In 2016, Kulim’s core plantation segment continued to operate in a very dynamic and volatile environment, significantly influenced by changes in weather pattern due to El Nino and the resulting lower yield led to Crude Palm Oil (“CPO”) prices peaking at a 20-month high of RM3,200/mt in December, as well as fluctuations in foreign exchange. The rapid growth of the palm oil industry has also brought about many new challenges to the sector’s sustainability and competitiveness. For the country, making inroads into new markets is critical to absorb the nation’s growing annual CPO production. The scenario in 2016 has seen better prices for the commodity but plantation players still need to embark on tight cost control measures.
While our performance by large mirrored that of the Malaysian oil palm industry, there were still some notable highlights. Fresh Fruit Bunches ("FFB") and Yield Per Hectare ("YPH") decreased, beating the budget and surpassing the previous year’s achievements. Thus, we continued to work in containing costs, beating our budget estimates. In Indonesia, in addition to developing an existing 40,645 hectares of greenfield in North Barito, we also boosted our total plantation landbank by a further 40,645 hectares to 64,345 hectares with *Izin Usaha Perkebunan* ("IUP") through the acquisitions of PT Tempirai Palm Resources ("PT TPR") and PT Rambang Agro Jaya ("PT RAJ") in South Sumatera which are expected to generate revenue and contribute earnings to Kulim Group.

### INDUSTRY OVERVIEW

According to the Plantation Industries and Commodities Minister, Datuk Seri Mah Siew Keong, the El Nino effects in 2016 had led to a 13% decline in palm oil production at 17.32 million tonnes compared with 19.96 million tonnes in 2015, but the commodity’s price has averaged at RM3,200 per tonne against RM2,200 per tonne in January 2016. Exports of palm oil products declined by 8.2% in 2016 to 23.29 million tonnes from 25.37 million tonnes in the preceding year. In 2016, palm oil stocks also declined by 23.2% to 1.77 million tonnes, the lowest level since 2011. India remained the largest export market, accounting for 17.6% of total Malaysia palm oil exports in 2016 or 2.83 million tonnes, followed by European Union at 2.06 million tonnes and China at 1.88 million tonnes. *(Source: The Star, 18 January 2017)*

The increase in consumption was also boosted by the implementation of biodiesel blend by Malaysia and Indonesia, which was further propelled by competitive palm oil prices, mainly trading at a range between RM2,162 and RM2,678 during the year.

Prolonged dry weather conditions and below average rainfall brought about by the El-Nino weather phenomena during the second half of 2015 and the first half of 2016 had impacted the Malaysian oil palm industry’s performance in 2016. The year 2016 saw CPO production declined by double-digit, which drew down palm oil stocks and pushed up palm oil prices. High palm oil prices had influenced exports to major markets as the discount of CPO to soyabean oil narrowed. Average CPO price in 2016 was higher by 23.2% to reach RM2,653. Higher palm oil prices also helped to increase the export revenue by 7.3% to RM64.58 billion from RM60.17 billion in 2015.

Total Malaysian oil palm planted area stood at 5.74 million hectares in 2016, up 3.2% from 5.64 million hectares in 2015, mainly attributed to a 4.7% increase in Sarawak. Geographically, Sabah has largest planted oil palm estates with 27% of total planted area, followed by Sarawak at 26% and Peninsular Malaysia collectively accounting for 47%.

### LOCATION

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>OIL PALM PLANTED AREA (MILLION HECTARES)</th>
<th>PERCENTAGE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peninsular Malaysia</td>
<td>2.66</td>
<td>47</td>
</tr>
<tr>
<td>Sabah</td>
<td>1.54</td>
<td>27</td>
</tr>
<tr>
<td>Sarawak</td>
<td>1.44</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>5.64</td>
<td>100</td>
</tr>
</tbody>
</table>

