

## Abstract

Integrated research to develop clean vegetable management and Chiang Mai processing clean vegetable product to reach international standard. This study has three main objectives; 1) to study Chiang Mai clean vegetable producing system; 2) to develop Chiang Mai clean vegetable producing system to reach international standard and 3) to create and develop clean vegetable producing system to be sufficient and sustainable.

Participatory action research with quadruple party levels are conducted. The quadruple levels are firstly community level consist of group of agriculturists in community and small and micro community enterprise. The second level consist of sub district administrative organization, sub district municipality and office of agricultural sub district. The third level consist of 10 communities of district. These communities are Sarapee district, Sanpatong district, Maerim district, Maethang district. In addition, many agricultural offices in sub districts support and help. These are Sarapee and Hangdong agricultural offices. The fourth level is the office of Chiang Mai Provincial Public Health, Chiang Mai Multiple Cropping Center, Chiang Mai University.

The study found that the clean vegetable producing system in Chiang Mai has a variety of systems such as the pattern of clean vegetable producing used at present, producing clean vegetable of Agricultural department, Ministry of Agriculture and Cooperative and also producing system which is standardize. Each group of agricultural from 10 districts has its own methods. However, their producing must be standardized. The department of Provincial Agriculture has set Good Agricultural Practice (GAP) as the basic standard. Department of Agricultural Academic will inspect and approve the producing system classify by 3 levels. The first level is the producing system which has safety product. The second level is the producing system which has safety product and free from vegetable disease. The last level is the producing system which is safe, free from vegetable disease with good quality to satisfy consumers.

The study also found that agriculturists should emphasize growing to consume in their households. The remains will be sold in their own communities and other local community

markets. The researchers also collect clean vegetable agricultural productivity which Chiang Mai agriculturists grow base on sufficiency economy concept. These agriculturists have been awarded GAP from Department of Agricultural Academic in Chiang Mai. Ten species of vegetables grown by these agriculturists consist of pak choy, leek, Chinese kale, common bean, Chinese spinach, water convolvulus, lettuce, tomato and celery.

Concerning local vegetables and herbs, the Department of provincial agriculture is starting to check GAP. The local vegetables and herbs are free from chemical. These vegetables are chaom, cylon spinach, sacred basil, sweet basil. Most of the agriculturist will grow and consume in their household and will distribute to neighbour.

The Department of Provincial agriculture has started to check the quality of these vegetables because they are much more consumed and well known in the market.

The next period for the research, the researchers have set the way to develop 14 species of vegetables to be standardized. These 14 species consist of banana, asparagus, baby corn, pumpkin, neptunia, okra onion, mushroom, shallot.

These 14 species consist of banana, asparagus, baby corn , pumpkin, neptunia ,okra onion, mushroom , shallot, yard long bean, cucumber,chillies, sweet corn and tomato.

The next period of research, researchers have a plan to develop the standard of producing clean vegetable in Chiang Mai with the provincial parties such as Department of provincial agriculture, Department of Chiang Mai provincial public health. The plan has been set to develop clean vegetables based on the strategy of food safety from Ministry of Agriculture and Cooperative during 2004-2008.