MAINTAINING FERTILITY BY PUTTING COMPOST INTO SWEET POTATO MOUNDS

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WHY COMPOST IS GOOD FOR SWEET POTATO

It is very easy to apply compost to sweet potatoes as the compost is placed on the surface and then it is buried by making the mound over the top in the normal way.

Compost is good for all crops and is very good for sweet potato. It is not only effective as a source of nutrients but it also improves the structure of the soil. The nutrients in compost are released more slowly than those in a chemical fertilizers. They often only take effect as late as the tuber enlargement stage. At this stage nitrogen is being built up in the tuber and not in the stems and leaves so excessive top growth is avoided and good yields are produced.

Good soil aeration (i.e. enough air can pass through the soil) is also an important condition for the enlargement of tubers, but at the same time, there must be enough moisture in the soil. Compost provides these conditions. If a farmer tries to get a high yield by using a lot of fertilization, soil aeration becomes vital. In this case compost application is even more important.

WORK AT L.A.E.S.

We have done trials on exhausted soils at L.A.E.S. and in villages on the Gazelle Peninsula using compost and have had good increases in yields. The yield has doubled on very exhausted soil.

The composts we have used have been made from rotted grass, kunai (*Imperata cylindrica*), weeds, old sweet potato vines and old peanut tops.

HOW TO USE SWEET POTATO VINES

Sweet potato vines are rather difficult to make compost with as they get tied together when you try to turn the heap. They really need cutting into short lengths before heaping. We have found that we got good yield increases in recent trials at L.A.E.S. Keravat and in villages in E.N.B.P. by putting the fresh sweet potato tops into mounds straight after harvest.

This is how to use sweet potato tops. When you harvest take hold of the plant by the 'neck' where the vines go into the ground as you normally do when you pull up the roots. After removing the tubers just wind the vines quickly round the hand holding the 'neck' to make a football sized bundle and put it down while you finish the harvesting. Making the bundles at harvest time saves making another job of it and makes it quick and easy to put them in the ground.

It is best if the area is

planted the next day while the vines are still fresh and the leaves still on. Just put the bundles in small holes in the ground made with a couple of digs with the hoe. Press them in with your foot. Chop them a couple of times with the hoe and make the mounds over them in the usual way.

So far we have had no noticeable increase in pest and disease problems; we have had no bad infestations in the material we have used. Burying the vines probably prevents many weevils leaving the old vines.

A similar situation probably applies to disease spores.

If this method works in your area it saves a lot of time and work in making compost. Other weeds which will not regrow can be put in the holes with the vines. This leaves a neat and tidy garden area with all the nutrients back into the soil where they belong, to feed the next crop.

After a 12 week crop it was difficult to find any identifiable remains of the vines we had put into the hole. The next crop can be planted on the site of the same mound. The soil dug out of the hole has the final remains of the old vines in it. This is used to make the next mound thus concentrating the nutrients where they can do most good.

The methods described are suitable for backyard gardens in towns, squatter settlements and anywhere there is a shortage of land for fallow, such as institutions and areas such as the Gazelle Peninsula. On better soils in typical long bush fallow gardens, benefits will not show, especially if only one or two crops are taken before the garden is abandoned.

So far we have only conducted trials on the free draining pumice soil of the Gazelle Peninsula. Results may be different in different areas. Certainly if you have a dry season or light sandy soils then composts will benefit the soil by holding moisture as well as providing nutrients. If you have a heavy clay soil compost will help aeration of the soil.

Note: Composting trials have also been done in the Southern Highlands Province. In these experiments, composting also gave large increases in yields of sweet potato. There will be a report on these experiments in a future issue of HARVEST.