In 2016, CPO production fell by 13.2% to 17.32 million tonnes, from 19.96 million tonnes in 2015, resulting from a 12.0% reduction in FFB processed following a 13.9% decline in FFB yield. Oil Extraction Rate ("OER") also declined. A breakdown of production by geographical area are as follows:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>CPO PRODUCTION (MILLION TONNES)</th>
<th>LEVELS OF DECLINE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>19.96</td>
<td>17.32</td>
</tr>
<tr>
<td>Peninsular Malaysia</td>
<td>10.54</td>
<td>8.89</td>
</tr>
<tr>
<td>Sabah</td>
<td>5.72</td>
<td>4.85</td>
</tr>
<tr>
<td>Sarawak</td>
<td>3.70</td>
<td>3.59</td>
</tr>
</tbody>
</table>

During the year, overall FFB yield fell 13.9% to 15.91 tonnes per hectare, from 18.48 tonnes per hectare achieved in 2015, as the El Nino phenomenon since the second half of 2015 brought prolonged dry weather and below-average rainfall. Further details are available in the following table:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>FFB YIELD 2015 (TONNES PER HECTARE)</th>
<th>LEVELS OF DECLINE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>18.48</td>
<td>15.91</td>
</tr>
<tr>
<td>Peninsular Malaysia</td>
<td>18.77</td>
<td>15.77</td>
</tr>
<tr>
<td>Sabah</td>
<td>19.99</td>
<td>17.10</td>
</tr>
<tr>
<td>Sarawak</td>
<td>16.21</td>
<td>14.86</td>
</tr>
</tbody>
</table>

### OIL PALM PLANTED AREA - MALAYSIA

- **Sabah**: 27%
- **Sarawak**: 26%
- **Peninsular Malaysia**: 47%
PLANTATION

The national OER in 2016 declined by 1.4% to 20.18% amidst unfavourable weather conditions and lower quality of FFB processed by palm oil mills with OER in Peninsular Malaysia, Sabah and Sarawak declining by 1.2%, 2.1% and 0.6% respectively.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>OER (%)</th>
<th>LEVELS OF DECLINE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2016</td>
</tr>
<tr>
<td>National</td>
<td>20.46</td>
<td>20.18</td>
</tr>
<tr>
<td>Peninsular Malaysia</td>
<td>20.01</td>
<td>19.76</td>
</tr>
<tr>
<td>Sabah</td>
<td>21.57</td>
<td>21.11</td>
</tr>
<tr>
<td>Sarawak</td>
<td>20.15</td>
<td>20.02</td>
</tr>
</tbody>
</table>

In 2016, the total exports of oil palm products declined by 8.2% to 23.29 million tonnes in 2016 from 25.37 million tonnes exported in 2015. However, total export value increased by 7.3% to RM64.58 billion compared to the RM60.17 billion achieved in 2015 due to higher export prices. Palm oil export revenue increased by 5.1% to RM43.37 billion as against RM41.26 billion in 2015. Palm oil off-take declined by 8.1% to 16.05 million tonnes compared to 2015 due to lower demand, especially from India, China, the European Union (“EU”) and the United State of America (“USA”).

Nonetheless, India maintained its position as the largest Malaysian palm oil export market in 2016, with an intake of 2.83 million tonnes or 17.6% of total palm oil exports, followed by the EU, People’s Republic of China, Pakistan, Turkey, The Philippines and the USA. These seven (7) markets combined accounted for 9.52 million tonnes or 59% of total Malaysian palm oil exports in 2016.

The price of all oil palm products were traded higher by 23.2% or RM499.50 per tonne to reach RM2,653 per tonne as compared to RM2,153.50 per tonne in 2015. The highest traded price was in December at RM3,200 per tonne and the lowest price was in January at RM2,250.50 per tonne. The higher CPO price during the year was mainly due to lower CPO production as dryness caused by El Nino weather phenomena, lowered FFB yield, thus boosting palm oil prices. Coupled with firmer competing vegetable oil prices, i.e. Soybean Oil (“SBO”) price and weaker Ringgit against the US Dollar, palm oil became cheaper compared to other vegetable oils in the world market.

