

Maize processing by farm households

MAIZE is a popular food crop in Asia. It has a high nutritional value, and is used both as human food and as a livestock and poultry feed. However, there is not a wide range of processed products made from maize. Suitable processing methods are needed which can add value to maize crops.

Maize can be processed by itself, or combined with various kinds of beans, to make many products with a high nutritional value, using a variety of tools.

Traditional millstone for grinding maize

Operating a millstone of this kind needs 2 - 3 people. It has a capacity to grind 4 - 5 kg of maize grains at one time. The maize flour is used for making various kinds of cake. Maize which is not so finely ground is eaten mixed with rice, beans and other foods. It is also used to make sweet soy sauce (Fig. 1).

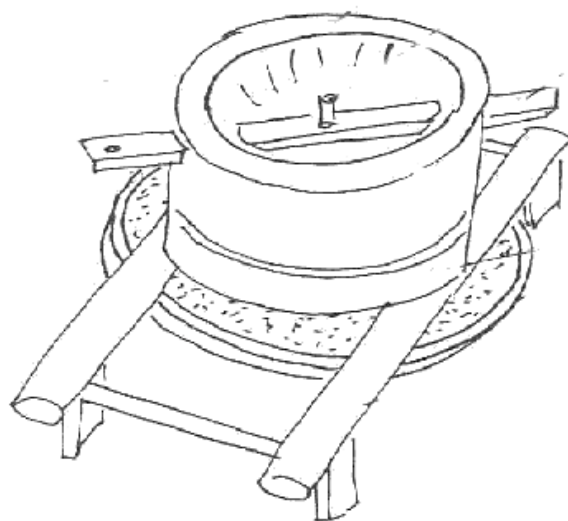


Fig. 1. Millstone to grind maize

Pedal-driven maize grinder

The weight and installation area of this machine are only 1/5 those of the millstone. Its structure is simple, and a man of average health can operate it (Fig. 2). The operating capacity is the same as that of the millstone, and so is the production of maize flour.

Improved pan to steam maize

This improved pan is made of cast iron (Fig. 3). Inside the pan, there is an iron funnel which channels the steam into the maize flow, thus creating a kind of dough. Using the pan, each batch of maize requires only two hours to be steamed, and uses 40% less firewood than the conventional steamer.

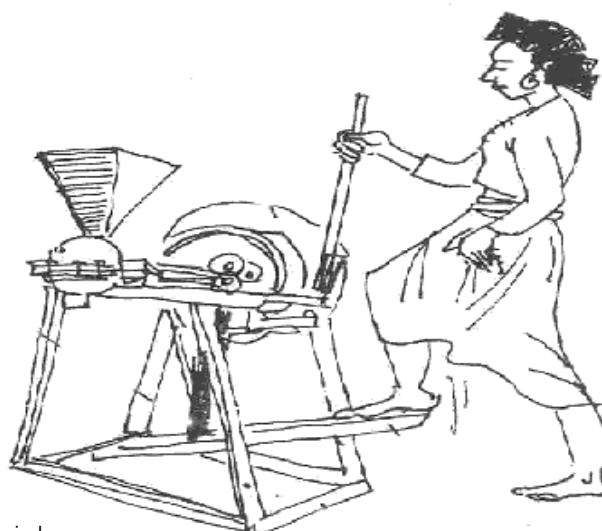


Fig. 2. Pedal-driven maize grinder

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Cake toasting mold

This iron mold can be used to press and toast various kinds of cake, made either from maize flour or from a mixture of maize and other flours, mixed with other ingredients and seasonings to make a high-value product. Toasted cakes can be eaten immediately, or preserved for later use.

Small mechanized press

One suitable press for farm households or small rural factories is the Eztrusion press. It has the capacity to process 20 - 25 kg of maize per hour. It is small, easy to

operate and inexpensive (Fig. 4). It gives a quick return on capital investment.

Maize products

A favorite maize product is popcorn, made from a special type of maize that has a hard coating of starch on the outside, and a softer floury starch on the inside. Maize can also be ground into flour, using the mills described above.

