

Milpa. How an Ancient Farming System Helps Small Farmers in Today's Mexico

by Marianne Landzettel



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Marianne Landzettel is a British journalist who writes and blogs about food, farming, and agricultural policies in the UK, the rest of the EU, the US, and South Asia. For us, she has written this reportage from Mexico featuring the **Milpa System** (<https://www.fondazioneSlowFood.com/>)

COOKIE SETTINGS

[en/slow-food-presidia/chiapas-milpa-system/](#)), a Slow Food Presidium established as part of the Slow Yucatán and Chiapas project, which was funded by the W.K. Kellogg Foundation. The project increased the availability of locally and agroecologically grown corn, strengthened the tostada production chain, and raised awareness of the important role played by women in this process.



The milpa system in the field @Martin Kunz

The Three Sisters: Beans, Maize and Squashes

A few steps into his field, Ernesto Rancaño has all but vanished from view among the tall maize plants. Now, at the beginning of December, they are dry and the fat corn cobs are nearly ready to be harvested. Carefully Rancaño peels the outer layer back to reveal the ripe kernels which are blue, almost black, with a few lighter, purple ones in between. On his one hectare plot he not only grows traditional red, blue and white maize, but also heritage beans which climb all the way to the top of the maize stalks. The beans inside the well filled pods are huge and have a startling blue colour. In Mexico, these heirloom beans, called *ayocote morado*, traditionally have been grown together with maize for centuries in what is called a milpa system. Often, squashes can be found in milpas too, maize, bean and squashes therefore are also known as the 'three sisters', each supporting the other.



Heritage beans inside the well filled pods are huge and have a startling blue colour © Martin Kunz

The Milpa System

The tall corn plants give support to the beans which, like all legumes, have the ability to produce their own fertiliser by fixing atmospheric nitrogen in nodules in their root system. As the beans fix more nitrogen than they need to grow, the surplus benefits neighbouring plants – like maize and squashes in a milpa system. The third sister, the squashes, also benefits the others: their big leaves shade the ground. This not only suppresses weed growth, but helps preserve soil moisture – which is vital in a dry, hot climate such as that in central Mexico.

Rancaño can't grow squashes because of the sandy soil in this fields. Instead, he works with cover crops, naturally occurring species which not only provide soil cover, but also flower at different times throughout the growing season and attract pollinators such as bees, wasps and hummingbirds. At the beginning of the season he establishes furrows. On the ridge, three corn seeds are planted together with one bean – the maize plants need very little space but grow very tall and by winding itself around the corn stalks the bean gives them stability – the 'three corn, one bean unit' withstands even strong winds well, says Rancaño.

Climate Crisis Mitigation

In recent years weather patterns have changed as a result of the climate crisis: the start of the growing season tends to be much hotter, in some years there is very little rain, in other years rainstorms cause flooding. There is little farmers can do during a prolonged drought, but the furrows help Rancaño deal with too much rain: he is able to deepen them which keeps the shallow maize root system from rotting. The cover crops hold the soil and facilitate water infiltration.

The milpa system could be ideal if it weren't for the fact that it can only be harvested by hand: it takes five people four days to pick the beans and harvest the maize. Traditionally, farmers came together to help each other, but there are fewer and fewer who grow heritage corn and beans. Twenty years ago, Rancaño knew over a hundred farmers who worked with a milpa system, today there are only about 20 left. And the price they get for heritage beans and corn is too low as to merit paying for extra labour during harvest.



Ernesto Rancaño Into His Field @ Martin Kunz

Value Adding

San Mateo Ozolco is a village not far from the Mexican city of Puebla. Twelve years ago, a group of young farmers had enough: farm families worked hard to grow heritage corn and beans but they made no money. The only way to get their produce to market was to sell it to the 'coyotes', the middle men who paid them a pittance. The young farmers decided to take matters into their own hands and use their corn to produce nachos, totopos and tostadas in their village. It took over two years to develop a recipe and a sellable product. "All we knew was that we wanted to honour the traditional agricultural methods of production and add value – financially and nutritionally", says Paty Hernandez, the head of Mazolco, a farming and production co-operative. The recipes now include blue corn, heritage

COOKIE SETTINGS

beans, amaranth and sesame – all produced by local farmers. Today Mazolco products are sold in high end shops and restaurants in Mexico City, as well as online. The farmers in the village continue to grow heritage maize and beans in a milpa system and hand harvest. The beans are so beautiful they could be used to make jewellery: rainbow ayocote come in all shades from white, to bright yellow, brown, purple and speckled.

Bokashi & Co

The Mazoloco farmers not only work to continually come up with new recipes and products, they have also carefully researched how they can improve production within the milpa system. They use effective microorganisms and fermentation to make preparations which enhance soil health and plant growth. The solutions containing key minerals and nutrients and are sprayed at the appropriate times during the growing period. None of the farmers uses chemical fertiliser and/or pesticides which has reduced their input costs by 50%.

Value addition and finding market opportunities has transformed the village. It has created jobs and additional income opportunities, and it lets farmers continue to work with the milpa system, producing excellent food in a sustainable and ecological manner.