The average price of Palm Kernel (“PK”) in 2016 increased by RM1,083.50 per tonne or 70.9% to RM2,611 per tonne as compared to RM1,527.50 per tonne during the same period of 2015. The higher PK price was mainly due to the bullish domestic Crude Palm Kernel Oil (“CPKO”) price sentiment. (Source: Economics & Industry Development Division Malaysian Palm Oil Board, January 2017)

FINANCIAL PERFORMANCE

The Group’s FFB production decreased by 3.92% to 851,435 tonnes in 2016 from 886,172 tonnes in the preceding year. In line with the industry’s trend, the average CPO price achieved by the Group’s Malaysian operations increased to RM2,532 per tonne in 2016, compared to RM2,191 per tonne posted in 2015. PK prices were also higher at RM2,387 per tonne, from RM1,534 per tonne a year earlier.

For the year under review, Plantation segment recorded revenues of RM899.52 million, an increase of 15.73% from RM777.26 million posted in 2015 mainly due to higher CPO and PK average price by 15.56% and 55.61% respectively. Nonetheless, Plantation segment remained by far the biggest contributor to Group’s revenue, accounting for 56% in 2016.
PLANTATION

Undeterred by the challenges of a tough year, the Group looked within the organisation and initiated cost management and operational efficiency improvement measures, which proved to be successful in improving the bottom line. At RM266 per tonne FFB, our field cost was similar to the budget estimates. Our cost per hectare improved to RM5,548 from RM5,689 achieved in 2015, while our milling costs stood at RM46.68 per tonne FFB, beating our own budget estimates by 0.76%.

This is a significant achievement given the revisions in collective agreements entered into by the Malayan Agricultural Producers Association (“MAPA”) and National Union of Plantation Workers (“NUPW”) which required an increase in wages for field workers to RM1,000 per month.

It helped that the move was widely anticipated, allowing us to initiate mitigating measures to retain workers and improve workers’ productivity. We achieved this by improving housing amenities and organising activities for the local community, thus encouraging our foreign workers to be more productive and to stay on with the Group.

To counter the rising cost of fertilizers, we implemented plastic mulching applications wherever feasible to promote nutrient uptake during new replanting exercises.

OPERATIONAL REVIEW

For the year ended 31 December 2016, Kulim has plantation operations in Peninsular Malaysia as well as in Central Kalimantan and South Sumatera Indonesia, with the Group’s plantation landbank totalling 115,378 hectares. Of this, some 51,033 hectares or 44% are located in the southern part of Peninsular Malaysia. Following the completion of acquisitions of PT Tempirai Palm Resources (“PT TPR”) and PT Rambang Agro Jaya (“PT RAJ”) on 23 June 2016, adding 8,345 hectares of planted oil palm in South Sumatera, Indonesia.

PLANTATION IN MALAYSIA

ESTATE OPERATIONS

In 2016, our Malaysian operations produced a total of 851,435 tonnes of FFB, a 3.92% decrease from 886,172 tonnes produced in 2015. Correspondingly, this led to a 7.29% decrease in YPH to 20.86 tonnes from 22.50 tonnes recorded in the previous year. The FFB performance remained superior compared to the average yield achieved by the industry in Johor as well as Peninsular Malaysia, which was 17.80 tonnes and 15.77 tonnes respectively.

Oil palm trees flourished in consistent year-round temperatures and rainfall and can withstand drought for short periods, depending on its soil type and other geological factors. However, long drought tends to reduce flowering and fruit production, lowering the number of bunches produced and forming smaller fruit bunch (lower bunch weight). Extreme weather fluctuations also affect the palms’ nutrients uptake, further aggravating crop production shortfall. For Kulim, the rainfall received by the estates in 2013 was moderately adequate at 2,282 mm but fell short in 2014 and 2015 at 1,823 mm and 1,827 mm respectively.

To strengthen its sustainable performance, Kulim continues to commit to replanting - a very important aspect of the industry - with a view to improving the age profile of its palms and for optimal productivity. During the year under review, a total of 1,050 hectares were replanted with high yielding clones. Replanting is undertaken on a staggered basis to maximise the crop potential before felling is carried out. As a result of our replanting initiative, the average age profile of our palms has improved to 12.16 years from 11.72 years in 2015. As at the end of 2016, the Group’s planted area in Malaysia consists of 53% prime mature area, 36% immature/ young mature areas and 11% old palms above 23 years.

