Evaluation of oil percentage in different varieties\types of cardamom

India is the biggest producer of cardamom. The export of cardamom has crossed 2700 M.T. valued at Rs. 48 crores in 1977-78. The cardamom oil is mainly derived from the seeds and it is used in the food and pharmaceutical industry. At present, very little cardamom oil is distilled within India. A large number of varieties of cardamom are known in trade and the oils from these varieties have characteristically different flavours. The present study aims at a comparison of the average oil percentage in different varieties/types of cardamom.

The capsules of three different varieties of cardamom (*Elettaria cardamomum*), viz. Malabar (Prostrate), Mysore (Erect) and Vazhukka(Semi-erect) and eleven distinct types, viz. Ceylon, Hema, Malai, Ceylon-Semi-erect, APG, C1-53, C1-54, C1-37, C1-1228, C1-1258 and C1-1259 were selected for oil analysis. The well ripened capsules harvested from each type were uniformly mixed and subjected to flue-curing At random, 100 g. of capsules were selected for carrying out oil analysis. The oil analysis was carried out at C.S.I.R.'s Trivandrum complex. The seeds obtained from the dehusked capsules of each variety were mildly crushed in a waring blender, and 25 g. material of each variety was distilled for 30 minutes and the oil content determined by using the Clevenger trap.

The oil contents of different varieties/types of cardamom are presented in the Table-1. It can be seen from the Table that the varieties 'Mysore' and 'Vazhukka' contain the highest percentage of oil (8.0) each, and the lowest percentage of oil (6.4) was recorded in Malai, APG and C1-1259. In general, the percentage by weight of cardamom seeds in the capsules ranged from 68 to 75. Percentage of cardamom seeds is positively correlated ($r=0.4365$) with the volatile oil V/W on dry seed basis; whereas the percentage of husk to volatile oil is negatively correlated ($r=-0.4365$).

In India, the spice extration industry has bright prospects. Most of the spices are exported in bulk which involve heavy expenditure towards handling and freight charges. It is reported that cardamom oil has made a breakthrough in the export front. It is also fetching remunerative prices conducive to the growth of cardamom oil extraction industry.

TABLE-I

Analysis of Cardamom samples

Sl. No.	Samples	Cardamom capsules Seed%	Husk%	Volatile oil% V/W on dry seed basis
1.	Mysore	68	32	8.0
2.	Vazhukka	69	31	8.0
3.	Hema	70	30	7.6
4.	Malabar	68	32	7.6
5.	Ceylon-Semi-erect	62	38	7.6
6.	C1-1258	73	27	7.5
7.	Ceylon-Erect	69	31	7.2
8.	C1-54	69	31	7.2
9.	C1-37	69	31	7.2
10.	C1-1228	75	25	7.2
11.	C1-53	68	32	6.8
12.	Malai	72	28	6.4
13.	APG	70	30	6.4
14.	C1-1259	71	29	6.4

i.e. Rs. 2,400 to 2,800 per kg. In the light of the present studies, it appears that greater attention has to be paid towards the selection of clones for higher percentage of volatile oil.

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Our Environment

(Continued from Page 31)

of the forces that threaten biological and mental health. Ideally, it requires also that social groups and individuals be provided with the opportunity to develop ways of life and surroundings of their own choice. Man not only survives and function in his environment, but also shapes it and is shaped by it. As a result of this constant feedback between man and environment, both acquire distinctive characteristics which develop within the laws of nature, yet transcend the blind deetrminism of natural phenomena. The exciting richness of the human environment results not only from the immense diversity of genetic constitution and of natural phenomena but also, perhaps even more, from the endless interplay between natural forces and human will.

There is no need for despair. Some nations have already taken up effective pollution control programmes. Already some cities enjoy cleaner air than they knew three or four decades ago. Rivers are being cleaned up and fish are returning to them. There are places, where range lands are managed properly, where soil erosion has been stopped, wild life is preserved and timber land carefully reforestad. □

(Condensed by Shri P. K. Zacharian, Soil Chemist, Cardamom Board, Cochin-18)