Vol. 10. No. 4, Jan-Mar 2022

ASIA PALM OIL

PALM OIL INDUSTRY AND TECHNOLOGY NEWS

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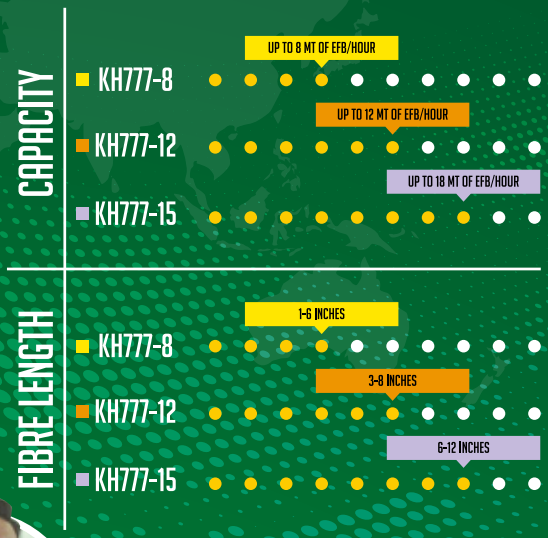

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Marketing Director of YKL Group

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Managing Director of Sumitomo (SHI) Cyclo Drive Asia Pacific Pte Ltd.

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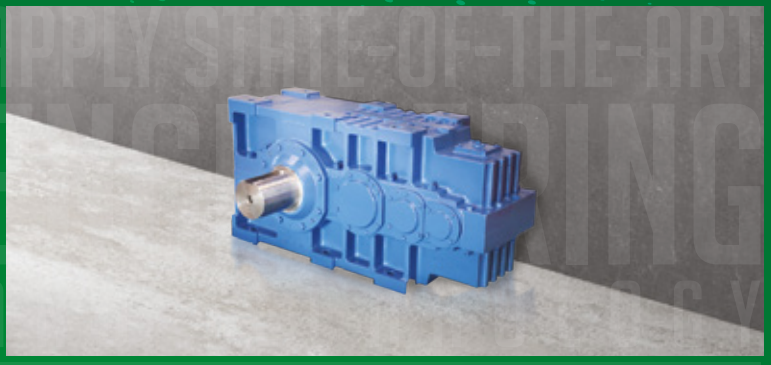
Mr. Tang Mun Kit
GB Industry Manager of Sumitomo (SHI) Cyclo Drive Asia Pacific Pte Ltd.



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Editor's Message

Happy New Year 2022! It has been almost two years since the pandemic started and we have seen lots of events going on around the world. From the return of inflation to extreme climate events, most countries have faced major turmoil from the impact of the pandemic.

On 24th November 2021, the SARS-CoV-2 Omicron variant was first reported in South Africa. The variant was deemed strange as it contains 45 mutations which some of it are resistant to vaccines. Omicron which has been identified in more than 110 countries has surged faster than any other variants and caused a rise in the new cases.

Due to unusual weather and other factors, Malaysia was faced with severe flash floods that affected several states in December last year. The death toll recorded was up to 54. The worst flood has also seen various NGOs, volunteers, citizens, and even immigrants come together to help those who were affected. Malaysian United Democratic Alliance (MUDA) which was just officially registered managed to collect RM1 million for flood victims in less than 100 hours. As of now, MUDA's donation drive has exceeded RM2 million for the flood relief mission in states affected.

Though some areas affected by the flood have subsided together with ongoing help from the volunteers, the damages in terms of houses, households, and cars suffered by the victims are large in numbers. Let's donate to trustable NGOs such as Mercy Malaysia and Kembara Kitchen to help flood victims to rebuild their lives.

Susan Tricia
Editor

On behalf of the editorial team, thank you for your continuous support in Asia Palm Oil Magazine. Stay in touch with us on www.asia-palmoil.com and follow us on Facebook and LinkedIn for more updates. In this tough time, let's remember those who have helped us. Stay safe and don't forget to get your booster shot.

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OFFICIAL MAGAZINE OF
palmex series

MAGAZINE COVER PAGE PICTURE SOURCE
YKL Engineering Sdn. Bhd.

FBI

FBI Publications (M) Sdn Bhd (1168942-P)
Unit 9-3, Jalan PJU 5/6, Dataran Sunway, Kota Damansara, 47810 Petaling Jaya, Selangor. I Tel: (+603) 5636 1952

DISTRIBUTED BY
Central Paper Agencies Sdn Bhd (111330-T)
11, Jalan SS 13/3C, Subang Jaya Industrial Estate, 47500 Selangor Darul Ehsan.
Tel: (+603) 5636 1278 / 5636 1358 Fax: (+603) 5636 1952
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PRINTED BY
MMS PRINT SHOP (M) SDN. BHD. (1246387-v)
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CONTENTS

MAGAZINE

> GREEN SOLUTIONS

> REFINERY NEWS

> TECHNOLOGY AND PRODUCT NEWS

> SPECIAL INSIGHT

> IN THE HOT SEAT

> COVER STORY

Private Sector Best Placed to Resolve Labour Issues, Says MPOC

The private sector is best placed, and in many cases expected, to take the lead in ensuring that labour issues in the supply chains are understood, investigated and addressed, Malaysian Palm Oil Council (MPOC) said.

The council said one of the most pressing questions for larger companies had been the unethical recruitment and treatment of workers within their supplier networks.

"It has for several years been difficult for Malaysian companies to have full visibility on workers throughout the sometimes hundreds of companies that they source from. This is a natural difficulty with such a complex and geographically-spread supply chain.

The private sector is best placed, and in many cases expected, to take the lead in ensuring that labour issues in the supply chains are understood, investigated and addressed, Malaysian Palm Oil Council (MPOC) said. NSTP/Abdullah Yusof

"With that said, customers and trading partners - such as the US Customs & Border Protection Agency (CBP) - have made clear that governments and companies must take responsibility throughout the entire supply chain. We were reminded that the Malaysian business community still has work to do," it said in a statement.

MPOC said the US CBP had issued a Withhold Release Order against Malaysian disposable glove maker Brightway Holdings Sdn Bhd, indicating it found forced labor in the company's operations in violation of the International Labour Organisation (ILO) principles.

In the wake of this action, it was reported that some of Brightway›s most significant customers had halted orders with the company.

Contracts with the multinational giant Kimberly Clark, and Ansell – a major supplier to the UK's National Health Service were reportedly among those at risk.

MPOC said these developments, happening so quickly after the move by the CBP, illustrated both the global reach and power of those looking to stamp out forced labour practices, and the interconnectedness of global supply chains.

"This is an opportunity for the palm oil sector to show leadership – and communicate that change is underway. Regardless of other efforts that may or may not be undertaken in Malaysia, the private sector palm oil companies are pushing ahead.

"Individual companies, as well as supporting the Malaysian Palm Oil Association Responsible Employment Charter, are pursuing their own reforms and steps forward," it added.

Source: www.nst.com.my

Willy Shee Replaces Lew Syn Pau as Lead Independent Director at Golden Agri-Resources

Property industry veteran Willy Shee (pictured) will take over Lew Syn Pau as Golden Agri-Resources' lead independent director. BT FILE PHOTO

Golden Agri-Resources announced some changes to its board on January 3, as Lew Syn Pau and Foo Meng Kee resigned on Dec 31 after serving more than 9 years as non-executive independent directors.

Replacing them from Jan 1 are Willy Shee, who used to be chairman, Asia at real estate company CBRE, and Soh Hang Kwang, a former vice-chairman and regional head global corporate clients Asia at Dutch banking and financial services company Rabobank.

Shee will take over Lew - who stepped down as SUTL Enterprise›s non-executive chairman on Dec 31 as well - as the palm oil company›s lead independent director.

In its bourse filing, Golden Agri-Resources said Shee is currently a senior adviser to CBRE. He had served in the non-executive role since July 2016 after stepping down from the chairman, Asia post which granted him oversight over the operations of all its offices in Asia.

Before that, he was managing director at the Singapore office of CB Richard Ellis between 1991 and June 2005, being responsible for its growth and overall operations.

Golden Agri-Resources added that Shee is a fellow member of the Singapore Institute of Surveyors and Valuers, as well as the Singapore Institute of Directors, and sits on the panel for the Inquiry Committee at the Law Society.

Source: www.businesstimes.com.sg

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‘Intelligent’ Cutters for Trees to Ease Malaysia Palm Oil Labor Crunch

Harvested oil palm fruits in Selangor, Malaysia.

- **New cutter with digital sensors can reach taller oil palms**
- **Worst-ever worker shortage in Malaysia leaves fruit rotting**

A Malaysian firm is developing a harvesting tool for palm oil that could accelerate automation in an industry that is known not only for its grueling conditions, but is also suffering from a chronic labor shortage.

Production of palm oil, the world’s most-consumed edible oil, is set for five-year lows in No. 2 grower Malaysia after the government shut borders and froze hiring of foreign workers due to the Covid-19 pandemic. Farmers have been forced to let their fruit rot in trees, preventing them from maximizing harvests at a time when palm oil prices have rallied to record highs.

Palm Oil Output at Risk as Virus Lockdown Worsens Labor Shortage

The worker crunch has magnified the urgency for “intelligent” harvesting tools and automation in oil palm plantations, which has a low level of digitalization compared to other industries, according to Girish Ramachandran, co-founder of IRGA, a precision farming solutions provider headquartered in Kuala Lumpur. The technology can also reduce Malaysia’s reliance on foreign workers by making the sector more appealing to locals, he added.

The machine, dubbed “HARVi”, is the first palm tree cutter with digital intelligence and precision harvesting software. Digital sensors can detect the location of the worker and the tree, as well as whether the worker is cutting fruit or pruning fronds, Girish said in an interview. The data can be accessed through a mobile app, eliminating time-consuming manual tasks such as counting of fruit bunches.