The decrease of FFB production experienced by the Group’s estates was in tandem with the general industry trend, as planters suffered from drought stressed weather over the past two years, exacerbated by the El Nino phenomenon.
PLANTATION

MILL OPERATIONS

For the year under review, our five (5) mills processed a total of 1,339,659 tonnes of FFB, including 359,224 tonnes sourced from external smallholders and outgrowers. Although there was a 5.03% decline from 2015, it was notable that the decreased was narrower compared to the national average reduction at 12%.

Total CPO production from our mills amounted to 273,354 tonnes, a 7.10% decrease from 2015 production of 294,255 tonnes. Total PK production also decreased by 10.55% to 70,030 tonnes. Our oil yields declined to 5.78 tonnes of CPO per hectare for the year under review.

Our Oil Extraction Ratio (“OER”) declined to 20.40%, from 20.86% recorded in 2015. However, as in previous years, we continue to achieve an OER that is higher than the industry average of 19.76% for Peninsular Malaysia and 20.18% for Malaysia as a whole. Our Kernel Extraction Rate (“KER”) was 5.23%, against 5.55% recorded previously.

Going forward, our strategy for 2017 will be to focus on OER improvement through several programmes, including the use of Near Infra-Red Machine (“NIR”) equipment to expedite results on oil loss to enable fast remedial action, conditioned-based maintenance approach for preventive maintenance and to reduce breakdown, review of loss limits for oil and palm kernel, as well as with our effort to increase the quality of FFB processed at our mills.

<table>
<thead>
<tr>
<th>OER COMPARISON</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kulim</td>
<td>20.40%</td>
</tr>
<tr>
<td>Peninsular Malaysia</td>
<td>19.76%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>20.18%</td>
</tr>
</tbody>
</table>

COST MANAGEMENT AND PRODUCTIVITY INITIATIVES

Palm oil producers are generally seen as price takers in the market where industry players are unable to significantly influence or affect the market price. Hence, producers need to look into cost control and productivity improvement measures to enhance their bottom line. Field cost contained at RM266 per tonne FFB whilst our milling costs stood at RM46.68 per tonne, 0.76% higher than the Group’s own 2016 estimate.

Regulatory issues also play a role in shaping a planter’s performance and the government’s announcement in the 2016 Budget for an increase in minimum wage rate for the private sector to RM1,000 per month was one that had affected plantation owners. This latest decision saw plantation owners paying an additional RM25 per worker per month in workers’ wages, bringing the daily wage rate to RM38.47 per manday.

To contend with higher wage costs, Kulim continues to adopt Good Agricultural Practices (“GAP”) and Manufacturing Practices in its plantation operation, which has long been the practice of the Group as a successful business strategy to enhance efficiency and productivity. These practices, which are endorsed by the Food and Agricultural Organisation (“FAO”) of the United Nations, cover an entire spectrum of activities from nursery preparation, field planting, application of fertilizers at appropriate times and doses, restoring soil organic content, right up to FFB harvesting, transportation and processing at the mills.

The Group has also progressively stepped up its mechanisation and automation programmes to reduce reliance on manual labour. One of the most important activities in oil palm cultivation is harvesting, a labour-intensive operation involving 40% of manual labour and constituting about 50% of production costs. (Source: MPOB Information Series, MPOB TT No. 349). To this effect, the Group has invested in a Scissor Lift Tractor and Bin System for quicker and more efficient FFB loading and evacuation. Motorised harvesting poles known as Cantas and C-Kat are now used in most of the Group’s estates as they are able to more-than-double the harvesting productivity of a manual sickle.

The year under review, we have continue the mechanisation of oil palm operation; namely using motorised harvesting poles – Cantas and motorised sickles - C-Kat to some 1,164 hectares of oil palm area, with the ever rising labour costs, we believe mechanisation is the way forward for the oil palm industry.

