Developing Countries Farm Radio Network

Package 11, Item 3

Type: Script

Date

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

**Strip cropping saves soil and water**

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

Information on this subject area was requested by DCFRN Participants in Antigua, Argentina, Bangladesh, Bolivia, Brazil, Burkina Faso, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Guatemala, Honduras, India, Kenya, Malawi, Mexico, Pakistan, Papua New Guinea, Philippines, Sri Lanka, and Uruguay.

Presenter: George Atkins

**Special note**

Before using the information in this item, please read the notes at the end 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 we'll talk about some more ways to prevent soil erosion and conserve water. Here's George Atkins.

**GEORGE ATKINS:** As you know, when it rains, some of the rainwater soaks into the ground and some doesn't—it just runs away and is lost. When this water flows over bare soil, it washes some of that soil away with it.

Now, let's think about the soil where your crops are growing on sloping land. Let's think especially about cultivated crops you've planted in rows—crops like maize or cotton. If there's a lot of bare soil between the rows and between the plants in the row, quite a lot of rainwater will just run away over that bare soil instead of sinking into the ground. As it runs away, it will wash away good topsoil with it—and the more rain there is or the steeper the slope your crop is growing on, the faster the water will run and the more good topsoil it will wash away with it.

Of course you don't want this to happen because you need that good topsoil on your land so you can grow good crops. Also, your crops need that water.

How then can you prevent the loss of the water and of that precious soil?

Well, first of all, you must do something to prevent the water from running down the slope so fast—and also to give it a chance to soak into the ground better. And you must protect the soil so it won't be washed away.

There are many ways of doing this. We've talked about some of them before on this program. Of course you know that if you're planting on a hillside, you must always make your furrows and rows of crops across the slope, not up and down. This is very important. Some farmers also make contour bunds or other kinds of barriers across their slopes, to stop the water from washing away the soil. And a good ground cover of grasses or other plants close together, or of mulch, will slow down the water moving over the soil and let it soak into the ground better.

Let me tell you about another way to protect your soil and conserve the precious water that falls on it.

 *Strip cropping using grass strips*

Now, I've just said that grasses help protect the soil. That's a good thing to remember—so when you are going to cultivate hillside soil, leave narrow strips of land uncultivated across the slope and let grass grow on them. The strips could each be about a metre (3 feet) wide. Then between these grassy strips, you can have cultivated strips of land for the cultivated crops you grow with bare soil between the rows. These strips could be quite a bit wider than the grassy strips.

Remember that all of the strips must be across the slope. Another thing: the steeper the hill is, the narrower the cultivated strips should be, thus giving the grassy strips a better chance to slow down the water that runs down the hill when it rains. If the hill isn't too steep, the grass strips can be farther apart. Strips like this can even be useful on flat land, helping to protect the soil and conserve water.

 *Strip cropping without grass strips*

Now if you really need to use all the land you have for growing crops—if you can't spare any of it for growing grass as I've just suggested—there is something else you can do to protect your soil and conserve rainwater. Instead of growing grass on strips between your cultivated crops, grow some other kind of crop on those strips. If you do this, it should be a crop with plants that grow close together—perhaps a close-growing type of grain, or a thick vine crop like winged beans that will slow down the movement of water over the soil and allow it to soak into the ground. Some farmers plant vines like this along the edges of their grass strips and then allow the vines to grow over the grass forming a thick green mulch.

Now do you see the value of strip cropping? The idea is to grow different types of crops in strips next to each other. This way, if rainwater flows faster over one strip because the soil is bare, it will not flow as fast over the strip next to it because the plants are closer together. When the water moves slowly, more of it soaks into the ground and the soil it would carry away with it stays there on the hillside too.

Keeping that in mind, and also the kinds of crops you're growing, how steep the hill is, and what kind of soil you have, you can decide how wide your strips should be.

Many farmers have found strip cropping, and also the grass strip method, a very good way to grow crops, especially on dry hillsides. Much less soil is washed away when it rains, and the crops are healthier because a lot more rainwater soaks down into the soil where the roots can get it.

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

**Notes**

1. The DCFRN items listed below contain information closely related to this item. We suggest you use some or all of that information in connection with this item.

Soil Erosion and Cropping on Sloping Land (Part 1 - Steep Hillside Land) - DCFRN Package 4, Item 7 (patch-farming, intercropping)

Soil Erosion and Cropping on Sloping Land (Part 2 - Moderate and Gently Sloping Land) - DCFRN Package 4, Item 8 (mulch, cultivating along contour)

Saving Hillside Topsoil (Part 1) - DCFRN Package 5, Item 7 (making an A-frame to find contours)

Saving Hillside Topsoil (Part 2) - DCFRN Package 5, Item 8 (using an A-frame to find contours)

Gully Erosion (Part 1 - How Gullies Form) - DCFRN Package 8, Item 7

Gully Erosion (Part 2 - Prevention) - DCFRN Package 8, Item 8

Healing a Gully - DCFRN Package 8, Item 9 A

2. Note that in many cases, two or more cropping methods may be used together, e.g., strip-cropping, mulching, and intercropping. Information on mulching and intercropping may be found in the following two items, respectively:

Soil Erosion and Cropping on Sloping Land (Part 2 - Moderate and Gently Sloping Land) - DCFRN Package 4, Item 8

Intercropping - DCFRN Package 3, Item 6