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MICROFLORA OF CASSAVA CHIPS

Cassava (*Manihot esculenta*) is one of the important food crops of Kerala State. The annual production of cassava in Kerala is over sixteen lakh metric tonnes. Unlike the other tubercrops cassava cannot be stored in its fresh state for more than 3 to 4 days. It is an usual practice therefore to cut the tubers into chips and stufe either by par boiling or sundrying. The dried cassava chips are not subjected to microbial spoilage normally. But the prevalence of heavy mold spores and specific bacteria may reduce the keeping quality of the cassava chips. Work on the microbiological quality of cassava seems to be scanty. A study was therefore undertaken to estimate the microflora in processing the cassava chips.

Ten grams of the par boiled, sundried and fresh cassava chips stored for 6 months in gunny bags available at the markets of Ambalavayal, Sultan's Battary and Meppadi were used for the present studies. The samples were transferred to sterile water blanks aseptically and plating by serial dilution technique Was adopted The enumeration of the population of bacteria, actinomycetes and fungi was carried out on soil-extract agar, Kuster's agar and Martin's rose bengal-streptomycin agar respectively.

Bacterial and fungal populations were present on all the samples of cassava chips studied. The results obtained are presented in Table 1. The results

Table 1

Microbial population in various samples of cassava chips
(Population expressed in terms of 1×10^x per g of the samples)

Market	Boiled			Sundried			Fresh		
	Fungi 10^8	Bacteria 10^6	Actino- mycetes 10^4	Fungi 10^8	Bacteria 10^6	Actino- mycetes 10^4	Fungi 10^8	Bacteria 10^6	Actino- mycetes 10^4
Ambalavayal	2.80	0.89	0.06	1.59	0.60	00	1.24	1.50	00
Sultan's Battary	2.50	0.60	00	1.80	0.80	00	1.30	1.60	00
Meppadi	3.00	0.60	00	1.70	0.30	00	1.38	1.00	00

indicated that the fresh samples contained more bacterial population than the par boiled and sundried samples. Increased moisture percentage in the fresh samples might be the reason for this. Morphological identification of the fungal flora revealed that *Penicillium* and *Aspergillus* were the dominating fungal species on all the varieties, followed by *Rhizopus* and *Fusarium*, probably because of their ability to utilize starch as the carbon source.

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സംഗ്രഹം

കപ്പ വെട്ടി വെയിലത്തിട്ടോ, പുഴുങ്ങി കഷണമാക്കിയോ കൃഷിക്കാർ ആവശ്യത്തിനായി സൂക്ഷിച്ചുവെക്കുന്നു. ഇങ്ങനെ സൂക്ഷിക്കുമ്പോൾ പലതരം സൂക്ഷ്മാണുജീവികളും അവയിൽ അധിവസിക്കുന്നു. രോഗകാരണങ്ങളായ സൂക്ഷ്മാണുജീവികളും, മറ്റു അണുജീവികളും ചിലപ്പോൾ മനുഷ്യന്റെ ആരോഗ്യത്തിന് ഹാനികരമായേക്കാം. മാർക്കറ്റിൽനിന്നു കിട്ടുന്ന കപ്പക്കുപ്പങ്ങളിലെ സൂക്ഷ്മാണുജീവികളുടെതോത് പരിശോധിക്കുകയുണ്ടായി. എല്ലാ സാമ്പിളുകളിലും ബാക്ടീരിയകളും ഫങ്കസ്സുകളും ഉള്ളതായി കണ്ടു. ആക്വിനോമൈസറ്റകൾ തീരെ ഇല്ലായിരുന്നു.

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