# Dcfrn-~1Developing Countries Farm Radio Network

# Package 79, Script 8

July 2006

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Storing Cowpea Seeds for a Season and a Reason

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**Notes to Broadcaster**

Post-harvest loss of food grown by African farmers is a very serious problem. Inadequate storage facilities, poor harvesting practices, lack of resources, and a host of other factors are responsible. Losses of food to insects and rodents in storage can be very high.

Cowpea is an extremely important native African crop, especially in West and Central Africa. There are many varieties of cowpeas, about twenty in all. It’s an extremely versatile plant. The leaves are used as a vegetable, and the seeds are cooked and served with rice or flat wheat bread. When mixed with maize, it’s called nyoyo, which is a local delicacy in the countryside of Kenya. The seeds or vegetables can be sold for cash, and the used cobs added to the compost heap.

Yet some West African farmers may lose their entire cowpea production to insect damage in storage. Storage losses include lost income because of decreased grain quality. For stored cowpeas, the most important insect pests are bruchids. The following script talks about two possible solutions for control of bruchids in stored cowpeas.

**Characters:**

Host

Male farmer, Mr. John Wasonga

Female farmer, Mrs. Joyce Omondi

*Theme music to introduce programme, then fade out.*

**Host:** Greetings listeners! Welcome to today’s programme, ‘Storing cowpea seeds for a season and a reason’. The focus today is on proper storage of cowpeas to protect them from pest attack. Our guests will guide us through today’s discussion. Welcome to Mr. John Wasonga and Mrs. Joyce Omondi.

**Guests:** Thank you.

**Host:** Listeners, please stay tuned for our discussion.

*Fade up theme music and hold for 5 seconds.*

**Mr. Wasonga:** Today we are talking about a seed which is not new but our most common indigenous vegetable, cowpea. Perhaps our talk will give you new information, or perhaps it will be a reminder.

**Mrs. Omondi:** The most important insect pests of stored cowpeas are called bruchids. These insects infest the crop in the field, and the infestation can get worse in storage.

**Mr. Wasonga:** Because damage in storage can be so serious, farmers often sell their crops immediately after harvest. But selling cowpeas right after harvest is a problem. The selling price is much lower just after harvest than it is a few months later. So, if a farmer can store the seeds safely for a few months and *then* sell them, he or she will receive a much better price. Also, unless a farmer uses good storage practices, the cowpea grain gets insect holes, and buyers won’t pay as much because of this damage.

**Mrs. Omondi:** That’s why we want to talk about controlling bruchids. There are several ways to store cowpea to discourage bruchid damage. You can mix the grain with equal parts of ash, you can use a solar heater made of plastic or corrugated tin to kill the insects, or you can treat the crop with various oils and plants. But the method which we will talk about today is storing the grain in two different types of airtight containers: metal drums and plastic bags.

**Mr. Wasonga:** You see, bruchids can’t live without air. This is why airtight containers are so effective. First, let’s talk about metal drums. (*Short pause*) In some places, old oil drums are easily available and relatively cheap. The tops of these drums have screw-type plastic lids, which makes them airtight and effective at discouraging bruchids.

**Mrs. Omondi:** Start by filling the drums to the top with dry threshed cowpea grain. Each drum holds about 45 to 55 kilos of grain. After filling the container, seal it, and then use peanut or another cooking oil to lubricate the edge of the closure. This ensures an airtight seal.

**Mr. Wasonga:** The oil also makes it easier to remove the lid after months of storage. Filled drums can be stored for six months with very little loss to cowpea bruchids.

**Mrs. Omondi:** Because the drum doesn’t permit air from the outside, the bruchids will eventually die. That is why using metal drums is an effective method.

*Fade up theme music for 2 seconds.*

**Mr. Wasonga:** The second method that we want to tell you about today is triple bagging. This method requires three clear plastic bags which hold fifty kilograms of cowpeas. Thus the name: ‘triple bagging’. The plastic bags are placed one inside the other to keep out insects.

**Mrs. Omondi:** You have to be careful that the plastic bags have no holes, because even extremely small holes will reduce the effectiveness of this method. And remember that one or two bags is not enough to ensure success. You need three!

**Mr. Wasonga:** Here’s how this method works: Fold back the top of first bag and put the second bag inside of it. Then fold the second bag over the outside of the first. Next, put the third bag inside of the first two and fold it over the first two.

**Mrs. Omondi:** Slowly and gradually fill the inner bag with cowpeas, making sure to shift or gently rock the bags frequently to eliminate any air pockets inside. Fill the inner bag nearly to the top. Then firmly draw together the top of the innermost bag, squeezing tightly to press air out of the bag. Gently rock the bag of cowpeas back and forth again to eliminate any air spaces.

**Mr. Wasonga:** After the cowpeas are well settled in place, squeeze the innermost bag again to force out any air, and then tie the bag closed with string or cord. Twist up the remaining plastic above the tie and fold this plastic in two. Then tie the double-folded plastic together.

**Mrs. Omondi:** Repeat this tying procedure individually for each of the three bags. Then store the bags in a cool place. You can now be sure that your cowpeas are safe from pest attack.

**Mr. Wasonga:** Airtight storage in triple plastic bags is easy to use, effective, and safe. Try it and you will like it. But be careful not to handle the plastic bags roughly – it’s important that the bags not have any holes.

*Fade up theme music for 5 seconds, then under.*

**Mr. Wasonga:** Remember to use three plastic bags, and as you pour in the cowpeas, rock gently to eliminate air spaces. Strongly tie all the plastic bags in order. And I believe you remember how to use a metal drum. Make sure that you use a good tight lid, and a drum that’s not too old and rusty. Thank you for listening.

**Host:** Our guests today have talked about two ways to safely storage cowpeas. The first method is to use metal drums, and the second method is triple bagging. We hope you learned something from the presentation. Until we meet again on coming programmes, goodbye.

*Fade up theme music for 10 seconds, then out.*

## Acknowledgements

Contributed by: Rachel Awuor, Ugunja Community Resource Centre, Ugunja, Kenya.

Reviewed by: Professor Larry Murdock, Purdue University.

## Information sources

Agronomic Research Institute of Cameroon. CRSP Technical Bulletin 3: Airtight Storage of Cowpea in Triple Plastic Bags (Triple-Bagging). Available on-line at <http://www.entm.purdue.edu/Entomology/research/cowpea/Extension%20bulletins/PDF%20publications/Tripple%20Bagging.pdf>

L.L. Murdock, Shade R.E., Kitch L.W., Ntoukam, G. Lowenberg-Deboer, J. Huesing, J.E., Moar, W., Chambliss, O.L., Endondo, C., and Wolfson, J.L. (1997). Postharvest storage of cowpea in sub-Saharan Africa. In B. B. Singh et al., editors, Advances in Cowpea Research. Copublication of IITA and JIRCAS. IITA, Ibadan, Nigeria, pp. 302-312.

Program undertaken with the financial support of the Government of Canada provided through the Canadian International Development Agency (CIDA)