In addition with the key programmes laid out for our estates and mills, will enable us to achieve higher volume of palm products and mill by-products as well as minimal crop and milling losses in 2017. Thus, we plan to optimise the use of biogas and continue with our efforts to effectively manage cost control while increasing productivity and enhancing mechanisation through the use of C-Kat, Cantas and Bin-System.
RENEWABLE PROJECTS

The production of CPO also generates Palm Oil Mill Effluent ("POME"), which carries polluting characteristics of methane from the decomposition of POME. However, POME has high organic content that carries great potential for biogas production, a source of renewable energy. With this in mind, coupled with efforts to reduce Greenhouse Gas ("GHG") emissions, Kulim targets to cut the Group’s overall carbon footprint to 58% by 2020 and to establish biogas plant at all of its five (5) mills by 2025. At end-2016, we have two (2) biogas plants installed and commenced operations at two of our palm oil mills. The installation of biogas plants at the remaining three palm oil mills are expected to complete by 2025 as per requirement by the Department of Environment ("DOE"). This new timeline will supersede our previous planning that the installation will be completed in 2017.

This effort began several years ago, with the development and commission of its first biogas plant at Sedenak Palm Oil Mill on 8 April 2014. In 2016, it produced a total of 1,445,335 cubic metres of methane biogas for power generation and flaring with the engine clocking 2,624 hours of operation.

The biogas plant located at Pasir Panjang Palm Oil Mill was physically completed in September 2015, while for the Sindora Palm Oil Mill is expected to be completed by June 2017 with commissioning slated for September 2017.

Meanwhile, the proposed installation of biogas plant at Tereh Palm Oil Mill and Palong Cocoa Palm Oil Mill - which was intended to facilitate exporting of electricity to Tenaga Nasional Berhad’s ("TNB") grid - was postponed until the Feed-in-Tariff ("FIT") quota becomes available.

Our mill operations also produced around 83,821 tonnes of Palm Kernel Shell ("PKS"). Around 14,603 tonnes were sold in 2016 for external use as a replacement for fossil-based fuels.

RESEARCH AND DEVELOPMENT

Research and development ("R&D") is an integral part of Kulim’s strategy to be a key player in the palm oil industry, epitomised by the Group’s investment in industry specialists as well as a dedicated R&D centre known as Kulim Agro-Tech Centre in Kota Tinggi, Johor. The Group’s investment in the development of its people and the R&D centre is supported by a team of highly trained and experienced research personnel with expertise in agronomy, remote sensing, microbiology, seed production, plant breeding, biotechnology & chemistry, among others.

PRECISION AGRICULTURE AND ANALYTICAL SERVICES

The Kulim Agrotech Information System ("KATIS") is based on the concept of precision agriculture. It combined the Global Positioning System ("GPS"), Geography Information System ("GIS") and the Oil Palm Monitoring Programme to capture agronomic and management data. The data provides a quick overview of an estate’s performance so that underperforming areas can be identified and mitigation action taken.

Moving forward, the group uses a drone to capture high resolution aerial photographs and integrates them into the available GPS digital maps. The system comprises a drone, which is a gadget equipped with avionics-autopilot, an imaging sensor (digital camera or any advance sensor) and the cradle system, ground control points and a photogrammetric processing software.

The information obtain from aerial photographs give a better perspective of the overall plantation landscape showing the physical infrastructure in place, terrain, land use, field conditions and even the health of palms. It was also useful in the design of road and drainage networks to address the problem of flooding in low lying areas.

Using the data gathered, we could efficiently improve land utilisation, precisely control fertilizer recommendation, map fields accurately, monitor crop health, check for signs of disease and outbreak of pest infestation.

ANALYTICAL SERVICES

The Group’s Ulu Tiram Central Laboratory ("UTCL") has its expertise in chemical and physical testing of samples, agronomic and fertiliser recommendations to improve productivity, as well as effluent testing for palm oil mills.

The Laboratory is well-equipped with the latest testing equipment such as the Inductive Coupled Plasma-Optical Emission Spectrophotometer ("ICP-OES"), Atomic Absorption Spectrophotometer ("AAS"), Flame Photometer, UV-spectrophotometer and Nitrogen Auto Analyser to ensure reliable analytical results and reflecting Kulim’s commitment to R&D.
PLANTATION

With the latest technology, tests can be completed with greater speed and accuracy, enabling UTCL to provide reliable and quality analytical services for both in-house and external customers.

