Background

Rationale:

Grafted fruit-vegetables have received more attention as growers and researchers found the positive impacts of significant yield increase, disease resistance, quality improvement, and more vigorous to overcome adverse conditions, etc. These benefits have already had a significant impact in sustainable agriculture. Factors for a successful grafting depend highly on: 1) genetic characteristics; 2) vitality; 3) affinity of rootstock and scion; 4) grafting operational techniques; 5) environmental regulations during healing period; and 6) incubation of grafted seedlings.

At present, grafting techniques for tomatoes are popularly used in Asian countries. Ever since 1900, Indonesia, Myanmar, Philippines, Taiwan, Thailand, and Vietnam learned the techniques through international agriculture development programs sponsored by developed countries. Currently, Vietnam has large-scale planting of bacterial wilt resistant grafted tomatoes. In Taiwan, 80% of watermelon production was from grafted seedlings. They are used to deal with the sequential cropping induced disease and to increase their tolerance to high ambient temperatures and drought. To increase summer tomatoes’ production, Taiwan uses wild eggplant rootstock to increase its resistance to flood and bacterial wilt.

Today, grafted fruit-vegetables still rely highly on men grafting. Grafting work requires appropriate training and accumulated experiences to manage. Due to the lack of manpower and the increasing demand of grafted seedlings, many countries have started to develop grafting operations mechanization and automation technology to alleviate the shortage of manpower needs of grafting. The Netherlands ISO Group company is an example. Their 2013 developed tomatoes/eggplant grafting machine have already reached its efficiency of 1000 seedlings/hour, which is 5.6 times more efficient than the manually operated machine which produces only 180 seedlings/hour. Japan, Korea, and Taiwan also tried to develop an automated grafting system, and now the mechanical to manual efficiencies are 1 to 4.4, 1 to 3.8, and 1 to 1 respectively.

This workshop aims to provide the opportunity for international participants to interact, share information, and enhance technical and scientific collaborations with international professionals, researchers, technical specialist in the field of fruit-vegetable grafting.

Objectives:

1) Exchange of experiences on collate grafting technology and industrial development in the Asian region
2) Demonstrate Taiwan’s grafting technology and successful grafting industries
3) Strengthen cooperative research and industrial development partnerships

Workshop Activities:

The workshop will consist of paper presentations, group discussions and field studies.

16 May: Arrival of overseas participants [Kaohsiung airport, KHH]
17 May: Oral presentation and country report
18 May: Oral presentation, country report and forum discussion
19 May: Field study
20 May: Departure of overseas participants [Kaohsiung airport, KHH]