AGRICULTURAL AND FOOD ENGINEERING TECHNICAL DIVISION

Technical Visit to a Commercial Orchid Farm

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A technical visit by 30 participants comprising of IEM members, members of IEM Secretariat and family members to a commercial orchid farm at Bukit Changgang Agropark on 3 July 2010 was organised by the Agricultural and Food Engineering Technical Division.

We departed from Bangunan Ingenieur, Petaling Jaya at about 9.30 a.m., about one and half hours late. The director of Hexagon Green Sdn Bhd, Dr Md.Yusof Husin welcomed us upon arrival at the farm. He described the different orchids, planting medium, plantlets and others as he took us on the guided tour of his farm. He explained that the farm is now exporting a variety of Dendrobium and Mokara cut-flowers.

After the guided tour of the orchid farm, Dr Md. Yusuf gave as a briefing on the background of the company and the various products of the company. Hexagon Green Sdn Bhd (HGSD) was incorporated in 1997. In addition to operating the orchid farm cum nursery, the company has a plant tissue culture laboratory in Bangi. The company is managed by a team of former professors and business professionals with long experiences in agriculture and in vitro biotechnology. Currently, its wholly owned subsidiary company, Hexagon Green Biotech Sdn Bhd (HGBSD), is using the Bionexus Seed Grant to expand its tissue culture business and to undertake research on orchid, banana, vanilla and pineapple.

The company produces live plants (in bottles, flasks and bare-roots) and fresh flowers (cut stalks, loose blooms and blooming potted plants). The niche products of the company are tissue cultured plantlets and orchid cut-flowers. Currently, it is producing about 3000 orchid hybrid cut-flowers per week and about 80% of them are exported to countries such as Holland, Australia, Singapore and Japan where they are in great demand. The remaining 20% is sold in the domestic markets which include retailers, vendors (mini markets and restaurants, florist in Kuala Lumpur, Putrajaya and Subang Jaya, individuals, institutions, hotels and spas.

The products are delicate and perishable with a shelf life of 2-3 weeks for cut-flowers and 2-3 months for potted-plants. They are mass-produced, hand-harvested and transported in cool temperature vehicle and special low temperature controlled air cargoes.

Apart from producing and supplying orchid cut-flowers, the company also offers a franchise farming package to local flower growers, entrepreneurs and investors. The Franchise Model involves a one acre (0.5 ha) size land that can accommodate a minimum of 20,000 pots (20 cm diameter). Tissue-cultured plantlets are planted in starter pots (7.5 cm diameters) and they will take about one year to start flowering. Peak flowering will occur between 4th and 8th year. Replanting is recommended after the 10th year.

During the visit, IEM members and other participants were exposed to the latest technologies in commercial orchid production that were used by the company in propagation, planting, fertilisation and pest management on its 10 acre (4.5 ha) farmland. The engineering inputs or technologies that were used the commercial orchid farm included the fertigation systems, suitable netting for shading, farm structures to support the nettings, different plant support systems, and different growing types of mediums and containers. The fertigation system involves dissolving the selected fertilisers in the water and then watering the plants through the piping. A shading of up to 50% allows 50% of the sunlight to pass through the netting. The nettings are held up in place at about 3 meters or 10 feet above the ground level using wire cables and wooden poles. The different mediums of planting include tree barks, wooden planks, clay roof tile and coconut husk fibres. Depending on the orchid species, the planting mediums are contained in a variety of pots for the purpose of holding the plant in place and for the anchorage of the roots. The types of pots to choose from include clay pots (with and without holes), plastic pots (with and without holes), wooden baskets, broken pots and without pots. Technical details and advice on the engineering inputs as well as other resources for all the farm operations are provided by the company in the above mentioned franchise farming package.

The group left the farm happy that they have seized the opportunity to visit and see first-hand the commercial farming of orchids. Many members also take opportunity to buy the cut-flowers for themselves and for their friends. ■