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# Pack 100, Item 9

Type: Script

January 2015

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**Scientists are improving the traditional maize crib** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Note to broadcasters:**

To celebrate our 100th Resource Pack, we are reproducing one of the scripts from Script Package #1, which was distributed to 34 broadcasters in 26 countries in May 1979. The following item was Script #6 of that first package. We are distributing it exactly as it was written in 1979.

Over the next months, FRI will update many of our earlier scripts and post them on our website. We will ensure that the information is up-to-date and accurate, and reformat the scripts to make them as useful as possible.

So … Welcome to one of Farm Radio International’s earliest scripts! The following item is presented word-for-word, exactly as printed and distributed in 1979 by FRI’s founder, George Atkins.

**Suggested introduction:**

George Atkins, a farmer for many years, has travelled around the world for Massey-Ferguson, the University of Guelph and the Canadian International Development Agency, looking for ways to help farmers increase food supplies. In Africa, he found a scientist who has been studying what to do with the traditional maize crib so maize will dry more quickly and thoroughly, especially in the humid tropics.

**Participants:**

George Atkins

Dr. W. H. Boshoff, Project Manager, FAO African Rural Storage Centre, International Institute of Tropical Agriculture, Ibadan, Nigeria, West Africa

**Atkins:** As I stood in a field in Nigeria with Dr. W.H. Boshoff, we were looking at some rather long but very tall, very thin rectangular maize cribs. Construction of the cribs was simple. Construction materials had been cut by hand in the bush. The structures were made of bush poles, sticks and bamboo with heavy palm leaves filling in the walls between the vertical poles. The cribs were built so that the floor was up about 1 metre (1 yard) above the ground.

As we talked about these cribs in which the maize dries better than in most, Dr. Boshoff told me this.

**Boshoff:** We didn't invent the crib; the crib has been used for a very long time.

It's a ventilated structure that allows the air to pass through and inhibits molding in the cobs.

So what we've established, in fact, is that, depending on your climatic conditions, the more humid it is where you are, the more narrow they should be. In very humid climates they should be only two feet or 60 centimetres in width. In less humid climates, you can go up to 150 centimetres, about 5 feet.

This allows for the air to pass through easily. It will inhibit fungal infection, and provided you apply in insecticide to prevent insect damage the crop will be perfectly safe. It'll dry very slowly. Then with the onset of the dry weather, it will reach a moisture content of below 15%. It will then be suitable for threshing and storage conventionally in sacks; -- that's in the humid parts.

If the climate was good enough to bring the moisture down to less than 12%, one could store it in more solid walled structures. But this isn't recommendable in the humid tropics.

**Atkins:** Is it important what direction, north, south, east or west, these cribs are placed?

**Boshoff:** Very interesting point. Yes - in areas of the world where you have a dominant wind, you would expose the biggest surface area of the crib to the dominant wind. But in the equatorial tropics of moderate latitudes, you would find there is no dominant wind. (So you'll notice, there's in fact no wind at all at the moment.) But you do get certain breezes late in the afternoon.

**Atkins:** However, what about the sun ─ is the sun any stronger, for instance, in the late afternoon than it is in the early morning? Perhaps you have a greater sun drying effect by building it facing a certain direction.

**Boshoff:** Yes, again very interesting, because you get dull mornings during that period July to November. There is very little sun in the morning but sun in the afternoon. So if your crib is too wide, you'll find that it dries quicker on the western side than the eastern side. If it's of optimal width for the humidity and conditions in that area, it would dry evenly.

The actual drying by the sun is only the first few cobs that are exposed; beyond that, they're shaded from the first layer or so.

You do get the dry breezes of the afternoon blowing from the west here in this part of Nigeria.

**Atkins:** Alright, now tell me about the floors in these cribs.

**Boshoff:**  Well, they are made of round poles of bamboo. You can pull them out at the time of emptying the crib and put a basket underneath and collect your crop like that.

**Atkins:** In this case, they're bamboo and they're just side by side so that a little bit of air can get through. I suppose bamboo may be better than other poles because they have ridges, keeping them away from each other.

**Boshoff:** Yes, but whatever material is most handy for the farmer. It needs to be fairly substantial because it's carrying the whole load.

**Atkins:** All that from one of the men who's best qualified to discuss cribs for drying maize in the world's developing countries - Dr. W.H. Boshoff, at the International Institute of Tropical Agriculture at Ibadan, Nigeria, in West Africa.

 Serving "Agriculture, the Basic Industry," this is George Atkins.

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