Access to this level of granular data will provide greater transparency on the supply chain at a time when international pressure for stricter environmental, social, and governance standards in the palm oil industry is mounting.

“From the tree to the mill there is very, very low digitalization. People are still running manual processes that are absurd,” he said.

Automation in the palm oil industry has been slow in part due to the sector’s difficult and dangerous conditions.

Oil palm fruit grows in dense bunches wedged between thorny fronds as much as 40 feet (12 meters) off the ground, each bunch with about 1,000 to 3,000 fruitlets that together weigh around 15 to 25 kilograms (33 to 55 lbs). Skilled workers typically use sharp sickles attached on poles to slice fruit bunches by hand and transport them by wheelbarrow. Mechanized cutters are often too expensive for smallholders.

A worker uses the HARVi at a palm oil estate in Banting, Malaysia. Source: IRGA

And unlike soybeans or rapeseed, which are waist-high crops grown on flat fields suitable for giant harvesting machines, cultivation of palms is tricky on the sometimes hilly terrains of Malaysia and top grower Indonesia. While some big Malaysian planters have begun to use drones for applying fertilizer, automation still has a "long way to go," Economy Minister Mustapa Mohamed said in October.

The "HARVi," which is expected to be ready for sale by April, can go some way to address the difficult picking conditions. Compared to cutters being used now, it is lighter, easier to handle and can eventually tackle taller palm trees, Girish said. It currently allows workers to harvest fruit bunches up to 20 feet high, compared to 12-14 feet now, he said.

"With technology and digitalization we're able to enhance productivity, and as a consequence, provide higher income share to field workers and reduce labor requirements," Girish said. "We should not be dependent on foreign labor in the long term."

Reuter's filepix for illustration purpose only

Malaysia Expects to Benefit from Use of Drones in Palm Oil Industry within 3 Years

Malaysia will be able to take full advantage of the use of drone technology in the palm oil sector within the next three years, said Minister of Plantation Industries and Commodities Datuk Zuraida Kamaruddin.

She said drones equipped with artificial intelligence (AI) to identify ripe fruits and capable of transporting fruit bunches would be used.

"If this can be implemented, young people will definitely be interested in working in the palm oil industry, thereby increasing local workers.

"This will also ensure that foreign workers will remain (in the industry) which is more sustainable," she said when winding up the Committee-level debate on the Supply Bill 2022 in Parliament on Nov 24.

The ministry has also proposed the use of government-to-government mechanisms so that the recruitment of foreign workers and agents, incentives and salaries to be provided can be made transparent with the country of labor resources to ensure the country remains competitive.

"This will be implemented as a long-term plan because we want to ensure we sustain the supply of foreign workers for the period of three to five years in order to maintain our market, so that we do not lose our market share to China, Indonesia and other countries," she explained.

The Palm Oil Mechanization and Automation Research Consortium (MARCOP) was also established recently to enhance research and development activities on oil palm plantation automation with an emphasis on applications such as drones, robots and sensors for integrated and systematic operations.

A total of RM60 million has been allocated for research and development activities so far.

Source: www.theedgemarkets.com

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Ministry Teams Up With Palm Oil Think Tank to Present Thorough Case to EU

The Ministry of Plantation Industries and Commodities is engaging with a think tank in the palm oil industry to present a thorough case to the European Union (EU) in January 2022 to address the anti-palm oil campaign and forced labour allegations.

Minister Datuk Zuraida Kamaruddin has stressed that she wants to present the case from the scientific point of view that palm oil is a productive commodity and does not harm the environment.

"Palm oil is the highest oil-yielding crop globally and a crop and industry that supports 650,000 smallholders and over two million people who rely on the oil palm industry as their source of work," she told *Bernama* at the launch of the Malaysian Oil Scientists and Technologists Association (MOSTA) e-platform recently. "It is both economically and environmentally sustainable, versatile and healthy," she said.

The minister also noted that scientists had identified new findings on saturated fats that show they are not related to or cause heart diseases.

"These are among the things that I am going to present to the EU. We have brought the [anti-palm oil] case at the legislative level to the EU since 1986 but now there are some things that we need to revive following these new findings," she added.

MOSTA president Tan Sri Dr Augustine SH Ong said there are 17 oils and fats in the world and all are edible.

"Each one has its strength and unique properties, so let us compete healthily. As for palm oil, it can produce four tonnes of oil per hectare per year, which is 10 times higher than soybean oil, and it requires less land and lower cost," he said. "Therefore, it is contributing to the world. Besides, the palm-based biomass is also renewable."

The biggest source of contention between Malaysia and the EU surrounds Brussels' plans to phase out imports of palm oil by 2030.

This golden crop has been classified by the trading bloc as resulting in excessive deforestation.

In late May, the World Trade Organization accepted Malaysia's request to establish a panel to debate its protests and an opinion is expected by year end.

Ong, together with scientists from MOSTA, will be joining Zuraida in her "war room" to provide inputs in tackling the discrimination by the EU and other countries.

At the same time, MOSTA will also attempt to address the misinformation about palm oil among consumers.

More information on the latest developments in the industry can be obtained at its website at mosta.org.my.

Source: www.theedgemarkets.com

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A year of two halves for **palm oil sector**

Labour shortage is the biggest hurdle faced by the palm oil industry this year, with losses for the country running into billions of ringgit, but the global economic reopening has resulted in pent-up demand for the versatile oil.

Palm oil and rubber are the two biggest contributors to the nation's coffers under the agriculture sector, which ranked second in terms of trade, surpassing mining products, in 2020.

India consumed 40% more palm oil for the period between January and October 2021, notching up 2.8 million tonnes from 1.97 million tonnes for the same period last year.

While the labor crunch affected production, it nevertheless helped push up crude palm oil (CPO) prices by 65.6%, from RM1, 728.50 to RM4, 363.00 per ton in January-November 2021 versus RM2, 634.50 per ton a year ago.

Plantation companies such as Sime Darby PlaNurul Hanis Izmirntation Bhd (SDP) also saw its net profit triple to RM610 million in the third quarter ended Sept 30, 2021, from RM190 million a year ago, while revenue surged to RM5.06 billion from RM3.18 billion previously.

CPO production, stocks, price

The Malaysian Palm Oil Board (MPOB) revealed on Dec 10, 2021 that CPO production for the January-November period declined by 1.14 million tonnes, or 6.4%, to 16.67 million tonnes compared with 17.81 million tonnes during the January-November 2020 period due to the decline in fresh fruit bunch (FFB) processed by the mills arising from the lower FFB production.

Palm oil stocks at end-November 2021 were 16.3% higher at 1.56 million tonnes compared with a year ago due to lower palm oil exports and higher palm oil imports.

During the January-November 2020 reference period, the export of palm oil and other palm-based products declined by 8.8% to 22.14 million tonnes versus 24.27 million tonnes, as a result of low CPO production which limited export capacity.

"Despite the lower export volume, the higher prices of palm oil and other palm-based products have influenced total export revenue of these commodities in January-November 2021 to surge by 39.9% to RM91.37 billion from RM65.29 billion earned in January-November 2020," MPOB said.

Palm oil export revenue totalled RM61.26 billion for January-November 2021 versus RM43.61 billion in the same period last year, which translated into a jump of 40.5%. Major export markets included India, China, the European Union, and Turkey.

During the 11th month of 2021, CPO price reached a high of RM5, 341.00 per tonne against RM3, 748.50 per tonne in January.

Challenges haunting palm oil industry

Labour shortage was the main obstacle for the industry, especially when locals are not keen to work in this so-called 3D job — dirty, difficult, and dangerous.

The labour crunch resulted in a 56% loss in FFB production, and more than 100% compared with 2020 and 2019. The loss, in value terms, was estimated at RM9 billion and RM6 billion, respectively.

To overcome this, the government has agreed to add about 32,000 foreign workers to the plantation sector, provided that they are fully vaccinated for COVID-19.

Forced labour issue by the United States on two Malaysian companies — SDP and FGV Holdings Bhd — and the EU's never-ending anti-palm oil campaign were other hurdles faced by the industry.

Slapped with the ban by the US Customs and Border Protection (CBP), both SDP and FGV have been taking steps to overcome the situation.

To recap, on Dec 30, 2020, the CBP issued a Withhold Release Order (WRO) against SDP's production process, based on information indicating that it had gone against all 11 of the International Labour Organization's (ILO) forced labour indicators.

The issuance of the WRO against SDP came on the heels of FGV (Sept 30, 2020), which also involved labour practices. Both the companies have committed to taking all the necessary steps in order to get the WRO lifted.

In March, SDP established an Expert Stakeholder Human Rights Assessment Commission and appointed Impactt Ltd as a third-party assessor to conduct a comprehensive evaluation of the group's labour practices across its Malaysian operations.

Meanwhile, in November, FGV appointed independent auditing firm Elevate to assess the group's operations against the 11 ILO Indicators of Forced Labour, as advised by the CBP.

At the same time, both companies have invested heavily to salvage their image worldwide by upgrading workers' facilities.

The Malaysian government has also initiated legal action against the EU members following their anti-palm oil measures.

The Ministry of Plantation Industries and Commodities (MPIC), with the cooperation of the Attorney General's Chambers and the International Trade and Industry Ministry, filed a request for consultation under the World Trade Organization's Dispute Settlement Mechanism.

Malaysia is not alone in this fight. It has joined hands with Indonesia, the world's largest palm oil producer, to counter the international discrimination against the edible oil. Together, they account for 85% of global palm oil production.

