

Scientific cultivation of large cardamom changing life style -A success story

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Success story of Mr. Augustine Lepcha, farmer from Kalimpong, Darjeeling district of West Bengal

Abstract:

Mr. Augustine Lepcha, farmer from Kalimpong, Darjeeling district of West Bengal is having one acre of land under large cardamom cultivation. He observed that farming in traditional way may not fetch him enough income to run his family. The scientists visited his farm and meticulously observed whole situation. They suggested him to go for scientific cultivation of large cardamom following the package of practices developed by Spices Board. Close association of Scientists of ICRI, RRS, Spices Board Tadong with Mr. Augustine Lepcha helped him to know and effectively implement various IPM and IDM control measures for pest and disease management. He started large cardamom plantation in 2010 with 1600 plants in one acre area. In the 3rd year of cultivation he got 103 kg dry capsules per acre. He sold the dried capsule for Rs. 1350/- per kg and received an amount of Rs. 1,39,050 from his produce. His expectation for next season is that all the plants will be in yielding stage. The scientists have also provided the information on marketing of this important cash crop which ultimately gave him a great support to sell the produce in the auction center monitored by Spices Board, there by fetched fabulous profit. A message from his success is spreading to nearby villages and more farmers are showing interest towards his strategy and are ready for adoption. Now Mr. Augustine Lepcha is a ray of hope for many young farmers of region.

Key words: Disease control, Large cardamom, Plantation management and Scientific cultivation

Introduction:

Large cardamom production has gone down due to various factors like lack of quality planting materials, climate change, lack of irrigation facilities, open cultivation, inadequate nutrient management, non adoption of scientific methods of cultivation, diseases and pests etc. Hence it is an urgent need to find out the exact scenario of large cardamom plantation in clusters/villages. The frequent visits of Scientists from ICRI, RRS, Spices Board Tadong, Sikkim and their meticulous observations of the whole situation, advisory services and motivation to the farmer helped him to adopt scientific cultivation of large cardamom.



Fig.1 Mr. Augustine Lepcha showing his plantation

Methodology:

Mr. Augustine Lepcha, farmer from Kalimpong, Darjeeling district of West Bengal is having one acre of land under large cardamom cultivation. He started large cardamom plantation in 2010 with 1600 plants in one acre area with the help of Scientists of ICRI, Spices Board, Tadong under All India Co-ordinated Research Project on Spices (AICRPS). Diagnostic visits by Scientists to the farmer's field, advisory services, supply of bioagents, group discussions were used as tools for effective transfer of technology. He adopted scientific cultivation practices like use of quality planting materials, proper shade management, phytosanitation measures, adequate irrigation during dry period, supply of organic inputs and post harvest management. The frequent visits of Scientists of Spices Board from ICRI, RRS, Tadong, Sikkim and their meticulous observations of the whole situation and advisory services cum field demonstration to the farmer helped him to adopt scientific cultivation of large cardamom.



Fig. 2 A Seremna plant in yielding stage



Fig. 2 Mr. Augustine Lepcha with scientists of ICRI, Spices Board and Officer of AICRPS, IISR, Kozikode

Result and discussion:

Most of the large cardamom plantations were not having adequate shade trees and is affected by hail storm, disease and pest incidence, sun scorching due to open cultivation and non adoption of scientific cultivation practices. The yellowing and scorching of leaves with stunted growth, the plants often die prematurely. It was the general picture in the field. From the interactions of scientists with farmers who had attended the Spice Clinic programmes organized by ICRI, Spices Board during 2011-12 period, it was found that the all the plantations are managed under organic cultivation. 90-95% farmers were having cattle. They produce vermicompost with farm yard manure and farm agro waste. ICRI, RRS, Tadong is supplying bioagents viz. *Pseudomonas fluorescence*, *Bacillus subtilis* and *Trichoderma* spp. free of cost to the farmers, State Government and NGOs. The problem lies on non adoption of scientific methods of cultivation. Most of the plantations have no irrigation facilities especially during dry winters (October to March) with lack of phytosanitary measures and open cultivation practices (without shade trees).

With the technical support of ICRI, Mr. Augustine Lepcha, has followed scientific cultivation practices like use of quality planting materials, proper shade management, phytosanitation measures, adequate irrigation during dry period, supply of organic inputs and improved post harvest management.