For instance, the fully automatic nitrogen analyser expedites the sample processing time, taking only five (5) minutes per sample or three (3) hours to process a set of 40 samples using the Dumas method, as opposed to 17 minutes and 11 hours using older machines. Likewise, the ICP-OES too facilitates efficient and more expedient testing of samples. The testimony of efficiency and reliability is reflected in the 18% year on year increase in the samples analysed, totaling over 14,725 samples analysed in 2016, whilst samples received from external customers increased by a whopping 28% that year.

To further assure customers of its quality, UTCL continues to retain the MS ISO/IEC 17025 SAMM (Skim Akreditasi Makmal-Makmal Malaysia) accreditation, which is the main ISO standards for testing and calibration laboratories. It also participates in the National Crosscheck, organised by Agricultural Lab Association of Malaysia (AgLam) annually.

UTCL’s competency is also well-recognised globally and supported by the Mutual Recognition Agreement (“MRA”) endorsed by the International Laboratory Accreditation Cooperation (“ILAC”). ILAC is the international organisation for accreditation bodies operating in accordance with ISO/IEC 17011 and involved in the accreditation of conformity assessment bodies including calibration laboratories, testing laboratories, medical testing laboratories and inspection bodies.

AGRONOMY

To promote the science of soil management and crop production, the Group relies on a database built up over 20 years to determine the performance of different planting areas, provide analysis and recommendations on best practices and determine sites for new agronomy trials and the suitable measures to overcome pest outbreaks.

Over the years, the Agronomy Unit has extended its responsibilities from merely providing technical advice and services to undertaking full-fledged R&D activities, where findings were subsequently made available to estates across the Group to enhance the monitoring of field performance and facilitate benchmarking against other high-performers.

Maximising Yields

Applying best management practices, Agronomic services are used to maximise yields and outputs in a sustainable manner:

- Nutrient management as well as soil characterisation and conservation strategies are employed to improve soil management.

- Long-term fertiliser studies look into the efficiency of specific nutrient applications and evaluate the use of pesticides for effectiveness and cost competitiveness whilst ensuring that it is less toxic and more environmentally friendly.

- One of the primary tasks of Agronomists & Chemists of Kulim is to closely monitor the fertilisers sent to estates to ensure the use of good quality fertilisers.

- Emphasis is also placed on achieving optimal balance of inorganic and organic fertilisers so as to promote efficient energy usage and sustainably achieve higher oil palm yields.

- In the wake of increasing prices of inorganic fertilisers, biocompost produced from the Group’s milling operations enabled efficient use of by products covering larger planting areas.

- Starting from FY 2014, the technique of biocompost application on terraces has been improvised from surface to subsoil application.

- Cognizant of the importance of water for plantations, an irrigation project was initiated in Mungka Estate in August 2015 as part of yield intensification for the dry region of the Segamat area. This proved successful with evidence of increased yield of up to 36% (Palat, 2000).
Integrated Pest Management ("IPM")
As an experienced planter, Kulim recognises the need for a balanced IPM approach for pest and disease control and to reduce overdependence on pesticides as part of the Group's sustainable growth. Kulim was tagged as one of the first industry players to collaborate with well-known Tyto alba (barn owl) researcher, Dr Chris Small, on the use of owls to control pest population growth in oil palm plantations in the early '80s. Barn owls and snakes help keep a check on rodent populations while predatory insects, parasitoids and entomopathogenic fungi keep defoliating insects at bay. Only in an outbreak situation, where natural predatory controls are inadequate, do we resort to using insecticides.

Research Collaboration
Kulim has long collaborated with other research institutions such as MPOB and University Putra Malaysia ("UPM") for further advancement of the palm oil industry. Recent initiatives include research on Ganoderma, a major disease of oil palm trees and possible mitigation factors including the use of microbes. It also worked with UPM on the study of population fluctuation of *Elaeidobious kamerunicus* (pollinating weevil) in oil palm plantation to find ways of enhancing pollinator weevil population for better oil palm fruit set.

Zero-Burning Replanting
It has always been the Group’s principle to practice environmentally-friendly zero-burning replanting, as opposed to burning old and uneconomical methods. This includes shredding oil palm stands and leaving them to decompose naturally in situ, thus helping to recycle nutrients into the soil. Zero-burning is also our contribution to the global effort to minimise global warming alongside compliance to environmental legislation.