Plantation Industries and Commodities Minister Datuk Zuraida Kamaruddin said that she had engaged with a think tank to prepare her case and would attend a dispute proceeding against the EU's alleged discrimination in early January 2022.

In her recent interview with the Malaysian Palm Labour Facts, hosted by the Malaysian Palm Oil Council, Zuraida said she was seeking to build a relationship based on trust and fair trade rather than geopolitical tensions.

"We will also utilise avenues to exchange unambiguous information with the EU on the sustainability of our palm oil industry. These include the ASEAN EU Joint Working Group on Palm Oil and other collaborative projects."

For Budget 2022, the government announced an allocation of RM20 million for the industry to counter international anti-palm activities.

Stockbrokers mixed on sector

Stockbrokers have mixed recommendations on the sector for 2022, due in part to their house views on the sector's performance and demand/supply factors.

MIDF Research is "positive" about the sector, with a target price of RM3, 000 per tonne for CPO. It also expects stockpiles to slightly improve to the pre-pandemic level. But it is concerned that the vegetable oil may be facing lower demand from key importers due to the lower price of soybean oil and higher production cost.

CGS-CIMB Securities Sdn Bhd is maintaining its "neutral" recommendation with CPO prices forecast at RM4, 270, RM3, 600, and RM3, 240 per tonne for 2021, 2022, and 2023, respectively.

CPO prices could likely remain high, at least for the first three months of 2022, before trending lower when palm oil supply recovers and crushing activities of oilseeds improve, the stockbroking house said.

CGS-CIMB's top picks are Kuala Lumpur Kepong Bhd, Hap Seng Plantations Holdings Bhd, and Genting Plantations Bhd.

Meanwhile, RHB Investment Bank Bhd is maintaining an "underweight" call, but raised the CPO price assumptions to RM4, 000, RM3, 700, and RM3, 000 per tonne for 2021, 2022, and 2023, respectively. It believes valuations would be held back by environment, social, and governance concerns, resulting in plantation stocks trading significantly below their historical valuations.

The year 2022 would also see Bursa Malaysia Derivatives continuing with its night trading session for the key palm oil futures contract and other products in order to attract local and foreign market participants.

What's in store for 2022

The industry would be stepping into 2022 armed with two years of experience operating in the unprecedented pandemic times. Hence, Omicron or any other future variant should be manageable, as long as they do not impact the arrival of foreign labour.

"It is well understood that Covid-19 has severely affected labour supply in the oil palm sector, which has greatly impacted production. We hope the emergence of the new variant would not cause further delays of the arrival of foreign workers," the Malaysian Palm Oil Board director-general Datuk Dr Ahmad Parveez Ghulam Kadir told Bernama.

As the production is set to increase, CPO prices, in general, would likely average lower.

According to Ahmad Parveez, details on the 2022 outlook would be discussed during the Palm Oil Economic Review and Outlook Seminar 2022 to be held on Jan 13, 2022.

He, however, opined that the Omicron threat would not significantly affect demand which would remain strong even if the variant were to cause another wave.

In other developments, the government has also revealed that it will scale up the use of palm oil-based biodiesel under the 12th Malaysia Plan, from the current B7 and B10 biodiesel to B15 and B20.

The government plans to fully move on to the use of B30 biodiesel by 2025.

Source: www.theedgemarkets.com

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Sabah Has No Plans to Reduce Tax on Crude Palm Oil, *Says Hajiji*

Sabah is not planning to reduce the tax on crude palm oil anytime soon, although the tax is among the highest in the country, says Chief Minister Datuk Seri Hajiji Noor.

He said this when asked about the matter during question time at the State Legislative Assembly meeting on Dec 7.

He was responding to a supplementary question by Luyang Assemblyman Phoong Jin Zhe, who also asked about the total tax revenue collected from petroleum products in the state since 2020.

He also said that the budget allocated for every ministry and purpose were based on the government's current financial abilities, but said anyone with emergency fund proposals could send in suggestions for the state to consider.

Hajiji said he was aware that the allocations needed by various ministries in Sabah exceeded the funding announced, but the distribution had to be what the state can afford.

Earlier, state assistant finance minister Jasni Daya, said that Sabah had collected some RM1.385bil petroleum tax as of Nov 28 this year after the sales tax was imposed in April 2020.

Phoong had also asked about fiscal or financial policies implemented by the government of the day.

He said there was an increase in tax revenue but many allocations were reduced for many ministries, and there was no increased funding for flood mitigation and water crisis issues.

Hajiji replied that there was still room for proposals and suggestions as to where emergency funds could be distributed or allocated.

A total of 11 of 66 planned questions were answered, with queries varying from assemblymen hoping to get clarification and solutions for issues like the water shortage in Beaufort, measures taken to ensure that no one is left out from enjoying basic telecommunication and Internet access, as well as Sabah's poverty rate.

Questions on quota for the people's housing projects and its challenges, as well as the success rate in helping small and medium enterprises survive during the COVID-19 pandemic were also raised.

Source: www.thestar.com.my

Palm Oil Production Expected to Return In Earnest In 2022: OCBC

The production of crude palm oil is expected to return in earnest next year in both Malaysia and Indonesia, OCBC Treasury Research said.

With the Malaysian Palm Oil Board's (MPOB) palm stocks returning above two million tons in the third quarter of 2022, it means prices are expected to remain supported through the first half of 2022, it said in its Commodity Outlook 2022.

"In addition, our expectations of higher soybean prices mean the palm complex is also expected to be lifted higher," the research house said.

OCBC has forecast palm oil price at RM4, 750 per ton next year.

For soybeans, the research house said risks remain lifted to the upside.

"In our opinion, China's demand for soybeans has remained brisk through its power crisis and may yet increase further in 2022 on the back of its recovering hog stock," it said.

Meanwhile, it said continued economic recovery and constricted supply are likely to continue fueling crude oil higher next year.

It said consumption growth is likely to come from Asia next year, with many Asian countries not having fully reopened their economy post-COVID.

"The increase in oil demand from multiple Asian countries at around the same time, in addition to supply uncertainty from the US and the Organization of Petroleum Exporting Countries and its allies (Opec+), could see Brent test US$100 per barrel for the first time since the shale boom," the research house said.

For gold, most central banks have now listed taming inflationary pressures as one of their core priorities in 2022, which means the global interest rate environment is likely to tighten sharply on aggregate next year.

"The aggressive pace of rate hikes may outweigh demand for gold as an inflation hedge, resulting in a net bearish effect on gold," it added.

Source: www.thesundaily.my

Sarawak Palm Oil ESG's Ratings Is Medium, Credentials Appear to Be Relatively Good, Says Maybank IB

Sarawak Palm Oil Bhd's (SOP) overall environmental, social, and corporate governance (ESG) risk factors to be medium as the policy's credentials appear to be relatively good, with transparent and detailed sustainability disclosures.

Maybank Investment Bank Bhd (Maybank IB) also noted that SOP's geographical exposure to just Sarawak also helps limit the company's ESG risks relative to peers.

The bank-backed research firm also noted that while SOP is not yet an RSPO (Roundtable on Sustainable Palm Oil) member, it has good and sustainable

Maybank Investment Bank Bhd (Maybank IB) also noted that SOP's geographical exposure to just Sarawak also helps limit the company's ESG risks relative to peers.

Practices with zero burning and No Deforestation, No Peat and No Exploitation (NDPE) commitments at its core.

SOP is 100 per cent MSPO (Malaysian Sustainable Palm Oil) certified since 2019, six of its seven palm oil mills have been International Sustainability & Carbon Certification certified since 2017.

To reduce greenhouse gas emissions (GHG) emissions, SOP plans to install methane capture facilities for all seven palm oil mills (presently just one installed) but has not yet specified an execution timeline.

SOP is an integrated plantation company predominantly in an oil palm plantation, refinery, biodiesel, phytonutrient plant, and consumer products based in Sarawak.

The company also has a property development arm that is also helping to unlock the value of some of its well-located estates near Miri, Sarawak.

SOP has 121,994 ha of land concession (about 1.7x the size of Singapore), of which 87,964 ha are planted with oil palm in 2020.

Moving on, Maybank IB also noted that in 2019, SOP introduced an in-house '555 Target' to achieve five tonnes per hectare of palm oil in five years with RM5 billion in market capitalisation.

The ambitious target is aimed at sweating its assets by achieving optimum fresh fruit brunch (FFB) yield and oil extraction rate (OER) via best management practices to minimise the impact on the planet.

Maybank IB maintains a Buy call for SOP with an unchanged target price of RM5.60.

Key risks to the palm oil sector and SOP are weather anomalies resulting in poorer-than-expected output growth, lower-than-expected crude palm oil (CPO) price achieved and negative policies imposed by import countries.

Other risks also include unfriendly policies imposed by the Malaysian and Indonesian government on upstream or downstream segments, sharply lower crude oil prices, which makes palm biodiesel demand not viable, and weaker competing oil prices, like soybean and rapeseed.

Source: www.nst.com.my

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Four Countries Set To Join CPOPC as Full Members in May, Says Exec Director

Colombia, Ghana, Honduras and Papua New Guinea are set to become full members of the Council of Palm Oil Producing Countries (CPOPC) by May next year amid growing claims that palm oil negatively impacts the environment.

These countries will automatically become full members once they ratify the CPOPC Charter and the Protocol to Amend the Charter, according to the council's executive director Tan Sri Yusof Basiron.

"I expect within six months they should be able to rectify," he told Bernama.

He said the new members will strengthen the collective voice to protest about the European Union's unfair treatment of the industry.

"By having them as members of CPOPC, the voice is bigger and, hopefully, more impactful," said Yusof, who was here for the 9th Ministerial Meeting of CPOPC.

