

Hot Pepper Production Manual for Trinidad and Tobago



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An output of the CARDI project 'Improving the hot pepper industry of Trinidad and Tobago'

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Preface

This manual, intended to provide guidelines to the hot pepper producers of Trinidad and Tobago, is an output of the project entitled "Improving the hot pepper industry of Trinidad and Tobago." This project, falling within the CARDI Hot Pepper Sub-Programme, is supported by CARDI and to a certain extent by the IICA/CARDI Agreement. The other collaborators are the Ministry of Agriculture Land and Marine Resources (MALMR), Sugar Cane Feeds Centre (SFC), the University of the West Indies (UWI) and the National Agricultural Marketing Development Corporation (NAMDEVCO). However our most critical collaborators are the hot pepper farmers from whom we gathered information and germplasm and for whom this document is produced. This book, with certain modifications, will also

be of use to the other hot pepper producing countries of the region.

The CARDI Hot Pepper Sub-Programme will continue hot pepper research and development activities around the region with renewed vigour and pay particular attention to the transfer of technology through demonstration plots, workshops, factsheets and manuals such as this one.

CARDI acknowledges the hard work put into this manual by the authors, photographers (Mr Farzan Hosein and Dr Cyril Roberts), designers, editors, collaborators and all others too numerous to mention.

Mr Bruce Lauckner
Executive Director (Ag)

Introduction

Hot pepper is regarded as an important non-traditional crop in Trinidad and Tobago where it is utilised in the fresh and processed forms. Hot pepper products are traded extensively both on the domestic and export markets.

The hot peppers of the West Indies that are grown commercially belong to the *Capsicum chinense* Jacq. species. Another species of hot pepper is *Capsicum annuum* L which includes the chilli peppers of Mexico. The *C. chinense* group of hot peppers originated in the geographic area in the Tropical Americas covered by northern South America (Northern Brazil-Guyanas-Venezuela), Central America and the Antilles (Caribbean islands). This is the main reason why these varieties of hot pepper are most adapted to this area.

The species, *Capsicum frutescens* L., also grows in the Caribbean and is the small conical pepper called "Bird Pepper" which is cultivated in backyards and found in the wild. This pepper is often bottled and pickled in rural households.

The Caribbean varieties of hot peppers, including the landraces grown in Trinidad and Tobago, are among the hottest peppers with strong flavours and are much in demand on the world market.

This manual is geared towards providing extension agents and farmers with the tools and techniques for the cultivation of the hot pepper crop. Trainers of farmers and extension agents as well as researchers should also find this document very useful.

In addition to these guidelines, it should be recognised that each planting site is unique and that the recommendations made are general in nature; modifications to suit specific sites are required.

The document should be used in conjunction with other publications including GAPS (Good Agricultural Practices), HACCP (Hazard Analysis and Critical Control Practices) and CODEX Alimentarius Commission (WHO/FAO).

The manual is a product of a project implemented by the Caribbean Agricultural Research and Development Institute (CARDI) aimed at improving the hot pepper industry of Trinidad and Tobago. Financial support was received from the Inter-American Institute for Cooperation on Agriculture (IICA). Project implementation is carried out in collaboration with the Ministry of Agriculture, Lands and Marine Resources (MALMR), the National Agricultural Marketing Development Corporation (NAMDEVCO), the University of the West Indies (UWI), St Augustine, and other stakeholders in the hot pepper industry.

Planning Production

The first step in planning production is to find out what kind of hot pepper is wanted by the buyers and in what quantities. This will help the farmer to decide on the variety and the size of planting.

Answers to the following questions are critical to the planning process:

- *How often do the buyers purchase peppers and how much can they handle at a time?*

The answers to these questions will help to schedule planting and pickings and regulate the size of the area harvested at a time.

- *Which are the months of the year when peppers fetch the highest prices?*

This answer will determine the best month in which to transplant the seedlings in order to harvest when prices are highest. Some producers think that the best time to transplant is in August-September so that harvest begins in October/November and continues up to March. The NAMDEVCO website gives valuable information on this question (www.namdevco.com).

- *How do the buyers want the pepper with regard to grading and packaging?*
If they prefer to buy at farmgate and do their own grading and packaging then the price may be lower.
- *Do the buyers want the pepper graded and put into special boxes?*
These issues should be agreed upon between farmers and buyers to give the farmers time to acquire the packages, schedule picking and make arrangements with the packhouse (NAMDEVCO, for example).
- *What are all the inputs required for the pepper*

crop and at what rates are they applied?

The answers to these questions will help the farmer to determine how much money will be needed to invest in the crop and permit the acquisition of inputs and equipment beforehand.

This manual will help to provide the answers to the above questions.

When planning production it is also important to estimate the cost of production for the crop. Table 1 shows the estimated cost of production for 1 acre (0.4 ha) of hot pepper. Fixed assets and operational costs are also listed in Table 5 and Table 6 and should be a good guide in planning the crop.

Table 1 Summarised cost of production for 1 acre (0.4 ha) of hot pepper

Costs	TT\$
Labour	26,638
Materials and supplies	19,846
Equipment	49,848
Total costs	96,332
Gross income	236,250
Net Profit	139,918

Choice of Varieties

Hot pepper varieties/landraces

Farmers grow specific varieties¹ or landraces² of their choice. The hot pepper varieties are further categorised into purelines³, hybrids⁴ or bulk⁵ varieties. There are a number of varieties and landraces of hot

¹ A variety is a population of plants that is homogenous for a set of characteristics that typify the variety. Varieties are usually either purelines or hybrids developed by institutions or seed companies.

² A landrace is a population of plants maintained by farmers, which is often quite variable for commercially important horticultural characteristics.

³ Pureline varieties are uniform varieties, which breed true, and hence farmers could keep seeds for planting their next crop.

⁴ Hybrid varieties are uniform varieties which do not breed true. Hence, farmers cannot keep seeds for the next crop but have to purchase seeds from seed companies for each crop.

⁵ Bulk varieties are not entirely uniform, but are fairly uniform with respect to most horticultural characters.