

# Development of a Low Cost Plant Culture Method Utilizing Coconut-Husk Chips in a Bag<sup>®</sup>

## Sinichi Miura

Toyohashi Seed Co., Ltd., 12-1 Kitashingiri, Mukoukusama-cho, Toyohashi,  
Aichi 441-8517, Japan  
Email: miura.shinichi@toyotane.co.jp

## INTRODUCTION

Plant culture experiments using coconut husks in a bag (coco-bag culture) were started in 2002 at our company research farm. Many hydroponic systems were available at that time, and they had advantages of pest control and stable harvests. However, we started development of coco-bag culture with the following goals:

- 1) Low costs
- 2) Easy set up
- 3) Availability of current culture techniques

This system has been introduced at the farm level to about 100 tomato farms.

## GOALS ACHIEVED

Toyohashi area, Aichi Prefecture and we consider that our goals have been achieved:

- 1) Low costs.
  - a. Final products are on sale in bags. These bags can be used as culture beds and culture can start simply and at reasonable cost.
  - b. Coco bag is made of coco peat (coconut husk chips). Coco peat is a cheap and stable resource compared with traditional organic media. Furthermore, shipping costs can be saved because coco peat can be compressed and packed in a bag.
- 2) Easy set up.
  - a. Structure of culture beds can be made simply by adding pressure and drip controller to drip tube for supply of nutrient solutions.
  - b. Bags are not heavy and work for set up is not hard.
- 3) Availability of usual culture techniques.
  - a. Coco bag culture system is based on rock wool system, which is used much in this area, so it is possible to exchange information with growers of other crops.
  - b. Risk of root rot by excess wet is reduced because coco peat is a gaseous phase rich medium.

## FUTURE DEVELOPMENT

Inquiries and inspections of coco bag culture are increasing domestically. Requests for the system differ regionally and a flexible service system is required from now. We will spread this system with meticulous attention and after-sales service.