The meeting was co-chaired by Plantation Industries and Commodities Minister Datuk Zuraida Kamaruddin and her Indonesian counterpart Airlangga Hartanto.

It was also attended virtually by officials from Colombia, Papua New Guinea, Honduras and Ghana in their capacities as observer countries.

Yusof said the observer countries would do their best to speed up the ratification process as the last steps before being admitted as full members.

Colombia, Honduras and Papua New Guinea emphasized the importance of working together to promote common interests and defend the industry against persistent negative sentiments and allegations.

Yusof elaborated that Honduras stressed that producing countries have to demand fairer treatment for sustainably produced palm oil.

Meanwhile, Papua New Guinea reiterated that the producers should have a united voice on sustainability issues, and Colombia supported the promotional campaigns, research, and studies.

"Malaysia and Indonesia reiterated their commitment to ensuring a high and attractive price in 2022 through various measures and coordinated actions at the CPOPC level," he said.

The council's priorities to be implemented soon include membership expansion, acceptance of the global framework for sustainable palm oil, and a global multi-stakeholder forum.

"CPOPC with the cooperation of Indonesia, during the presidency of the country at the Group of 20 (G20) meetings, will leverage to promote sustainable palm oil," Yusof said.

Indonesia has agreed to once again host the 10th Ministerial Meeting next year. The largest economy in South-east Asia kicked off its year-long G20 presidency on Dec 1, 2021.

Source: www.malaymail.com

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Activists check a peat land being burned in preparation for the opening of a new palm oil plantation at protected area of the Rawa Singkil wildlife reserve as part of the Leuser Ecosystem in Trumon, Aceh, on October 24, 2021.(AFP/Chaideer Mahyuddin)

Fresh Calls for Oil Palm Moratorium Renewal Mount after Jobs Law Ruling

Civil groups say the government should renew the moratorium on oil palm plantations following the recent Constitutional Court ruling against the controversial Job Creation Law, which the government had sought to use in resolving issues arising from the expired moratorium.

Palm oil reform was left in limbo after the moratorium lapsed on Sept. 19, exactly three years after its inception through Presidential Instruction (Inpres) No. 8/2018. The moratorium was aimed at improving palm oil governance and responding to concerns about deforestation caused by oil palm plantations near or inside forest areas, and labor exploitation. The moratorium required government agencies to stop granting new licenses for palm oil concessions and to review existing ones every three years.

The government had yet to extend it despite calls for such an extension from environmentalists. Officials said in September that the moratorium was no longer relevant as the jobs law, enacted in late 2020, and its implementing regulations set new mechanisms more or less similar to the moratorium.

Source:www.thejakartapost.com

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Oil Palm Plantations: Malaysia Awaits Consideration from Source Countries for Foreign Workers

Malaysia is now awaiting consideration from source countries, namely Indonesia, in relation to the mechanism to bring in foreign workers for the oil palm plantation sector, said the Ministry of Plantation Industries and Commodities (MPIC).

Deputy Minister I Datuk Seri Dr Wee Jeck Seng said, based on discussions with the Indonesian government recently, the ministry found that the republic is still considering to send its workers to Malaysia even though it had previously agreed to do so.

"Indonesia's priority is to finalize the memorandum of understanding on the recruitment and protection of Indonesian domestic workers in Malaysia.

"That's what I said, that we depend on foreign workers but also depend on source countries which have agreements to send their workers to our country," he told the Dewan Rakyat on Dec 7.

Wee was replying to a supplementary question from Nga Kor Ming (PH-Teluk Intan) on the shortage of foreign workers who were brought in for the palm plantation sector.

Wee added that this obstacle was not only a loss to the palm industry but also to government revenue.

He hoped the process of foreign workers' entry into palm plantation could be expedited to address this loss faced by the sector.

Answering a question from Nga on the estimated loss due to the shortage of workers in harvesting and collection of fresh fruit bunches (FFB), Wee said the shortage of workers in these activities amounted to 25,471 as of August 2021.

"With the average productivity for harvester and collector of two tons of FFB per day per worker, the total FFB that cannot be harvested amounted to 50,942 (tones) per day.

"Taking into account working days of 26 days a month, the estimated FFB that cannot be harvested totaled 1.3 million tons per month, equivalent to 15.9 million tons per year," he said.

He said at the average price of crude palm oil of RM4, 555 per ton, the loss due to the shortage of employment in August 2021 would amount to RM14 billion per year.

The estimated loss increased 56% and more than 100% compared with 2020 and 2019, whereby loss from the shortage of employment for these years were estimated at RM9 billion and RM6 billion respectively.

Previously, MPIC Minister Datuk Zuraida Kamaruddin said Malaysia would receive 32,000 foreign workers in the palm plantation sector in October this year.

Source: www.theedgemarkets.com

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Traceability Essential to Ensuring Sustainable Palm Oil Production at Scale

Achieving 95% traceability to the plantation key to Golden Agri-Resources' efforts to support a sustainable palm oil industry

Nature in the palm oil industry. Photo by Uti Heriansyah.

After four (4) years of investment, and despite the constraints imposed by the global pandemic, Golden Agri-Resources (GAR) has achieved 95 percent traceability to the plantation for its entire supply chain. The company›s commitment to a fully traceable supply chain is based on its belief that traceability – knowing its supply chain – creates the necessary foundation to support industry level adoption of sustainable production practices.

"Traceability helps us to build stronger relationships and trust with suppliers. The information traceability provides also enables us to scale up and be realistically ambitious in our interventions, especially with smallholders," said Anita Neville, Chief Sustainability and Communications, GAR, in the Company's online panel discussion themed *Leading to Sustainable Palm Oil Industry through Supply Chain Transformation*.

Anita added, "We believe these efforts are not only good for our business but also support the strengthening of this vital Indonesian industry – helping it become more productive, efficient and competitive, through adoption of recognized, sustainable production practices."

Since 2015, GAR has had 100 percent visibility on all of the supplier mills who deliver palm oil to our six refineries. Having a comprehensive view of all GAR's suppliers, sub-suppliers and the linkages between them, allows the company to collaborate and invest to make the entire supply chain more resilient and more sustainable.

In addition to the traceability effort, GAR conducts regular monitoring and assessment of its suppliers of crude palm oil (CPO) and palm kernel oil (PKO), to ensure they understand and comply with the principles of sustainability within the GAR Social and Environmental Policy (GSEP).

"Thanks to the SMART REACH - Remote Engagement, Assessment and Conference (call) from Home program via a video conference, from March 2020 to October 2021, we conducted assessments of around 72 palm oil mills (PKS). This number is double compared to the total direct site visits in the same period we did last year," said Wahyu W. Wijayanti, Head of Traceable and Transparent Production.

Traceability is a strong commercial driver as well. Customers are increasingly discerning and want to know the origin of their raw materials. To secure traceable volumes, customers are willing to pay a competitive price, commit to large purchases or make long-term contracts. Collaboration between customers, suppliers and other industry stakeholders is essential to achieve a sustainable palm oil industry overall.

More than 40 percent of palm plantations in Indonesia are managed by about two million smallholders. «As an entrepreneur, we understand the long-term benefits of this supply chain mapping. We will meet consumer demand for product traceability while also participating in creating a more sustainable industry by helping independent smallholders who need support to implement better agricultural practices," said Sulianto, Sustainability Manager, PT Sugih Riesta Jaya, a third-party supplier of GAR.

Online panel discussion themed Leading to Sustainable Palm Oil Industry through Supply Chain Transformation

This effort, as well as other commitments within the GSEP, are recognized by a variety of stakeholders, and through reporting and disclosure systems like CDP the company can benchmark its performance. "Reporting best practices in managing environmental risks through the CDP platform enables companies to identify, measure, manage and communicate their actions to address climate change, manage deforestation and ensure water security. GAR has achieved a leadership level score on Forestry for the last three years, reflecting their leadership position in the palm oil sector," said Rini Setiawati, Senior Manager, Forests, CDP.

Source: www.prnewswire.com

Indonesia's Trade Minister Urged to Maintain Cooking Oil Price Stability

Trade Minister Muhammad Lutfi.

President Joko Widodo a.k.a. Jokowi has urged Trade Minister Muhammad Lutfi and ministry officials to maintain domestic cooking oil price stability following the recent commodity price hike.

"Since the crude palm oil price in the export market is currently high, I instruct the trade minister to ensure domestic cooking oil price stability,» the President said in a recorded remark, uploaded on the Presidential Secretariat's YouTube channel.

As the government must prioritize people's livelihood, the ministry must conceive several measures to ensure cooking oil prices remain affordable, he added.

The President also advised the minister to conduct market interventions, if necessary, to maintain price affordability.

"I need to remind you that the government has obliged private companies, state-owned enterprises, and subsidiary companies in the mining, agriculture, and natural resources industries to prioritize domestic demand before exporting their products," Widodo remarked.

He highlighted that the directive is consistent with Article 33 of the 1945 Constitution that promulgates that the natural resources of the nation controlled by the state be harnessed for the benefit of the people.

As per the latest cooking oil price data recorded by the national Strategic Food Price Information Centre, the price of two branded cooking oil products currently stand at Rp20,200 (US$1.41) and Rp20,400 (US$1.42) per litre, and bulk cooking oil is selling for Rp18,500 (US$1.29) per litre.

The recent cooking oil price increase in the country can be attributed to the high global crude palm oil price, which is currently pegged at US$1,305 per litre, a 27.17-percent hike compared to early 2021, Widodo said.

A decrease in palm oil supply from major supplying countries, such as Malaysia, amidst an uptick in global crude palm oil demand, particularly increasing demand from the bio-diesel industry, has caused the price hike, he explained.

Logistics disruptions due to shortage of available export containers and shipping vessels amid the COVID-19 pandemic have also played a role in the recent crude palm oil price increase, he added.

