Developing Countries Farm Radio Network

Pack 12, Item 13

Type: Script

Date

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**Uses for hard soil from termite mounds**

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Information of the type included in this item was requested by DCFRN participants in Brazil, Cameroon, Chile, Colombia, Dominica, Ecuador, Fiji, Ghana, Guinea Bissau, Guyana, India,Indonesia, Lesotho, Malawi, Mexico, Nigeria, Peru, Philippines, Puerto Rico, Sri Lankam and Uganda.

Presenter: Glenn Powell

**Special notes**

1. The information on uses of soil from termite mounds is only applicable in areas where termites ("white ants") build hard-surfaced mounds of soil above ground level or where they build hard nests of soil in large hollow trees. Please consider this when deciding whether or not to pass this information on to the farmers you serve.

2. It is suggested that before using the information in this item, you read the notes at the end of the item concerning related DCFRN items.

**Suggested introduction**

We at this radio station are part of a world-wide 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 sell—ways that other farmers have used successfully.

Today our subject is soil—not ordinary soil, but a very special kind. To tell us about it, here's Glenn Powell.

*Hard soil from termite mounds and what you can do with it*

**POWELL:** In the area where you live, are there big hard mounds or piles of soil, or are there odd-shaped cones of soil out in the grasslands or in wooded or forest areas?

If there are, you probably know that they've been built out there by insects that people call termites, "white ants," or even just "ants."

It really doesn't matter what you call them—the point is that their houses (some people say "castles" or "nests") are made of soil that they've brought up from down below the surface. These termites, thousands of them, have brought that soil up a very, very small amount at a time, and cemented (stuck) it in place.

Different kinds of termites have different ways of making these grains or particles of soil stick in place in the mound. It may be with juice (spit) from the termite's mouth or its stomach, or it may be with a very small amount of the termite's own feces (dung). The main thing is that every tiny soil particle does stick in place. In fact, all of the soil particles stick so tightly together that it almost seems as if the termite mound is made of cement.

Well, do you ever break cemented soil like this off termite mounds and use it for a special purpose? If you don't use it, did you know that it could be useful to you?

You can actually take that hardened soil and make things with it that are hard—like cement. This is because of what the termites did to all those grains (particles) of soil when they were building their mound.

Of course, in different places, there may be different kinds of termites and different kinds of soil in their mounds. But one thing about all of these mounds is that, if the mounds are hard, you can take soil from the outside layer of the mounds and make quite a few different things. Here's a list, and, depending on your soil and your termites, you could certainly make some of these things.

In some places, such as southern and southwestern Tanzania and central Angola, they use termite mound soil for making a hard surface on roads and paths.

In northern Botswana, they build small dams out of soil from termite mounds.

In Brazil and Guyana, bricks have been made out of termite mound soil.

In Sri Lanka, there are buildings 1,500 years old with plastered walls—and the plaster came from termite mounds.

In Tanzania, large grain storage pots are made from straw, reeds, sisal, or bamboo strips and plastered inside and out with cement made from termite mound soil. This keeps pests out of the grain.

All over the world, farmers use it for making hard surfaces for threshing floors or floors in grain storage buildings to keep rats from coming up through the floor.

People use it for making stoves and ovens, for water containers, pottery, and even long-lasting cooking pots.

Perhaps you know of other uses.

Now if you hadn't heard of this before, why not try it out? I'll give you a few hints about some of the things you'll have to do.

*Making a storage pot with termite mound cement*

Let's say you're going to make a storage pot. First make a structure like a basket with vines, reeds, sisal, or bamboo strips. Now you're going to plaster the basket inside and outside with cement made from termite mound soil.

To do this, get some hard soil from a termite mound—or if termites in your area fill up hollow trees with this hard soil, you could get it there. You must break the soil off the mound or out of the hollow tree with a good strong pick, a bar, or a strong shovel, or maybe even with a good heavy stone. You may find that the cemented soil is easier to break off the mound during the rainy season than at other times. Now if termites are living in the mound, don't take more than about a third of the hard soil. This way you won't destroy the termite colony. Then go on and get more hard soil from other mounds if you need it, but never more than one-third of a mound.

Take the material home and break it into smaller chunks, say about the size of a nut. If there are termites in this soil you're breaking up, be sure your chickens are nearby. They'll be able to eat the termites as they drop out of the hard material you're breaking up. Termites are very good chicken feed.

Next, put this broken-up termite mound soil into a bucket. Add water to thoroughly wet the chunks of soil. Work it with your hands so the hard stuff gets soft. Keep adding a little water—and soon you'll have a thick soupy mixture like mud.

At this point, you can start adding clay, if you have it, to the mixture. Make sure there are no roots, sticks, stonesm or lumps in it. Depending on the kind of clay, you could mix in up to four times as much clay as termite mound soil, but it must be completely mixed with the termite soil. This will be quite easy to do if your mixture is like very, very thick soup.

After it's completely mixed, let it get thicker as it dries out for a day or two, until it's no longer soupy. This is what you're going to use to plaster your basket container inside and outside. It's not ready to use, though, until it has dried out just the right amount. Here's how to test it.

Stick the end of your finger into the soft surface. Make a scratch across the surface. If the scratch stays there and doesn't run together, it's dry enough and thick enough to use as plaster.

I did say earlier that in some places there are different kinds of termites than in other places, and the same is true of the soil in termite mounds. Also, of course, clay that you put in your mixture may be different where you are than it is a few kilometres (miles) away from where you are. Because of this, I can't tell you exactly how much clay is best to mix in or whether it may be better if you heat up what you make in a kiln like you might do with pottery or bricks, perhaps. Then again, if you have no clay, don't worry; your plaster will just be harder than if you put some clay into the mixture.

You'll just have to try doing it different ways and you'll find out what's best for you.

Now at the same time that your mixture is drying out enough to be ready to use for plastering your basket, you should be preparing the basket. The reeds, bamboo, or other material you've used for making your basket must be completely wet. The best thing to do is to soak it in water right up until the time you plaster it with the termite soil mixture.

The next step is to start plastering the basket both inside and out. Do it carefully and thoroughly.

Be sure to make the surface smooth all over, both inside and outside. While you're doing that, make a nice smooth rim around the opening at the top. When your container is finished, just leave it to dry out. After it's completely dry, you'll have a good strong container that should last for many years.

As I mentioned before, there are many different things you can do with termite mound soil, and the same is true with soil that termites have deposited inside trees that they live in. Perhaps some of the older people in your area can give you some more ideas about how you can use this material.

Serving Agriculture, the Basic Industry, this is Glenn Powell.

**Notes**

1. This item could be split into two shorter items: (a) Hard soil from termite mounds and what you can do with it; (b) Making a storage pot with termite mound cement.

2. One of the suggestions in this item is that soil from termite mounds can be used for making hard floors—for threshing floors and grain storage buildings. Other material that couldbe used, i.e., a mixture of soil, clay, and manure, is described in two other DCFRN items. You might consider re-using that information in connection with this item. They are:

A Hard Floor that Costs No Money - DCFRN Package 7, Item 8

An Improved Threshing Floor - DCFRN Package 7, Item 9

Using soil from termite mounds for making a hard floor in a grain storage building is mentioned in another DCFRN item. That information might also be re-used in connection with this item. It is:

Rat Prevention - DCFRN Package 3, Item 3