



TRINIDAD AND TOBAGO UNIT

HIGHLIGHTS of RESEARCH and DEVELOPMENT INTERVENTIONS

"contributions towards food and nutrition security and livelihoods"

In support of the agricultural sector over the years, the CARDI Trinidad and Tobago Unit has sought to make strategic research and development interventions along the value chain of several commodities that have been identified as being important for ensuring food and nutrition security, reducing hunger and/or alleviating poverty. These commodities which span the essential food groups include root and tuber crops, vegetables, hot peppers, small ruminants as well as herbs and spices.

ROOT AND TUBER CROPS: Towards achieving the sectoral goal of increasing the production of staples to meet national demands, several research and development interventions are being undertaken along the sweet potato and cassava value chains. These include: profiling of the production systems,



identification of new varieties (yield and pest tolerance), development of efficient propagations systems, and the development of effective pest management strategies. In addition, capacity building of key stakeholders is also being undertaken. On-farm training workshops and the establishment of plots that demonstrate GAPs are also key activities. Technical assistance is being provided to producers and processors in the areas of post-harvest technology and the development of Food Safety Management Systems.



VEGETABLES - PROTECTED AGRICULTURE (PA):

Capacity building and infrastructure strengthening are currently the focus of the activities being conducted within the Unit's PA programme. Interventions are being made along the value chain to: (i) strengthen current marketing and trading linkages, (ii) enhance production systems through the demonstration of



GAPs, (iii) increase the knowledge and skill of stakeholders through training, (iv) improve information

access by stakeholders, (v) strengthen farmer groups and (vi) develop agri-business clusters. Of note is the on-going partnership with producers to establish PA structures to demonstrate GAPs as it pertains to protected agriculture.

VEGETABLES – OPEN FIELD: In an attempt to address the problems being faced by vegetable producers, namely; low productivity, high cost of production, and inadequate supply of planting material, evaluations are being undertaken to develop best practices for the production and marketing



of a range of vegetables. Over recent years, "best practices" have been demonstrated for over 30 crops, 20 new varieties have been evaluated and identified as potential options for farmers to increase the diversity of production systems. More than 400,000 have been seedlings produced.



HOT PEPPER: A flagship of the Unit has been the hot pepper programme, where in support of the growing local hot pepper industry (estimated value \$TT100M), efforts were made to ensure that producers have adequate supply of high quality

planting material. As such purification and stabilization of seven hot pepper commercial landraces (genetic improvement) which have high market demand was undertaken. This action was necessary to halt the loss of hot pepper genes and rescued the landraces from decline and genetic erosion. Through this process the quality and uniformity of berries have been improved. Given the importance of these landraces for the potential expansion of the hot pepper industry, they are being characterized and conserved.

The commercial production of pure seed was thereafter undertaken with the purified and stabilised landrace, Moruga Red being the first landrace selected. A total of 15 kg of Moruga Red seeds has been produced and it is estimated that 200 ha (500 acres) of hot peppers can be cultivated from this quantity of seed produced.

In order to improve the access of seeds to farmers, a MOU was signed with a Regional input distributor, Caribbean Chemicals. To complement this process, guidelines have been developed that can potentially double current yields.

SMALL RUMINANTS: Strategic interventions have been made into the small ruminant industry to improve the production and productivity as well as the livelihoods of



stakeholders along the value chain. An area of specific focus has been the identification of suitable forages for inclusion into the production system. This

focus is largely due to the following observations: (i) a decline in forage production for pasture, (ii) the increased utilisation of concentrate feed and (iii) an

increase in the cost of production and the competitiveness of the local industry.



Towards reducing the cost of production, new forage species have been imported and evaluated with much success. Two new grass species *Brachiaria*

hybrid developed by the CIAT, Mulato I (CIAT 36061) and more recently Mulato II (CIAT 3 6087) were identified to replace the local Tanner (*Brachiaria arrecta*) grass. Mulato I and II possess superior qualities i.e. high dry matter content, high persistence. This translates into a longer replanting interval and therefore reduced pasture maintenance costs. Based on the high dry matter content a larger number of animals can be sustained per unit area of land with these grasses; 20-25% more animals. This is critical as land availability is a major constraint impacting the expansion of operations and by extension the supply of meat.

HERBALS: Increasingly, Shado beni (*Eryngium foetidum* L.) is being viewed as a crop of economic and social significance. From a survey conducted in a major producing area (Rio Claro), crop nutrition was identified as a problem that needed to be addressed to reduce the cost of production for the crop. Currently, studies are being undertaken to determine the optimal nutrient requirements and the associated cost of the regime.



Various drying methods (oven, air dry etc) are being explored to preserve the levels of essential oils and unique flavour profile of Lemon grass (*Cymbopogon sp.*) for teas. This information will be important for advancing value added product development.