Source: en.tempo.co

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MPOB Develops Environmentally Friendly Palm-Based Polyol

BANGI, 31 Dec 2021 – After more than two decades of dedicated research in developing bio-polyols from natural oils and oleochemicals, Malaysian Palm Oil Board (MPOB)'s researchers have established more than ten new types of palm-based polyols for application in polymers, specifically polyurethanes which are environmental friendly.

The developed palm-based polyols are such as the Pioneer series or palm olein-based polyols, fatty acid-based polyol, used cooking oil-based polyol, PolyFAME series or fatty acid methyl ester-based polyols, acrylated epoxidized palm oil polyol and co-polymers polyol.

To enhance its research on polyol, MPOB has established three pilot plants with the capacity of 150 litres, 500 litres and 1000 litres to produce palm-based polyols. MPOB has invested about RM2 million for the three pilot plants.

MPOB invites players in the polyol and polyurethane industries to use its polyol pilot plants facilities located at the MPOB head office for pre-commercial trials and research and development (R&D) purposes.

"The pilot plants have been receiving encouraging response from players. Among the players who have used the facilities at the three pilot plants include Magnechem Sdn Bhd, Rovski Sdn. Bhd, Rokisar Sdn. Bhd., Techbond Greentech Sdn. Bhd. and German-Malaysia Institute," said Director-General of MPOB Datuk Dr. Ahmad Parveez Hj Ghulam Kadir.

According to him, industry players should explore the polyol pilot plants which are well-equipped with facilities to produce not only palm-based polyols but other products as well such as epoxidised palm oil and dihydroxy stearic acid (DHSA).

The three pilot plants offer facilities including reactants feed tanks, two main reactors for the epoxidation and alcoholysis reactions, settling tank and drying vessel.

The utilities supporting the pilot plant is a cooling tower, hot water boiler, heating oil system and air compressor. Each of the reactors, tanks and vessel are equipped with a motor stirrer.

"The polyol pilot plant facilities at MPOB are capable of producing a maximum of 80% of the total capacity (1650 liters) for all of the three plants," he said.

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Union Govt Cuts Import Duty on Refined Palm Oil till March 2022

The Union Government on December 20, reduced the basic customs duty on refined palm oil from 17.5% to 12.5% till March 2022, with effect from December 21 as part of the measures it is taking to bring down the prices of edible oil in the Indian markets.

With this duty cut, net effective duty comes down to 13.75% against 19.25% earlier, according to industry players.

Besides, the Union Government on Monday extended the "free" import policy for different kinds of palm oils till the end of 2022. These palm oils include refined bleached deodorized palm oil, refined bleached deodorized palm olein, and another variant (palm oil and its fractions, whether or not refined, but not chemically modified).

The free imports, however, are not permitted through any port in Kerala, the Union Ministry of Commerce and Industry said in a notification.

Additionally, to check inflationary pressure, India on Monday suspended trade in futures contracts of some agricultural commodities for one year. As per a Ministry of Finance notification, these agri commodities include wheat, paddy (non-basmati), chana, mustard seeds and its derivatives, soya bean and its derivatives, crude palm oil, and moong.

Macro-data, released earlier this month, showed that higher prices of commodities, food items and fuels lifted India's consumer and wholesale inflation gauges for the month of November.

According to data, Consumer Price Index (CPI) inflation jumped to three-months high of 4.9% which was led by higher core inflation.

Similarly, the annual rate of inflation, based on wholesale prices, rose to a new record high of 14.23% last month from 12.54% in October.

India is a major importer of edible oils, especially palm oil derivatives. Malaysia and Indonesia, the two largest producers of oil palm, are the suppliers of the commodity to India.

The decision was aimed at bringing down the prices of edible oil in the Indian markets.

Source: www.thenewsminute.com

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CANADIAN INNOVATOR'S BIODEGRADABLE, NON-TOXIC TECHNOLOGY ENHANCES CLEANUP PROJECTS UNDER CHALLENGING CONDITIONS

Over the roughly 50-year history of the modern environmental remediation industry, multiple technologies and methods have been deployed to remove harmful chemicals from the soil, surface water, and groundwater at industrial sites and other properties. Some of these cleanup solutions, however, are designed to operate over periods amounting to decades (e.g., "pump and treat" for contaminated groundwater), and many proposed solutions can fall short of achieving the contaminant removal goals that regulators—and the public—regard as necessary to qualify the affected sites as "clean."

In addition, many cleanup sites present geophysical challenges, such as variable terrain or nearby sensitive receptors like wetlands, streams, and forests. In these settings, some established cleanup solutions, such as soil removal and disposal—"dig and haul"—or chemical treatment can cause too much collateral environmental harm to be practical or acceptable. Cleanup teams can also encounter logistical challenges, such as the need to deploy cleanup solutions in settings with ongoing industrial or commercial operations.

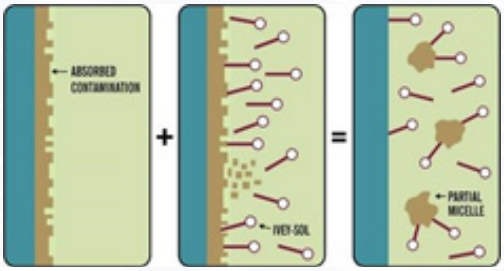


Fig. 1: Ivey-sol surfactants desorbing contamination from surfaces making them more available for cleaning and decontamination

The Ivey-sol® surfactant-enhanced extraction (SEE) technology developed by Canada-based Ivey International Inc. can address these issues, achieving an enhanced level of "clean" in challenging environments. The SEE technology encompasses a series of products based on non-ionic formulations that can selectively desorb contaminants and render light non-aqueous phase liquids (LNAPLs) and dense non-aqueous phase liquids (DNAPLs) soluble in the aqueous phase—that is, they form a non-emulsified mixture with water and can thus be more easily removed from the soil, groundwater and surface water.

The surfactants have a structure consisting of a hydrophilic head and a hydrophobic tail; the hydrophilic tail is attracted to the organic portion of the molecules of the contaminants of concern (COCs), while the hydrophilic head is attracted to groundwater. With this structure, these surfactants offer multiple properties that improve or enhance the effectiveness of most remediation strategies. They overcome the limitations associated with contaminant sorption and solubility. In addition, they lower the relative surface tension of water, thereby improving its wetting and associated hydraulic conductivity properties. And, through their selective dissolving of COCs below the critical micelle concentration (CMC), the surfactants extend the range of contaminants that can be treated, thereby enhancing in-situ and ex-situ physical, biological, and chemical remediation strategies.

Fig. 2: North American oil production site, where Ivey-sol surfactants successfully cleaned up a 320,000 L crude-oil spill while protecting sensitive environmental receptors.

The surfactant products are non-toxic and readily biodegrade, so they do not persist in the environment after application—increasingly important attributes as a growing number of the world's responsible companies look towards sustainable, or "green," approaches to their business operations and maintenance challenges.

A North American oil spill presented an opportunity for the technology to demonstrate its advantages over more traditional alternatives in a particularly challenging environment. In particular, the site of the spill was characterized by irregular terrain and very sensitive environmental receptors. These logistical and safety challenges were compounded by recent precipitation events.

In 2019, about 320,000 liters of a mixture of crude oil and produced water at an oil storage and processing facility were released. The facility operator reported that 99% of the spilled product was contained within a bermed area and was subsequently recovered, but some product breached the containment area and was released into the environment. Of particular concern, the spill threatened a stream that was located nearby at the base of a steep slope (20 - 30% grade) down which the liquids had flowed about 180 meters. Trees, shrubs, and other herbaceous vegetation were affected along the pathway of the spill.

The contaminant of concern (COC) in this instance included hydrocarbon fractions as well as benzene, toluene, ethylbenzene, and xylenes (the "BTEX" chemicals). The total released fluid consisted of 66 cubic meters (m^3) of oil and 254 m^3 of combined salt and produced water.

The engineering firm addressing the spill deemed excavation and removal to be too potentially damaging from an environmental standpoint and too costly in terms of lost resources (merchantable timber), and it was quickly ruled out. Bioremediation and chemical oxidation were also deemed impractical for time, cost, and—especially in the case of chemical oxidation—from environmental and health and safety damage standpoints.

