

## Understanding palm oil

Ken Rivers, IChemE President, was in Malaysia to deliver opening keynote address at Hazards Asia Pacific 2019 on 24<sup>th</sup> September where he spoke on the importance of leadership in process safety.

After the 2 day symposium POPSIG committee members took him to visit a palm oil plantation. He was accompanied by Tom White, VP Regions and Jon Prichard, Chief Executive IChemE. This was the Sime Darby Plantation (SDP) on Carey Island located on the coast 80 km west of Kuala Lumpur.

SDP is a globally integrated plantation company involved in the full spectrum of the palm oil value chain, from upstream to downstream activities, R&D, renewable and agribusiness. It is one of the world's largest oil palm plantation company accounting for 4% of total global production of crude palm oil (CPO). It is one of the founding members of the Roundtable on Sustainable Palm Oil (RSPO) and more than 98% of the Group's CPO production of 2.5 million MT is CSPO (certified sustainable palm oil). This is 20% of the global CSPO.



L to R Mervin Chew, Ezzaruddin Abdul Rapar, Qua Kiat Seng, Jon Prichard, Ken Rivers, Tom White, Sylvia Kong and Hong Wai Onn.

Ezzaruddin, Manager, Special Projects Upstream explained the formation of the fruit bunch starting with the male inflorescent on the left and the female inflorescent next to it. When he

shook the male inflorescent, many weevils fell out. These African weevils do the task of pollination which otherwise depended on the wind.



The visitors observed the harvesting of the fresh fruit bunches (FFB) as well as its collection.



Prichard petted the barn owl that is bred to reduce the population of rats which eat the palm fruit. It is an example of good agricultural practices avoiding the use of pesticides.

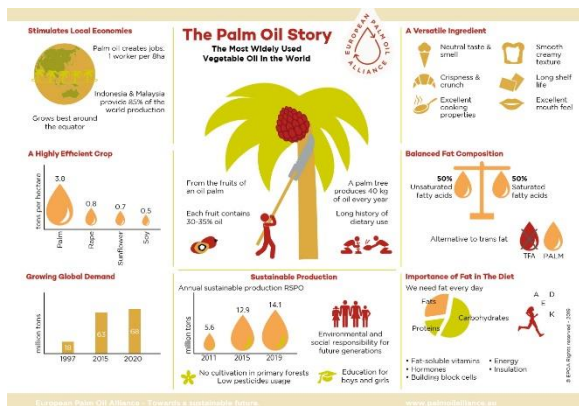


At the Carey Island Wildlife Sanctuary which is a gene bank of rainforest tree species (148) as well as research and education centre. Carey Island is home for various species of birds and animals. The visitors tried a variety of the edible fruits.



Mervin Chew AMICheME, Chief Engineer briefed the visitors on SDP sustainability efforts. Chew is the recipient of the IChemE Malaysia 2018 Young Industrialist Award. Looking on is Dr Ahmad Jaril Asis, Head, Processing Technology R&D. The visitors were delighted to hear that Chew has just submitted his chartered application.

Chew said that global population will grow from 7.7 billion to 9.7 billion in 2050 with global oils & fats consumption increasing from 180 million MT to 250 million MT. With other edible oils the world will lose 145 million hectares of forest land by 2050 whilst with oil palm it will be less, 10 -14 million hectares.



Some facts on palm oil from the European Palm Oil Alliance (EPOA) that Chew referred to.

With SDP's GenomeSelect which is a new oil palm breed developed through genomic selection and prediction process, it has the potential to deliver oil yield improvements up to 15% thereby avoiding the need for new land.

SDP has made a zero-burning pledge more than 30 years ago and committed to No-Deforestation. SDP's newly introduced 'Crosscheck' tool allows everyone to trace the supply back to its source. It believes this will help halt deforestation.

Rivers said, "It was an excellent educational trip to the plantation. I came away with a very good understanding of what sustainability looks like in the palm oil sector. As you know Chester (my home town) is the first UK city to go sustainable on palm oil and I now know what that means and what it takes to achieve that standard. The information on the sector, the markets and the global challenges ahead needs to be shared more broadly so that we have informed discussion on this important topic."

During the discussions White asked how POPSIG is contributing to improving the sustainability of palm oil. Qua, founder of POPSIG, replied that the supply chain is very long and involves much processing before the consumer can enjoy the end product. It is during this processing that chemical engineers can contribute to the sustainability. Further the Malaysian Sustainable Palm Oil (MSPO) Standards, MS 2530:2013 is currently being reviewed. Qua (and Prof Chong Mei Fong as alternate) have been appointed to the working group representing POPSIG. Another two POPSIG members viz Hong (chair) and Prof Denny Ng representing Novozymes and ARPOS are also in the working group.

White said, "I was delighted to see for myself the work that is being done in KL to promote sustainable palm oil production and support sustainable plantations. This is exactly type of local engagement and outreach that I hope all our member groups will aspire to do, to address the Global Grand Challenges. What you are doing with POPSIG is inspiring, keep doing what you are doing"