

STUDYING THE VARIATION IN CHILLI (*Capsicum annum L.*)  
POPULATION IN THETTATTIVU SOUTH-1 GN DIVISION AND  
ANALYSING THE PRODUCTION AND MARKET POTENTIAL  
IN THIS AREA



BY

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SRILANKA

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## ABSTRACT

The research was conducted in the Thettattivu South-1 GN division, Thettattivu, Batticaloa, in order to study the variation in the locally grown chilli populations of PC cultivar in depth with respect to morpho-agronomic characters, production potential and marketing potential and response to economic pest and diseases of the area concerned.

Three chilli fields were selected in Thettattivu South-1 and participatory observation and questionnaires survey were carried out in these fields. Ten plants were selected randomly in each fields and tagged. Traders and consumers' expectation on local green chilli product was gathered by pre-structured questionnaires.

The data on canopy height and number of primary branches at 100% flowering and last harvest, leaf length and width, fruit length and width, fruit weight, number of fruits per plant and yield per plant were collected.

The analysis of data indicated standard deviation, mean and range. These measures indicated that there was variation in plant characteristics such as canopy height and number of primary branches at 100% flowering and last harvest, leaf length and width, fruit length and width, fruit weight, number of fruits per plant and yield per plant among fields and within fields.

The correlation study showed that some characters studied were positively correlated: canopy height at 100% flowering and canopy height at last harvest; canopy height at 100% flowering and number of primary branches at 100% flowering; canopy height at 100% flowering and yield per plant; canopy height at last harvest and fruit weight; canopy height at last harvest and yield per plant; number of primary branches at 100% flowering and number of primary branches at last harvest;

number of primary branches at 100% flowering and yield per plant; leaf length and leaf width; leaf length and yield per plant; fruit length and fruit width; fruit length and fruit weight; number of fruits per plant and yield per plant. In contrast fruit width and number of fruits per plant were negatively correlated.

The study on chilli population structure revealed the variation was found within the fruit characteristics such as fruit shape, colour at intermediate stage, shape at pedicel attachment and blossom end, neck at base of fruits, fruit surface, fruit cross-sectional corrugation, number of seeds per fruit, fruit set and other morpho-agronomic characters such as plant growth and branching habit, plant height, leaf colour and shape, flower position and stigma exertion. At the same time some characters such as stem and leaf pubescence, number of flowers per axil, corolla and anther colour, calyx margin and annular constriction, fruit colour at mature stage and fruit blossom end appendages did not show any variation within chilli population and still in consistence with the characters of the original pure PC cultivar.

It is clearly seen that the management practices in cultivation differed from field to field. Higher production potential was received according to the best management practices. The infestation of pest and diseases to chilli crops was not in considerable level in the study area.

Considering the market potential, the traders' and consumers' demand was for the local product of green chillies. However, there need was felt to improve this local quality product by uniform size, shape and colour of fruits and the medium level of pungency to expand the production and market potential within and outside the district. The market potential can be further extend to export as well.

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