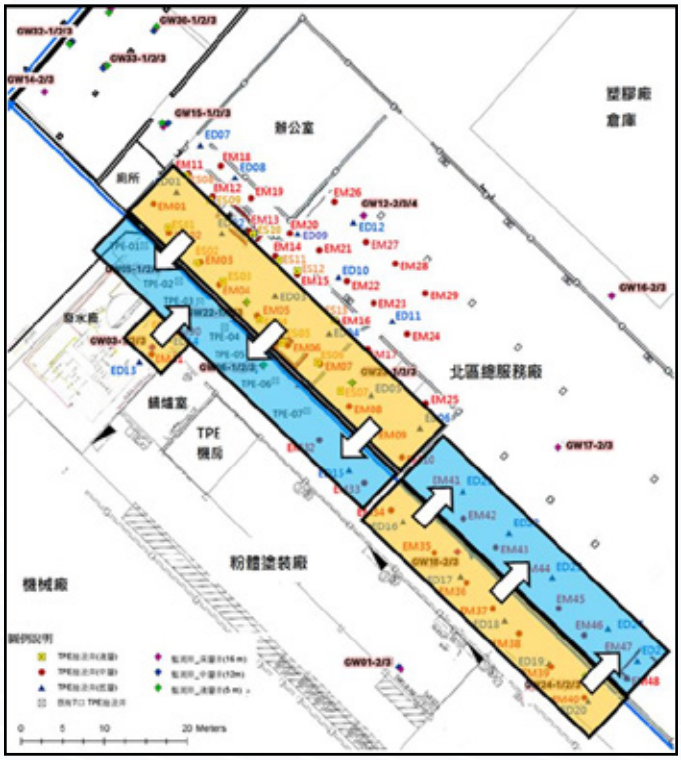
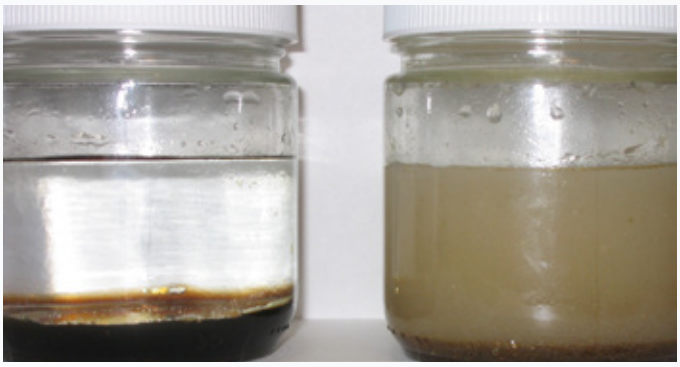


Fig. 3: Dotted red circles indicate the location of an in-situ Ivey-sol pilot-scale application at a large appliance manufacturing facility



The deployment of the SEE formulations, which, as noted, are biodegradable, non-caustic, and non-corrosive, delivered superior results in recovering these COCs without damaging the environmental receptors. Four days of flushing with the surfactant formulations "liberated" the majority of the spilled fluids into strategically placed trenches and bell holes. Although numerous factors affected project costs and made it difficult to quantify cost savings with precision, the engineering firm estimated that the SEE solution may have yielded hundreds of thousands of dollars in cost savings.

Ivey International is leveraging applications like this to make inroads in the East Asian market. An application in Taiwan, for example, proved successful at a site where the contamination presented special challenges. Since 1960, an appliance manufacturing facility in Taipei had used cleaning solvents such as trichloroethylene (TCE) to clean parts used for manufacturing appliances such as refrigerators and washing machines before shipping them to warehouses. The solvent had leaked from holding tanks into a stormwater drain at the site, however, eventually contaminating the underlying soil and groundwater in two areas (Area I and Area II) of the facility, with the contamination in Area I being significantly more extensive. In addition, very high levels of dense non-aqueous phase liquids (DNAPLs) were found in the groundwater in a couple of hot spots of Area I.

The unsaturated aquifer of the site was classified into three layers (shallow, middle, and deep) under the site's hydrological condition and soil contexts. The pollutants—TCE and its breakdown products dichloroethylene (DCE) and vinyl chloride (VC), collectively referred to as cVOCs—had penetrated three groundwater layers within the subsurface in areas I and II. Called in to investigate and remediate the sites, global infrastructure consulting firm AECOM initially deployed a two-phase extraction (TPE) system to remediate the contaminated groundwater and soil at Area I, and it implemented the enhanced in-situ bioremediation (EIB) method at Area II to handle the lesser contamination.

After approximately a year of operating the TPE system, AECOM scaled up the system in Area I in May 2015 and continued operating it through July 2015. In Area I, the TPE system was effective in treating the contamination in the shallow layer, but it was less effective in treating cVOCs in the middle layer, where silty clays prevented cVOC desorption. In response, AECOM called in Ivey International in August 2016 to conduct a small-scale pilot project involving the Ivey-sol® surfactant-enhanced remediation (SER) system.

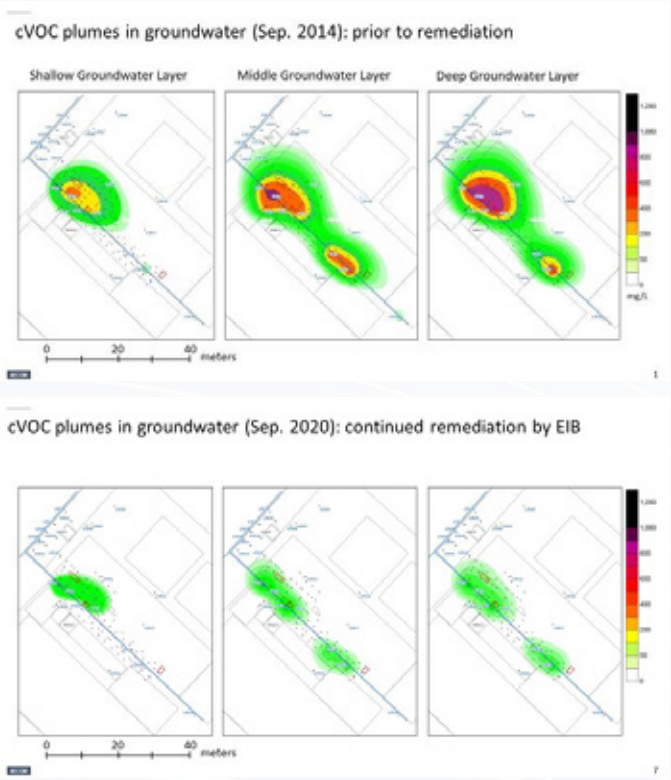


Fig. 4: Before (top) and after (bottom) application of Ivey-sol surfactant (SER) at appliance manufacturing plant, showing significant VOC contamination removal from shallow, middle and deep soil and groundwater layers.

The results were dramatic, with cVOC concentrations in the extraction wells increasing by 300 to 500%. The SER system was deployed at full scale in 2017 and completed four rounds of application involving injection of the surfactant through shallow and middle wells and extracting the injected solution from the deeper wells in Area I in a kind of "sweep" or "push-pull" fashion. Similar dramatic results followed. A substantial amount of cVOC was extracted by the TPE system after the deployment of the SER system. Overall, from October of 2014 to December of 2018, 10 tons of cVOCs were recovered from the subsurface, including 8 million cubic meters of soil gas and more than 18,500 cubic meters of groundwater. By July of 2019, AECOM found that concentrations of cVOCs in the middle and deep groundwater layer were so low in Area I that the TPE system could then be effectively replaced with EIB.

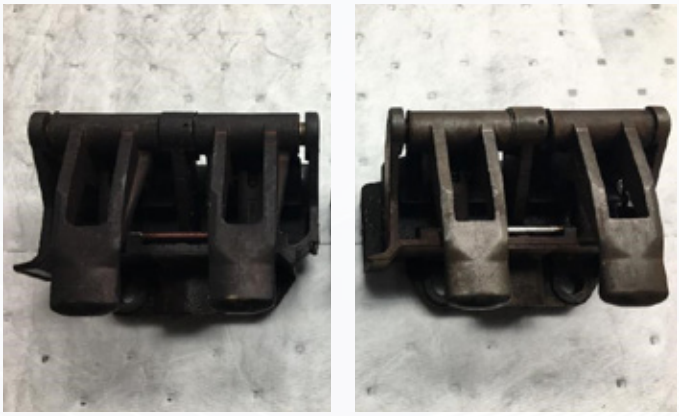


Fig. 5: Chain blocks before (left) and after (right) Ivey-sol surfactants were used to clean residue off the mechanisms.

"Although it is difficult to estimate precisely the costs saved by deploying the SER technology, we can say confidently that the savings were substantial," says Dennis Tu, AECOM's executive director of environment, China. "The savings in time and energy consumption involved in operating the TPE systems alone was significant; the deployment of the SER system undoubtedly saved the client several hundred thousands of dollars."

In another application in Southeast Asia, the Ivey-sol® SEE technology was successfully put to the test in a novel application—industrial cleaning. Singapore-based VOSS (F.E.) Pte Ltd., a manufacturer's representative and distributor of lubricants and other maintenance products to a variety of industrial customers, faced a cleaning challenge at the site of a maker of biaxially oriented polypropylene (BOPP). At one of the client's manufacturing facilities in Asia, VOSS observed that lubricant-treated chain blocks were exhibiting a gummy, varnish-like residue following treatment, possibly caused by oxidation of the lubricant.

VOSS approached Ivey International, which conducted some tests of the SEE products on the chain blocks. The tests showed that an Ivey surfactant bath at room temperature, warmed slightly, was effective in eliminating the residue from the chain blocks, achieving the desired surface cleaning objective.

With more and more of its clients showing interest in sustainable approaches to conducting their operations, VOSS sees a value proposition in offering an industrial cleaning solution that is safe, non-toxic, biodegradable, non-flammable, and cost-effective, and that reduces the generation of waste. With Ivey, the company has begun exploring the application of the SEE technology to other tasks, such as tank cleaning.

"We see great potential applications across a broad range of clients, including oil and gas, pharmaceutical, and food and beverage companies," says Lyon Lee, General Manager at VOSS. "The potential contribution to our value proposition, using Ivey products is very exciting."

Industrial cleaning represents an inviting application for Ivey International beyond the legacy remediation applications for which the SEE technology was originally developed. Even more important, however, is the emerging opportunity for all companies to deliver on promises and plans for greener operating practices through safe, cost-effective cleaning and remediation options.

Ivey International, Inc. (www.iveyinternational.com) is a remediation technology company based in Surrey, BC, Canada. The company can be reached at info@iveyinternational.com or +1 604 538 1168

A limitless future

From a tiny workshop in South Mumbai to sprawling, technologically advanced factories, Kumar has defined success at every step.

With increasing purchasing power in developing countries, the retail market continues to drive up demand for high quality, healthy oils, low in cholesterol and calories, and organic and cold-pressed oils. However, a considerable gap exists in supply and demand - India, for example, imports 60% of its edible oil.