PLANT BREEDING
Conventional Breeding
The industry has made significant progress in palm oil production over the past few decades but it is pertinent for the sector to continue improving agricultural productivity in view of competing interests for other vegetable oils.

While conventional breeding continues to play a significant role in yield enhancements, industry players are increasingly looking towards advancements for variety improvements as an alternative to relatively shorter cycles and better yields.

To this end, the selection of elite planting materials to achieve high oil yields remains the primary objective of Kulim’s oil palm breeding programme. Seedlings of some new crosses were also nurtured for 2017 planting efforts. Experiments were undertaken to find new sources of improved dura and pisifera parent palms for future planting materials and pisifera ortets for clonal propagation. A total of 0.4 million of commercial Dxp seeds were sold.

Biotechnology
a. DNA fingerprinting
Genomic research facilitates more accurate results to determine the legitimacy of a plant breeding material through DNA fingerprinting using parents-progenies analysis. This is particularly useful for quality control and assessment in plant breeding materials and tissue culture ramets. Through this technique, seed legitimacy can be determined as early as at nursery stage. A total of 111 leaves of Dxp seedlings were sampled in Sg. Papan nursery for preliminary determination of contaminants to exclude illegitimate progenies from the analysis.

b. Shell gene analysis for determination of fruit form
Research has shown that the shell gene is responsible for different fruit forms and the unraveling of this genetic basis paves the way for seed producers to distinguish the dura, tenera and pisifera plants in the nursery long before they are planted (rather than at the fruit bearing stage as in the conventional breeding method), therefore allowing planters to plant the varieties based on the desired shell trait. Collaborative efforts with MPOB have successfully confirmed the reliability of the fruit segregation method for dura, tenera and pisifera varieties.

Tissue culture
a. Selection of high yielding tenera clones for recloning
A number of tenera palms with oil/bunch (O/B) over 35% and oil yield above 10 tonnes per hectare per year in four (4) clones of different genetic backgrounds were selected for recloning. Eight (8) palms were recloned.

b. Cloning of elite duras
Three (3) elite duras were cloned. They will be used as mother palms for future semi-clonal Dxp seeds production.
PLANTATION

TOTAL QUALITY MANAGEMENT

In striving to become a world-class organisation, Kulim has embraced Total Quality Management to systematically address every area of its business processes. As the stepping stone towards achieving this goal, five (5) of the Group operating units, namely Tereh Selatan Estate, Palong Cocoa Palm Oil Mill, Tereh Palm Oil Mill, Sindora Palm Oil Mill and Sedenak Palm Oil Mill have all been accredited with ISO 9001:2008, the International Standards Organisation’s (“ISO”) flagship quality management system standard. With over 1.1 million certificates issued worldwide, ISO 9001 is a demonstration of an organisation’s ability to offer products and services of a consistently high quality.

In addition, three (3) of the Group’s operating units – Sindora Estate, Sedenak Estate and Sindora Palm Oil Mill have earned certification of ISO 14001:2004, which is the world’s first international environmental standard designed to help organisations improve on their environmental, sustainability and operational performance.

The new revised standards of both ISO QM 9001:2015 and ISO 14001:2015 are recently being enforced and in line with it, the transition programme starting in March with Gap analysis was successfully carried out on 26 March 2017. The latest edition of the standards introduces a number of new requirements and concepts, incorporating new approaches in the field of Quality and Environmental Management System that meet stakeholders’ expectation to balance the needs of developed and developing countries; with a focus on performance as opposed to managing processes.

UTCL has been accredited with ISO/IEC 17025, the main ISO standard used by testing and calibration laboratories to be deemed technically competent.

UTCL is in preparation to extend the scope of testing for fertilisers and foliar with targeted completion in 2017.

QUALITY ENVIRONMENT / 5S CERTIFICATION

In our quest for continual improvement in the work environment and working conditions, our parent company JCorp, has mandated that all companies within the Group be certified to 5S, a Japanese-originated management tool for improving workplace efficiency. Abbreviated from the Japanese words, Seiri, Seiton, Seiso, Seiketsu and Shitsuke, it loosely translates into Sort, Systemise, Sweep, Standardise and Self-Discipline.

