

For further information contact:

Prof P.S. Belton peter.belton@bbsrc.ac.uk
Dr J. Dewar jdewar@csir.co.za
Mr L.A.M. Pelembe s9729170@scientia.up.ac.za
Ms L.F. Hugo s9713950@scientia.up.ac.za
Mr S.M. Wambugu dirkirdi@arcc.or.ke
Dr I. Delgadillo vonne@dq.ua.pt
Prof J.R.N. Taylor jrnt@scientia.up.ac.za

How Much Trouble Would a Farmer Take to Preserve Seed?

E S Monyo¹, S K Awala², J Lileka³, and S A Ipinge⁴ (1. Senior Scientist (Breeding), SADC/ICRISAT Sorghum and Millet Program, Matopos Research Station, PO Box 776, Bulawayo, Zimbabwe; 2, 3. Research Associate and Farm Manager, Mahenene Research Station, PO Box 144, Oshakati, Namibia; 4. Chief Research Officer, Ministry of Agriculture and Rural Development, PO Box 217, Tsumeb, Namibia)

Pearl millet is the major cereal crop in Namibia,, accounting for approximately 51% of total cereal production and 25% of calorie consumption. High-yielding large-seeded varieties have been released, but farmers have commented that the new varieties are also more susceptible to storage pests. Therefore we attempted to obtain information from farmers as to how they handle storage pests. The following information on indigenous methods of preserving pearl millet and sorghum seed was collected from Namibian farmers during a workshop on Farmer Participation in Pearl Millet Breeding and Farmer-based Seed Production Systems (Heinrich 1998).

Ash method. The seed is placed in a handling basket and ash is poured over the seed. The seed is then thoroughly mixed with the ash until it is coated with gray. The storage container (small granary or clay pot) is then selected, some amount of ash is poured into the container, the seed is poured in, and finally an even layer of ash is spread over the seed. The container is sealed with clay soil and placed in sunlight, from where it is removed only when rain is expected. The container is also placed over stones or wooden sticks—not on the ground—to protect it against soil moisture.

Mopane/bitter bush leaf method. Fresh leaves of the mopane tree or bitter bush are placed in the storage container. When the leaves are completely dry, one half is

removed and seed is poured into the container. The remaining half of leaves is then spread over the seed and the container is sealed and placed in the sun as in the first method. Farmers explained that the heat of the sun causes the leaves to release a chemical with a bitter smell, thus preventing or reducing invasion by storage pests.

Omuhongo chopped piece method. *Omuhongo* is a hardwood tree; the wood has a particular smell which is unpleasant to storage pests. This method works in the same way as the mopane leaf method, only that here the dry wood is chopped into small pieces, which are then mixed with the seed.

Fire smoke method. This method is used for cowpea seed only. Selected dry cowpea pods are tied in bunches and hung in a 'fire hut' such that they are continuously exposed to smoke. After some days, the pod becomes coated with dust from the smoke, which prevents beetles and other storage pests from entering the pods. Pods are removed from the fire hut and shelled only at sowing time.

Recently developed methods. Two other methods were also reported by farmers, and are believed to be used in some areas:

Hot chilly powder method (for legume seed). Hot chillies are ground into powder and the powder is thoroughly mixed with clean legume seed. The seed is put into a bottle or tin, which is then closed and vigorously shaken to ensure proper mixing. This bottle or tin can be stored under the roof eaves of the house.

Industrially manufactured fencing poles. Treated fencing poles from the industry are chopped into small pieces, which are then used to preserve seed (see *Omuhongo* method).

At sowing, the selected and preserved seed is the first to be sown. The most fertile parts of the land or field are sown first, followed by the poorer parts. If the selected seed is insufficient to cover the whole field, the remaining portion of the field is sown with unselected, "untreated" seed.

Who says farmers do not know the value of seed?

Reference

Heinrich, G. M. 1998. Proceedings of the workshop on farmer participation in pearl millet breeding and farmer-based seed production systems in Namibia, 23-27 Mar 1998, Oshakati, Namibia. PO Box 776, Bulawayo, Zimbabwe: SADC/ICRISAT Sorghum and Millet Improvement Program.