Edible oils manufacturing requires precision processing. As a result, major players are adopting advanced technologies that optimize the production of high-quality edible oils. Kumar is perfectly positioned to support these companies' current and future process technology needs with our turnkey-360 approach to their manufacturing challenges.

Our origins

Kumar Metal Industries started in 1939 as a small workshop in Lahore, erstwhile Punjab. Until 1947, we made spare parts for machinery used in oil mills. Our customers included Tata Oil Mills, Godrej Oil Mills, and Lever Brothers. Then, local manufacturers could only manufacture and supply spares.

During partition, our founder Onkarnath Manaktala left everything he had built and made the journey to India with his family and nothing more than the clothes on his back. Since all his customers were in Bombay, he relocated to the city and started over. He rented a small workshop in central Mumbai and restarted his business supplying spare parts to oil mills across the country.

Eight years later, he began manufacturing oil expellers, and by 1960, expellers had become the company's core offering. His brother, G.K. Manaktala, took the first steps to define us as an exporter with his forays into the East African markets, including Kenya, Tanzania, and Uganda. Next, a close friend opened up in Sudan.

In the mid-'70s, our Chairman, Sudhir Manaktala, joined the business, followed, a few years later, by our Managing Director, Sunil Manaktala. Sudhir continued our Africa expansion while Sunil opened up SE Asia, Australia, and West Africa.

We also sold our machines to major players like Marico and VVD in India, who bought Kumar equipment for their robust build, precision engineering, and deep understanding of the extraction process.

The company grew significantly from the '80s and made substantial investments in machinery and factory space. We moved the company's headquarters to Bandra and set up a new factory on the outskirts of Mumbai with over 100 employees. Over time, we added new verticals and products to the Kumar roster. By 2000, Kumar was one of the largest oil mill manufacturers, with an expansive global footprint and premium offerings at an affordable price.

As our business development efforts stepped up to meet increasing demand in 2003, we relocated our manufacturing operations to a new factory on the outskirts of Mumbai in 2003. We entered a technology collaboration with Crown Iron Works, USA to manufacture and sell solvent extraction plants and refineries in the Indian, African and Asian markets. We have manufactured and installed the largest SEP ever made by an Indian company at 4000 TPD for Crown's customers in Brazil.

We have designed custom solutions for over 500 customers in over 65 countries and delivered over 700 Turnkey-360 projects. We have more than 100 installations of extraction and refining plants in Asia, Africa, the Middle East, New Zealand, the Pacific Islands, and South and Central America. We count Wilmar, Cargill, and ADM amongst our top customers. A significant portion of our business comes from repeat orders, a testament to our customers' enduring faith in us.

Our service offerings solve processing challenges, big and small

Kumar is an EPCC (engineering, procurement, construction, and commissioning) company. We undertake turnkey projects and supply equipment and machinery to the oils and fats industry and its allied sectors. Our specialties include

- edible/non-edible vegetable oil extraction
- edible/non-edible vegetable oils or fats pre-treatment
- edible/non-edible vegetable oil or fats refining
- modification of oils and fats
- value-added or specialty products
- biodiesel
- oleochemicals
- by-products value addition or waste products recovery

We supply batch, semi-continuous and continuous plants manually operated/fully automated PLC/DCS controlled with remote monitoring for any capacities for commercial or pilot facilities, including storage, utilities, and packaging for finished products.

Through our technology associations, we offer

- Crown Technologies for preparatory and solvent extraction processes and refining
- Arisdyne CFC (controlled flow cavitation) Technology for oil refining and biodiesel processes
- CPM Feed Mills for cattle, poultry, and aqua feed
- Anderson International USA designed Dox Extruders and Solvex Expanders

Kumar delivers engineering excellence to customers in the oils and fats industry around the globe

Our almost a century of experience and our technology-first approach and customer focus has helped us maintain a decisive advantage within our market. We strive to upgrade our equipment and project delivery standards across engineering, manufacturing, installation, site services, and after-sales.

We use the latest software to design and engineer projects and plants and render piping, instrumentation, and electrical layouts for optimum performance and ease of installation.

We are a technology-forward company

We have made a significant investment in our future with the launch of OM Innovation Centre at our Mumbai HQ. This technology insight, advancement, and collaboration hub catapult us into the global technology innovator space. Our team of engineers focuses on emerging technologies and tests various hypotheses ensuring our customers achieve oil and meal quality exceeding their expectations. The Innovation Centre also includes a fully functional and highly instrumented pilot plant with preparation, extraction, and refining equipment, allowing customers to simulate plant-processing operations to scale within a controlled environment.

Our pivot to innovation and emerging technologies allows us to

1. make incremental improvements or replace altogether business processes to increase efficiency and productivity.
2. expand our range, improve the quality of existing products and upgrade our service offerings
3. offer newer, more sustainable solutions to meet rapidly evolving customer needs
4. offer unique value and customizations, so we stand head and shoulders above other industry players
5. optimize costs, compete in new markets and associate our brand with 'dependable engineering.'

Customer-focused engineering

Every customer wants a technology partner who can solve their manufacturing challenges through realistic solutions, not theoretical wishful thinking. There is also an expectation of prompt and responsive after-sales service and quick turnaround of spare part orders.

We aspire to mitigate these common pains as the minimum standard at Kumar. The Kumar guarantee includes

- robustly engineered, versatile, and operationally profitable oilseed processing plants and machinery
- custom solutions designed to solve customer challenges
- consistent customer experience, with in-time support responses. Our support teams are available 24/7/365
- sales, technical, and support teams applying their knowledge of the field to offer the most optimal solution from our portfolio
- a seamless, uncomplicated purchasing, after-sales, and support process

Our problem-solving capabilities make us stand out and apart from the competition

At our core, we are problem solvers. Customers ask us to solve their processing challenges because they can rely on us to offer the best solution for their context. Everyone - from our Chairman to workers on the shop floor - strives to always solve for our customers.

Turnkey-360

We offer a spectrum of services within the oils and fats domain under 'one umbrella', including conceptualization, engineering, manufacturing, construction and installation, commissioning,

validation, operations, and maintenance for greenfield and brownfield projects. The most significant advantage is that we are affordable, and our offerings are robust and dependable.

Manufacturing capabilities of the highest standard

We are committed to bringing the latest and most dependable oils and fats processing technologies to the developing world.

Kumar is an ISO 9001-2015 approved company. We manufacture ATEX-approved, and CE marked products and deliver 360-degree project management solutions to companies across the oils and fats industry.

Our manufacturing facilities are spread over 23,000 square meters of space and outfitted with the latest European precision machinery. We employ over 400 skilled technicians, quality control personnel, and trained workers. Our fabrication facilities manufacture high-pressure vessels, worked on by certified x-ray qualified welders. For hard-facing and critical wear and tear parts, our highly trained TIG/MIG welders take over.

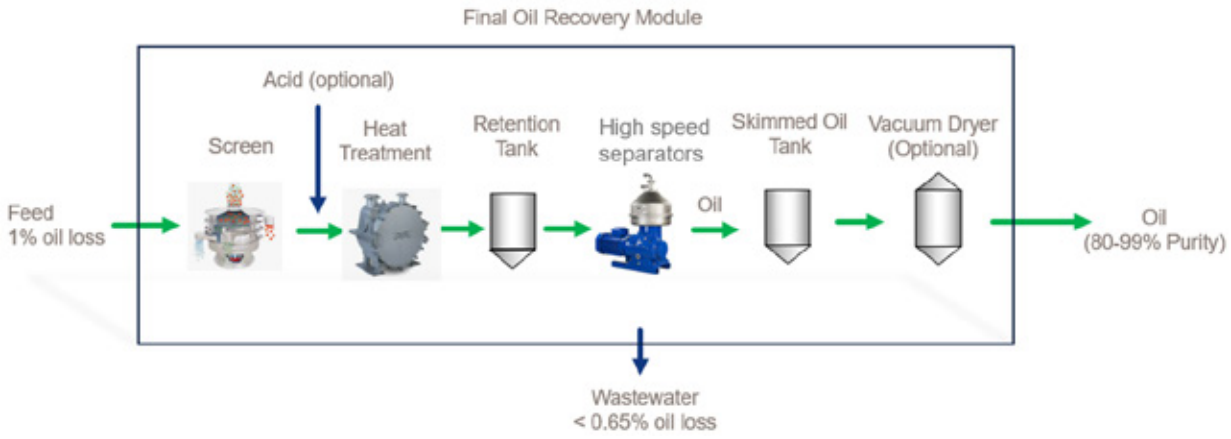
Crucial to every part of the process, our quality department applies checks to every project at every milestone. Kumar's equipment is robust in construction, superior in quality, versatile in nature, and operationally profitable.

Following every sale, our personnel provides equipment operator training to customer operating teams to ensure the longevity of the equipment.

We are also in the process of establishing service centers in geographic proximity to customer clusters to ensure customers have access to support when they need it.

Recover More Oil, Generate Higher Revenue

Improve profitability in your palm oil mill with Alfa Laval's latest technology



Oil loss in the effluent is one of the challenges that most palm oil mills are facing. The average oil loss is typically high between 0.8% and 1.5%. This creates an oil recovery opportunity to improve the revenue of the miller particularly when crude palm oil is currently at a record high level.

Other challenges include the low quality and value of recovered sludge oil from the pond, the lack of a final oil recovery mechanism in the market to prevent oil spillage, and the fluctuation of the efficiency of oil recovery in the final de-oiling tank.

Alfa Laval's latest technology – Final Oil Recovery Module – is every palm oil mill's answer to recovering more oil from their mills and increasing profitability. This system uses heat transfer and separation technology to improve your yield and profitability by reducing the total oil loss in your palm oil mill from an average of 1.0% to 0.5-0.6%.

