Diversification Uses of Cassava

by

Professor Dr. Smith Kampempool

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Presented at

The Fourth Meeting of the Joint Working Group
under the Agreement on Cooperation between
Thailand and the European Economic Community

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Thailand Institute of Scientific and Technological Research *

Introduction

Thailand Institute of Scientific and Technological Research (TISTR) is a non-profit state enterprise under the Ministry of Scienc Technology and Energy. TISTR has been financed directly in part from the Budget of Bureau, other government units and private enterprise in the form of research grant and scientific and technological services. TISTR R & D activities are in various fields namely biotechnology, food industry, pharmacy, chemical industry, electronics engineering, metals and materials, energy, building, agriculture, packaging, ecology, environment and resources.

TISTR is currently in the process of streamlining its scope of R & D activities for maximum impacts on industrial sector and rural development. Cassava technology has been identified as a priority area for TISTR R & D efforts.

TISTR capability on diversification uses of cassava

TISTR has performed a significant amount of R & D on cassava. Responsibility is made for conducting applied research into the further utilization of cassava and cassava products such as in the area of food, animal feed, derivatives and chemical compounds.

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The carbinet resolution on 27 December 1983 indicated the TISTR to be the Centre and Coordinator for Thailand R & D utilization of cassava. At the same time, TISTR was appointed, as well, to be the chairman and the secretary of the Cassava Utilization Research Sub-Committee.

TISTR past work on cassava precessing and product development covered the following areas:

1. Industrial problem solving: improved method of producing hard pellets using locally made pelletizing machine.

2. Alcohol production: pilot scale production of power alcohol from cassava as an alternative source of energy. The production capacity is 1,500 litre of 99.5% alcohol per day. The plant is set up at TISTR with a cooperative effort between TISTR and the Japanese Association of Industrial Fermentation (JAIF).

3. Animal feed: many R & D activities has been carried out in this area that are :

- utilization of cassava and agricultural wastes as feed for cattle;

- utilization of cassava and local agricultural product as feed for swine and poultry at farmer's level;

- protein fortification of cassava through fermentation;

- yeast production from cassava;

4. Human food: production of gari and composite flour.

TISTR active R & D projects

The followings are active R & D projects:

1. demonstration of the utilization of cassava and local agricultural product as animal feed for swine and poultry at farmer level in the Northeast provinces of Thailand;

2. production of Dextrose for injection,

3. production of resin adhesive.

TISTR future R & D projects

TISTR will continue the demonstration work on animal feed in 16 provinces in the Northeast region.

Other projects are now in consideration: Belgium government is interested in formulating joint research project on diversified end use of cassava between TISTR and Belgium. The Belgium mission has contacted, through the Department of Technical and Economic Cooperation (DTEC), with TISTR to work out a comprehensive program for diversified or new end-uses of cassava. Common interests are in the following areas: starch and modified starch, use of cassava flour in food, feed, and brewery, optimization of feed mix and solid fermentation of cassava for animal feed.