M. stenopetala*	Ranking of PKM-1
Field workers (farmers)	3.12	1.80	4.72
Technicians (urban population)	2.85	2.35	4.45
Scientists (previously unexposed)	2.38	2.50	4.62
Mean	2.78	2.22	4.60
SE	0.175	0.144	0.098

All three populations clearly and significantly preferred the *Moringa oleifera* PKM-1 variety to the other two moringas. The farmers' population preferred the local variety to *M. stenopetala*, whereas the other two populations did not show any preference between the local moringa and *M. stenopetala.*

Conclusions

The results of this test were a pleasant surprise. They clearly showed that the PKM-1 variety, which is much more productive than the local variety, is also much tastier to farmers and city dwellers who consume the local variety and to a population that is not familiar with this leafy vegetable. The results of this test therefore open the door for large-scale dissemination of PKM-1 as a preferred leafy vegetable variety.

 http://edn.link/wy639k