

Tropical tuber crops enhance the food and livelihood security in India

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The tuber crops (except potato) consist of both dicots like cassava/tapioca (*Manihot esculenta*), sweet potato (*Ipomea batatas*), yam bean (*Pachyrhizus erosus*), winged bean (*Psophocarpus tetragonolobus*) and monocots like yam (*Dioscorea spp.*), taro (*Colocasia esculenta*), tannia (*Xanthosoma sagittifolia*), elephant foot yam (*Amorphophallus spp.*), arrowroot (*Maranta arundinacea*) etc. The tropical tuber crops, cassava and sweet potato are the most important in India due to the large area under cultivation and diversity of use. Cassava is cultivated largely in southern peninsular region covering states of Kerala, Tamil Nadu, Andhra Pradesh and North-eastern states cover an area of 0.23 million ha with a production of 8.06 million tons and having the productivity of 34.75 tons/ha, the highest in the world. These crops have critical roles in play for food security and poverty eradication offering adequate calories and nutrition for around 500 million people of the tropical belt globally. They are locally well adapted to marginal lands and constitute an important part of the local diet, providing valuable nutritional elements (e.g. protein, vitamins, minerals) and spices, often lacking in staple crops. It's provided the cheapest source of dietary energy in the form of carbohydrates in developing countries and has been generally recognized as "calorie density" crops because of their high starch content. The edible energy production in terms of mega joules/ha/day estimated to be 152 for sweet potato, 121 for cassava and 182 for yams and they are quite comparable with that of rice (151), wheat (135) and maize (159). Their role in traditional medicine is also well known

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Food borne vibriosis in sea-food eating population

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Food borne vibriosis is very common in fish eating population because of the association of the causative organism with the sea-food. *Vibrio parahaemolyticus*, *V. vulnificus*, *V. alginolyticus*, *V. cholera* are the four species mainly associated with the food borne vibriosis. These species are quite common in oceanic and coastal water and are detectable at water temperature 19-20°C. Out of all varieties of sea-food, their association is common with shell-fish than any other form. Other seafood most often implicated includes squid, mackerel, tuna, sardines, crab, shrimp, and bivalves like oysters and clams. Cell-associated haemagglutinins are the major pathogenic factors that aid in their adherence to intestinal mucosa. Outbreaks tend to be concentrated along coastal regions during the summer and early fall when higher water temperatures favors higher levels of bacteria. Modes of infection include ingestion of contaminated sea food when consumed raw and semi-cooked, cooked food when cross-contaminated with raw food, person to person spread. Additionally, swimming or working in affected areas can lead to infections of the eyes or ears and open cuts and wounds. The health impact posed by these food can be overcome by proper handling and cooking of aquatic foods, avoiding cross contamination between cooked and raw food, preventing untreated sewage from being discharged into the sea/ rivers, especially in coastal areas, using purified water for cooking and eating and providing health education to fish handlers and fish eating communities about the dangers of consuming raw or semi-cooked sea food.

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