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### MICROFLORA OF PRESERVED SQUASHES

Squash made out of mandarin oranges is one of the main farm produces of the Horticultural Research Station Ambalavayal. It was found that inspite of the addition of sodium metabisulphate as a preservative squashes were subjected to spoilage by certain microorganisms when kept for longer period. An attempt was therefore made to isolate and identify the various microorganisms, like fungi, bacteria and actinomycetes present in the preserved squashes prepared in this station during 1969, 1970, 1971, 1972 and fresh orange juice. The serial dilution plate method was used for this purpose. Potato dextrose agar, soil extract agar and kuster's agar were used as the medium for the three organisms. Microbial counts were made per ml of the sample used. Population of the mycroflora present in the various samples are given in Table 1. Bacterial and actinomycete populations were absent in all the samples, probably because of the high sugar content and acidity of the samples.

Table 1

#### Fungal population in various samples (Population expressed in terms of I X 10<sup>6</sup> per ml of the sample)

Year of the sample	Fungal population
1969	5.00
1970	3.66
1971	1.66
1972	1.33
Fresh orange juice	27.00

In the case of squashes where potassium metabisulphate was added as a preservative, the fungal population was comparatively less in the beginning. There was a gradual increase in the fungal counts as the age of the squashes increased. This increase in the fungal counts in the old squashes is found to be the reason for their spoilage.

The morphological grouping of the fungal flore given in Table 2 shows that the predominant fungal flora of preserved squashes and orange juice are *Aspergillus* and *Pencillium* spp.

Table 2  
**Morphological grouping of fungal flora in various samples**  
 (Expressed in percentage)

	1969	1970	1971	1972	Fresh orange Juice
<i>Fusarium</i> sp	.	—	14.30	12.50	2.50
<i>Aspergillus</i> sp	33.30	36.40	42.90	37.50	44.40
<i>Pencillium</i> sp	26.70	27.30	28.50	37.50	30.80
<i>Diplodia</i> sp	13.30	9.10	—	—	3.80
<i>Rhizopus</i> sp	13.30	9.10	14.30	—	7.40
Unidentified	13.40	18.10	—	12.50	11.10

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C. BALAGOPALAN  
 G. INDRASENAN  
 P. VARADARAJAN  
 S. BALAKRISHNAN  
 E. V. G. NAIR

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