## THE PREPARATION OF COMPOST IN THE HAY LING CHAU LEPROSARIUM, HONG KONG

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[NOTE:—No originality is claimed for the methods described here; suggestions and ideas from many friends and a variety of sources have been tried and used or rejected; the process now described is the result of some years of experiment.]

When the development of Hay Ling Chau as an island leprosarium began in 1951, I was determined that there would be no avoidable waste and that everything that could be used should be composted and returned to the ground; all waste paper was to be burned; all broken glass and tins (if not needed for the planting out of tree seedlings) were to be buried or dumped in the deep sea; and the rest was to go on to the compost heaps.

In spite of repeated urging, however, I found nothing was being done to carry out my instructions and finally I was told "The patients who are doing the vegetable gardening say that they will grow all the vegetables needed; they will grow them in the way they have been grown by the Chinese people for centuries; they will not use compost." It seemed clear that in China, the home of compost making, there were many systems of nourishing the soil and this group of Cantonese vegetable gardeners preferred to all others the objectionable and unhygienic liquid contents of open cess pits.

It looked as if an impasse had been reached; but as more patients were transferred more labour became available, and a former ship's steward, badly crippled though he was, offered to carry out any instructions connected with the composting. So for a start a simple pile of vegetable refuse was built up, and from time to time turned over. The resulting rich humus so appealed to the gardeners that their ideas began to change, though they still preferred their liquid manure; the soil being sandy and very soft needed the humus to help it retain moisture, but the repeated watering with liquid manure certainly grew plenty good vegetables which were well cooked before being eaten!

But when our pig-breeding was successfully established a more scientific approach was needed and much valuable inspiration and help was found in Sir Albert Howard's "Farming and Gardening for Health and Disease," and especially in the notes on the Trengganu Household Composting Plan as used in Malaya.

The site—it is an advantage if the composting can be done on

a hill slope with access at the top to bring in the material to be used, and access below to take away the finished product. Water should be easily available. Such a site was available adjacent to our sties, with a stream flowing nearby. Briefly four pits were cut into the bank with access for filling at pit-top level; at ground level a concrete bed was laid, divided into sections by gutters, 4 in. deep by 6 in. wide; 3 ft. below the concrete bed another road made it easy to load the compost into our trailer.

## The Pits

The pits are roughly 6 ft. from front to back, 4 ft. deep and 3 ft. wide, with an open front. They are faced with brick or stone walls with a cement mortar finish to prevent any possibility of fly larvae crawling from the contents into the surrounding soil. Inside the pit a few inches above the base of each wall a ridge was made on which to rest bamboo sections to allow free drainage and ventilation; a drain down the centre of the pit connects with the drains in the concrete bed; the walls are slotted to allow boards to be dropped in, to close the front as the pit is filled.

Gutters surround the pits at pit-top level; gutters also divide the concrete bed into four sections just outside the pits and four sections adjacent to the lower road. These gutters are kept filled with water by blocking the outlet with a sod, and are drained daily into sump-pits, the contents of which can be used for watering flowers and vegetables. Flies are inevitably attracted by the pits and their contents, and lay eggs there; the larvae hatch out and try to get into surrounding soil to develop into the pupal stage; they fall into the gutters and are drowned.

Use

Each pit is filled in the course of one week.

Bamboos are laid across the bottom resting on the ledges and on loose bricks alongside the drain. A layer of bedding from the sties, or of grass cut from the hillside, is spread over them. To this is added a layer of pig manure from the sties nearby; another layer of grass, bedding or vegetable waste; and then a thin layer of garden soil. Each day the pit should be filled to the depth of one foot; its own weight compresses and settles the mass so that seven days' filling goes into a four-foot pit. The temperature within the pit should rise to 120° to 130° F.

At the end of four weeks the four pits are filled. The first pit is then dug out, and the contents are built up again on the concrete bed, surrounded by gutters kept filled with water (a wooden









12 WEEKS COMPOSTING

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Looking at compost pits and piles from below.



Looking down on compost pits from above.

rectangular frame made from 4 boards, 8 ins. deep, is a useful "mould": it can be raised as the pile grows, and then moved on to the next "bed").

At the end of 8 weeks there are four pits filled and four heaps on the concrete beds.

At the end of 12 weeks there are four pits filled and 8 heaps in two rows on the concrete beds.

Thereafter each week one heap, having decomposed and matured for 12 weeks, is ready for removal, its place being filled in from the next row.

The contents of the pits and of the heaps are kept moist, with free drainage. In heavy rains some protection is needed: in the dry season they are watered daily and covered to diminish evaporation.

"Compost Activator " would speed up the process, but allowing 12 weeks for decomposition and maturation the resulting compost shows no offensive matter, is free from objectionable smell and does not encourage fly breeding. Dug into flower and vegetable beds it provides a rich nourishment for devitalised soil; and vegetables and flowers flourish.