Maize flour can be mixed with various ground beans and seasonings to produce instant products such as instant soup or a nutritious powder to feed to children.

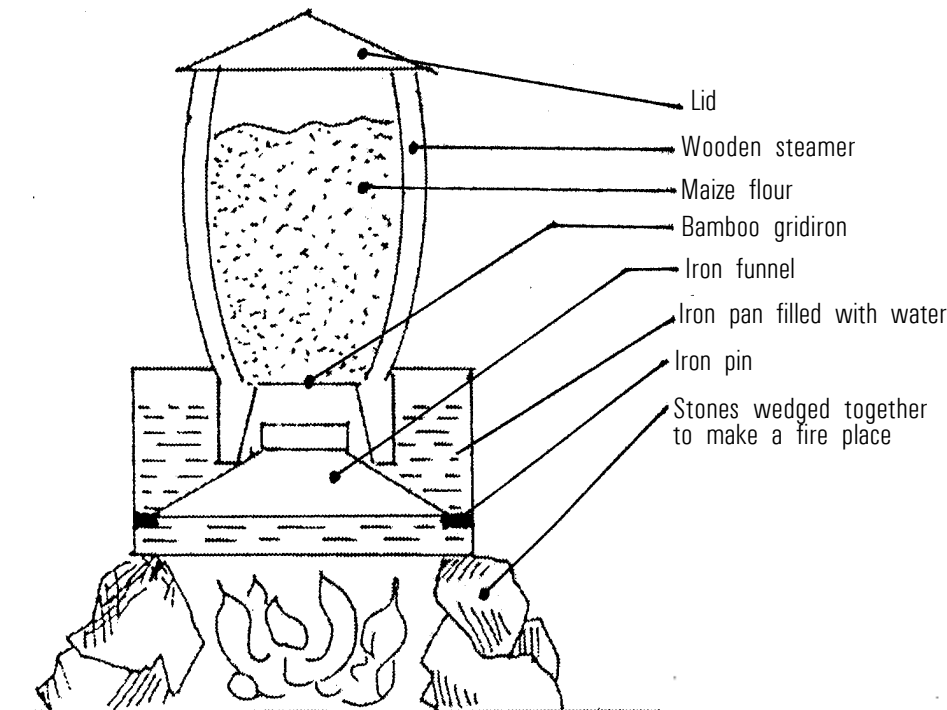


Fig. 3. Improved pan to steam maize

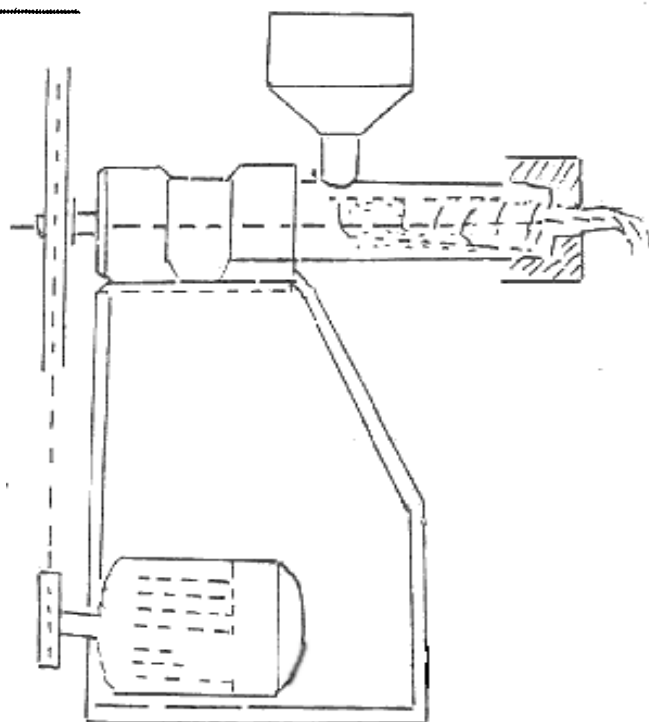


Fig. 4. Small mechanized press