Varlengey is the dominant cultivar grown in the region. Cultivar Seremna is also coming up well in his plantation. During 2010 he started large cardamom plantation of 1600 plants for one acre area with the help of Scientists of ICRI, Spices Board. In the 3rd year of cultivation he got 103 kg/acre of dry capsules. He sold the dried capsule for Rs. 1350/- per kg and received Rs. 1,39,050 from his produce. The total expenditure of three years for large cardamom cultivation was Rs. 55,000/-. He got net return Rs. 84,050/- from one acre land.

His expectation for next season is that all the plants will be in yielding stage. The scientists have also provided the information on marketing of this important cash crop which ultimately gave him a great support to sell the produce in the auction center monitored by Spices Board, there by fetched fabulous profit. Earlier he used to sell dry capsules at Rs.700-750 per kg. Now he got Rs. 1350/- per kg of dry capsules, which means there is a huge scope of livelihood improvement of rural people through adoption of scientific cultivation of large cardamom. It is clear from this case study that if the farmers adopt scientific methods of cultivation, the productivity of large cardamom can be increased by around 70 to 100 kg/ha.

All the farmers of lower Bidhyang, Kalimpong, Darjeeling district of West Bengal were motivated by the success of Mr. Augustine Lepcha. Since all the farmers are using organic manures in their plantation and hence there is huge scope for making this region an organic large cardamom hub. The holistic strategy followed by Mr. Augustine Lepcha in large cardamom has resulted an increase in yield as well as substantial higher income generation as compared to other farmers of the region. As message of his success is spreading to nearby villages and more farmers are showing interest towards his strategy. Farmers have come to understand the concept of scientific cultivation and technical interventions necessary in large cardamom cultivation.

Indian Cardamom Research Institute, Regional Research Station, Spices Board, Tadong, Gangtok, Sikkim, through its intense evaluation procedures and coordinated efforts with the

AICRPS helped the farmer to grow large cardamom on a sustainable and profitable basis. The success story is being adopted by other farmers of the region.

Table 1 Monetary return from large cardamom cultivation

Year	Area (acre)	Production of dry capsules (kg)	Cost of cultivation	Gross return	Net return
2010-11	1.0	Nil	28,500/-	Nil	Nil
2011-12	1.0	Nil	7,000/-	Nil	Nil
2012-13	1.0	103	14,500	1, 39,050/-	84,050/-

Success story of Mr. S.B. limboo, farmer from Heegaon, West Sikkim

Mr. S. B. Limboo, a progressive farmer from Heegoan, West Sikkim is having two acre of land under large cardamom cultivation. He started scientific cultivation of large cardamom with organic package of practices in 2010 with 3200 plants in two acres of land with the help of Scientists of ICRI, Spices Board, Tadong under All India Co-ordinated Research Project on Spices (AICRPS). Seremna is the dominant cultivar grown in Heegaon area. During 2010 he started scientific cultivation of large cardamom with 3200 plants in two acres area with the help of Scientists of ICRI, Spices Board, Tadong. The plants are nine years old. The average yield was 250 g dried capsules per plant (400 kg/acre). He sold the capsules for Rs. 1300/- per kg and earned Rs. 10,40,000 from his produce. The total expenditure of three years for large cardamom cultivation was Rs. 60,000/-. He got net return Rs. 9,80,000/- from his two acres of cardamom plantation. The total area under large cardamom cultivation in Heegaon is 15000 acre.

The progressive farmers of Heegaon viz., Sumitra Chhetri, Sudip Chhetri, Lashori Limboo and Sommaya Subba were motivated by the success of Mr. S.B. limboo. Sikkim will be fully organic by end of the year 2015. All the farmers are using organic manures or vermicompost/ FYM in their plantation and hence there is huge scope for making this region an organic large cardamom hub of India. The holistic strategy followed by Mr. S. B. Limboo and other progressive farmers of large cardamom has resulted an increase in yield as well as substantial higher income generation. As message of his success is spreading to whole of Sikkim and more farmers are showing interest towards adopting organic package of practices developed by ICRI, RRS, Spices Board, Tadong. Farmers have come to understand the concept of organic farming and scientific cultivation of large cardamom in Sikkim.



1. Dr. A.K. Vijayan, Deputy Director (Research) in discussion with the progressive farmer Mr. S.B. Limboo of Heegoan, West Sikkim.
2. Team of scientist visiting large cardamom plantation at Heegoan. A progressive lady farmer Mrs. Sumitra Chhetri is discussing with the scientists in her plantation.



3. Farmers of Heegoan were curing cardamom in traditional way before introduction of ICRI Improved bhathi.
4. Large cardamom curing in progress using ICRI Improved bhathi.



5. Large cardamom capsules dried in traditional bhathi
6. Large cardamom capsules dried in ICRI improved bhathi