**Developing Countries Farm Radio Network**

Pack 13, Item 11

Type: Script

Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Good low-cost fuel made from maize (corn) cobs, part 1: Preparation for making it** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Information on this subject area was requested by DCFRN participants in Bolivia, Brazil, Colombia, Dominica, Dominican Republic, El Salvador, Fiji, Ghana, Guyana, India, Lesotho,Malawi, Pakistan, Peru, Philippines, Puerto Rico, Sri Lanka, and Uganda.

Presenter: George Atkins

**Special notes**

1. Before using the information in this item, please read the notes at the end concerning related DCFRN items.

2. In this item, the word "maize" is used. If your farmers know it as "corn" or by some other name, please use the word that they know.

**Suggested introduction**

We at this radio station are part of a worldwide information network that gathers farming information from developing countries all over the world. It's the Developing Countries Farm Radio Network, sponsored by the Canadian International Development Agency, Massey Ferguson, and the University of Guelph.

Through this Network, we bring you information on ways to increase food supplies for your family, or to help you increase your income—ways that other farmers have used successfully.

Do you or your neighbours have to walk a long way to get wood for cooking? If you do, our program today may be of special interest to you. Here's George Atkins.

**ATKINS:** Do you have a lot of maize (corn) cobs that you usuallythrow away? Or if you don't have any, do you know where you could get some that would cost you very little money or maybe no money at all? Well, if you could gather up enough dry maize cobs to fill three big barrels (drums), you'd have enough to make a good sized batch of very good fuel for cooking! You could make charcoal out of those maize cobs. You could make charcoal that would catch fire quickly and burn very hot.

I'll tell you what you'd need to make this kind of charcoal to use for cooking for your family—or to sell. You'd need a 200 litre (40 gallon) metal barrel (drum) to use as a burner to make the charcoal in, a good big container of water, and some cans for sprinkling this water on the maize cob charcoal to cool it down quickly after it's been made.

Let me tell you about the 200 litre (40 gallon) metal barrel (drum). There are just a couple of things you'll have to do to it before you can use it for burning the maize cobs to make them into charcoal.

First, you must remove the top end of it. You must then cut two square holes opposite each other in the sides of the barrel down near the bottom. The holes should be about 10 to 15 centimetres (4 to 6 inches) square. The reason you need the holes is to let air in at the bottom when you first start the fire in the barrel (drum). Later, they have to be closed, thus you must make them sothey can be opened and closed.

There are different ways you can make the holes. One way could be to cut out the square on three sides only and bend the metal back on the outside of the barrel. That way, they're open and ready to start the fire. Later when you must close the holes, all you have to do is bend the metal flaps back into place like they were before you bent them open.

A simple way to make flaps that will open and close more easily is to cut out the entire square. The piece you cut out can then be used as a small door with hinges made out of wire. With simple hinges like that, the door can be opened or closed easily to let in or keep out the air.

Now with the air holes in the barrel, it's ready to use for making maize cobs into charcoal. There's something else you'll need, though, before you start. You'll need some rocks, short pieces of log or cement blocks; because, to start the charcoal-making process, you must set the barrel on the ground then tip it over so it's half-way over. To hold it in that position, you can use thoseblocks, rocks or whatever you have. But make sure you put a good solid block on each side of the rim there on the ground so the barrel can't roll sideways.

Now later on you'll have a very hot fire in that barrel and the metal will get red hot. To move it when it's hot, you're going to need a hoe or something like that. Also you'll need a thin pole 2 metres (6 feet) long for moving cobs around when they're hot.

Remember I mentioned a good supply of water a little earlier, and cans to sprinkle it on the hot charcoal when the time comes? Don't forget to have that all ready too, before you start making your charcoal. You'll need at least 50 litres (about 10 gallons) of water.

Now after your maize cobs have been turned into charcoal, they are very breakable, so before you make your charcoal, decide on a good dry place to store it where the charcoal cobs won't get moved around and broken.

Finally, there are two more things. First you'll need a little bit of kindling wood or something that will burn easily, to help set the maize cobs on fire.

The other thing, of course, is your supply of maize cobs. If you would like to finish up with your 200 litre (40 gallon) metal barrel full of charcoal, you must have about three times that amount of dry maize cobs ready before you start. Remember though, they mustbe dry. That's very, very important. Don't try making charcoal unless all your maize cobs are dry.

The day you choose to make your charcoal should be a hot, sunny, dry day. It's good if there is a little breeze blowing and it's best if you start the operation early in the day. That's because you'll be putting water on the charcoal to put out the flames, and there must be enough time in the afternoon for your charcoal to dryout in the sun.

Now I've told you all of the things you need to have ready before you start making charcoal out of maize cobs. On our next program, you'll hear just exactly how to make your charcoal.

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

**Notes**

1. This is the first of two items in this package on the subject of making charcoal for cooking from old maize (corn) cobs. Please use Item 11 (Part 1) and Item 12 (Part 2) in the propersequence.

2. The first published information we saw on this subject originated in Thailand. We gave a copy of it to DCFRN participant Gerald D. Knight in Zaire. He experimented with the method and has perfected a variation of it that is fully described in these two items (Items 11 and 12).

3. Due to the acute problem of a decreasing supply of fuelwood, it is intended that information in these items will assist in easing the problem. Some other DCFRN items so intended also include the following:

Why Plant Trees? - DCFRN Package 9, Item 1D

Planting Trees, Part 1 - First Steps - DCFRN Package 9, Item 2

Planting Trees, Part 2 - Growing Your Own Seedling Trees - DCFRN Package 9, Item 3

Planting Trees, Part 3 - Where and When to Plant - DCFRN Package 10, Item 4

Planting Trees, Part 4 - Transplanting Seedling Trees - DCFRN Package 10, Item 5

4. DCFRN regularly attempts to provide information on income-producing ideas for rural people. Information in these items (Items 11 and 12) may be useful for farmers who are looking for ideas for sideline enterprises from which they could earn extra money.