The 5S philosophy is based on the cleanliness and tidiness contributes towards a safe and conducive work environment. This in turn, would have a bearing on profitability and performance.

The main objectives of 5S Certification are to:

• Improve the corporate image of Kulim
• Ensure the participation of all employees in the 5S programme to inculcate good work habits
• Achieve an average score of 70% for all zones
• Set a target of file and item retrieval within 30 seconds

Having obtained QE/5S Certification on 8 January 2015, we are pleased to report that we have successfully passed the first Surveillance Audit on 17 January 2016; This serves as a testament to the Group’s commitment towards 5S philosophy - towards a safe and conducive work environment.

The work continued for QE/5S with Internal Audit being conducted on 28 August and 27 November 2016 and we have successfully passed the second Surveillance Audit on 12 March 2017 with Certification Body – Malaysia Productivity Corporation (“MPC”).

CONGRATULATIONS !
In May 2015, four (4) of our palm oil mills, namely: Palong Cocoa Palm Oil Mill, Tereh Palm Oil Mill, Sindora Palm Oil Mill and Sedenak Palm Oil Mill, earned Halal Certification for its products, issued by Jabatan Kemajuan Islam Malaysia (“JAKIM”). In addition to these mills, our Pasir Panjang Palm Oil Mill has also embarked on Halal certification program with documentation of Halal Management System (“HAMS”) completed in September 2016. The application for registration was done through the newly introduced fast track registration, e-HALAL JAKIM. Internal audit was carried out in December 2016. The Halal Certification was received on 1 February 2017 with the Certification period valid for two (2) years starting from 1 February 2017 until 31 January 2019 and is subject to an annual review audit.

Kulim’s decision to expand its operations to Indonesia is a natural progression given the Group’s strategic goal of increasing its plantation landbank.

The latest Indonesian investment was inked on 10 February 2016, giving Kulim’s 74%-owned subsidiary PT WIN ownership and control over four (4) midsized oil palm plantation companies. Four (4) CSPA were signed for the acquisitions of 95% equity interests in PT NPI, PT SPS, PT TPR and PT RAJ, for a total IDR1.64 trillion (approximately RM509.35 million).

Effective on 23 June 2016, PT WIN had officially taken over two (2) plantations from PT RAJ and PT TPR of the Amara Group, which are located in South Sumatera with 8,345 hectares total oil palm planted areas or around 4,316 hectares of total mature area.

The rehabilitation process, which includes improvement on infrastructure and implementation of initial stage of RSPO and ISPO are currently underway. PT WIN’s strategic plan is to fully rehabilitate PT TPR and PT RAJ on a staggered basis within three (3) years, beginning with 500 hectares in 2016, followed by 2,000 hectares in 2017 and 2,000 hectares in 2018. This will bring the complete rehabilitated total planted areas to 9,000 hectares for both estates upon completion of the exercise.

In total, this boosted Kulim’s landbank by 115,378 hectares, of this 64,345 with IUP.

New planting at the PT TPR estate will also commence in stages beginning 2018. By end of 2020, PT WIN is expected to have a total planted area of 12,238 hectares in these estates.

As for the outstanding CSPA to acquire another two (2) plantation estates from PT NPI and PT SPS, Kulim have decided not to proceed with the agreement following the expiry of the Conditional Period on 9 February 2017, considering several unresolved issues that may affect Kulim’s status as a RSPO-certified palm oil producer should we continued with the acquisitions.

Kulim also has 307 hectares of planted areas in North Barito, Central Kalimantan. As at end 2016, which promises great potential for oil palm cultivation and expansion due to its soil suitability, topography as well as locality and access to the main road. Currently, Kulim’s subsidiary, PT WIN is still in the process of converting the land to Aerial Penggunaan Lain (“AFL”) status, from Hutan Produksi Konversi (“HPK”), which involves a lengthy process by various Government departments. Upon successful conversion, Kulim plans to embark on land clearing to increase its brown field landbank.