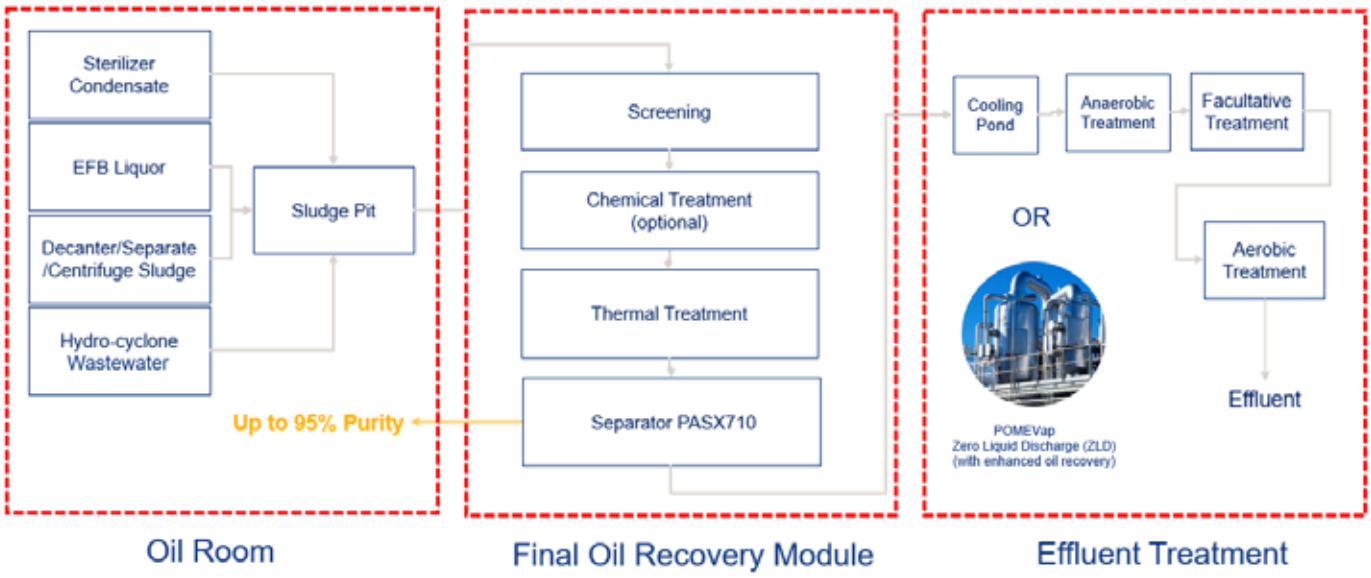
Potential of oil recovery in palm oil mills

Table 1 above shows the total oil loss from a palm oil mill, which is 1.77% (on FFB). There are four areas where oil recovery is possible, namely 'Oil absorbed on the surface of EFB' (0.45%), 'Condensate from sterilization' (0.10%), 'Sludge from separator' (0.45%), and 'Oil spillages from leaking pipes or washing from tanks' (0.10%). When we add all these together, we are looking at possibly up to 1.0% (on FFB) of potential oil recovery!

Key technologies that enable efficient oil recovery

To recover oil, this system uses heat treatment to heat the sludge to enhance the breaking of the emulsion and the high G-force will effectively recover small droplets of oil.

The complete process of the Final Oil Recovery Module



The block diagram above shows the process in a typical oil mill, where the block on the left is an oil room that houses the sterilizer condensate, EFB liquor, decanter/separator/sludge centrifuge, hydro-cyclone wastewater, and a sludge pit. From here, the wastewater will normally go straight into a cooling pond in the right block. Alfa Laval's Final Oil Recovery Module is an additional process that will be set up between these two blocks.

The diagram below shows the setup of a Final Oil Recovery Module. The feed, which is typically 1% oil loss will enter a vibrating screen, where it will be cleaned to ensure there are no impurities that block the equipment downstream. After that, it will be heated up to 90 degrees via an Alfa Laval heat exchanger to achieve a good separation and recovery, as well as to break up the emulsion.

After screening and heating, the sludge will go into a retention tank, which acts as a buffer for the separator, followed by the high-speed separator, which will separate or recover the oil from the sludge and wastewater and improve oil recovery from 1.0% oil loss to around 0.5 – 0.65%. The recovered oil will then be stored in a Skimmed Oil Tank and can be further treated with a Vacuum Dryer (optional). In the end, we will have oil with a purity of up to 99%.

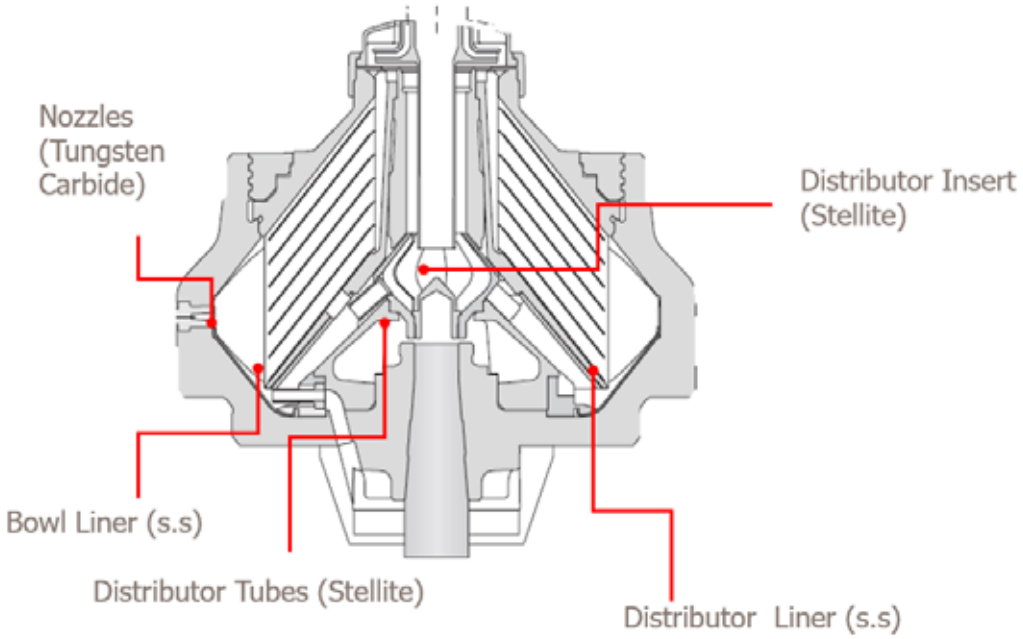
The recovered oil will then go back to the mill. The discharged wastewater, which is cleaner now, will go into a cooling pond, followed by anaerobic treatment, and other palm oil mill effluent treatments, namely facultative treatment and aerobic treatment. You can also choose to do an evaporator – POMEVap, which will further enhance a mill's footprint by going for Zero Liquid Discharge.

Table 1 Estimation of oil losses in palm oil mills

Source	Oil loss (% on FFB)
Fruit trapped in empty fruit bunches (EFB)	0.02
Unstripped bunches (USB)	0.05
Oil absorbed on the surface of EFB	0.45
Condensate from sterilisation	0.10
Nut surface after pressing	0.05
Pressed fibre after pressing	0.55
Sludge from separator	0.45
General oil spillages or washing from tanks	0.10
Total oil losses	1.77

Total Oil Recovery Potential
= ~ 1.0% to fresh fruit bunches (FFB)

• **Source: International Journal of Biomass & Renewables, 9(1) : 10 - 24, 2020**



Efficient oil separation with specially designed SX710+

The SX710+ is our specially designed upgraded separator to enable better oil recovery. It has a higher G-force to improve the circling velocity of the oil to recover it, and a variable-frequency drive (VFD) to run the separator to reduce power consumption. In addition, it also has a vibration monitoring system to keep the machine in good working condition and to be more long-lasting.

The SX710+ is designed to include wear and tear protection to handle erosion. Its distributor insert and distributor tubes are made from a very hard wear-resistant material called stellite, while the distributor liner is made from a thick chrome stainless steel, measuring about 5 mm, which is strong and durable.

The bowl liner is also made from chrome stainless steel to increase its wear protection. And finally, its nozzles, where sludge is discharged, are made from tungsten carbide, to enhance its durability and the performance of the machine.

The separator can be set up in a skid unit and a containerized execution so that it's easy to install and move around. There will be typically two containers – one container with the separator and another with the tanks, such as the heat tank, along with the control panel inside the skid, which will control the operations of the system.

The skid will also consist of the control system, which controls the separators, including the BFD and all the pumps. Our skid is modularised into three set-ups – ALFORM-45 (45m^3/hour), ALFORM-30 (30m^3/hour), and ALFORM-15 (15m^3/hour).

Improve performance and boost profitability

After carrying out a few trials of this system in a mill in Sabah, we have successfully recovered oil loss down to 0.48% (on the sample) with a respective improved oil extraction rate (OER) of 0.31%.

An average OER improvement of 0.3% would translate to a 3.6 tonne of additional CPO per day for a 60-tonne FFB per hour mill. If we assume that the mill operates 20 hours per day and the price of oil is USD850 per tonne, this system will typically help the mill to recover up to USD918,000 per year! This amount is more than enough to pay for the investment in the ALFORM module. And based on this calculation, the payback is typically 1-2 years, including maintenance cost.

In brief, this system is simple and efficient, and it's plug and play, which means it has a small footprint, and is easy to move around and maintain. It can recover oil at high purity, and its oil recovery is quantifiable, with a flowmeter to measure the amount of oil that has been recovered every day. It also offers a fast payback of less than a year, with a maximum of one year. And last but not least, this Final Oil Recovery Module will act as a final gatekeeper to prevent any oil from going down to the effluent pond.

You can visit our websites, email or call us today to find out more!

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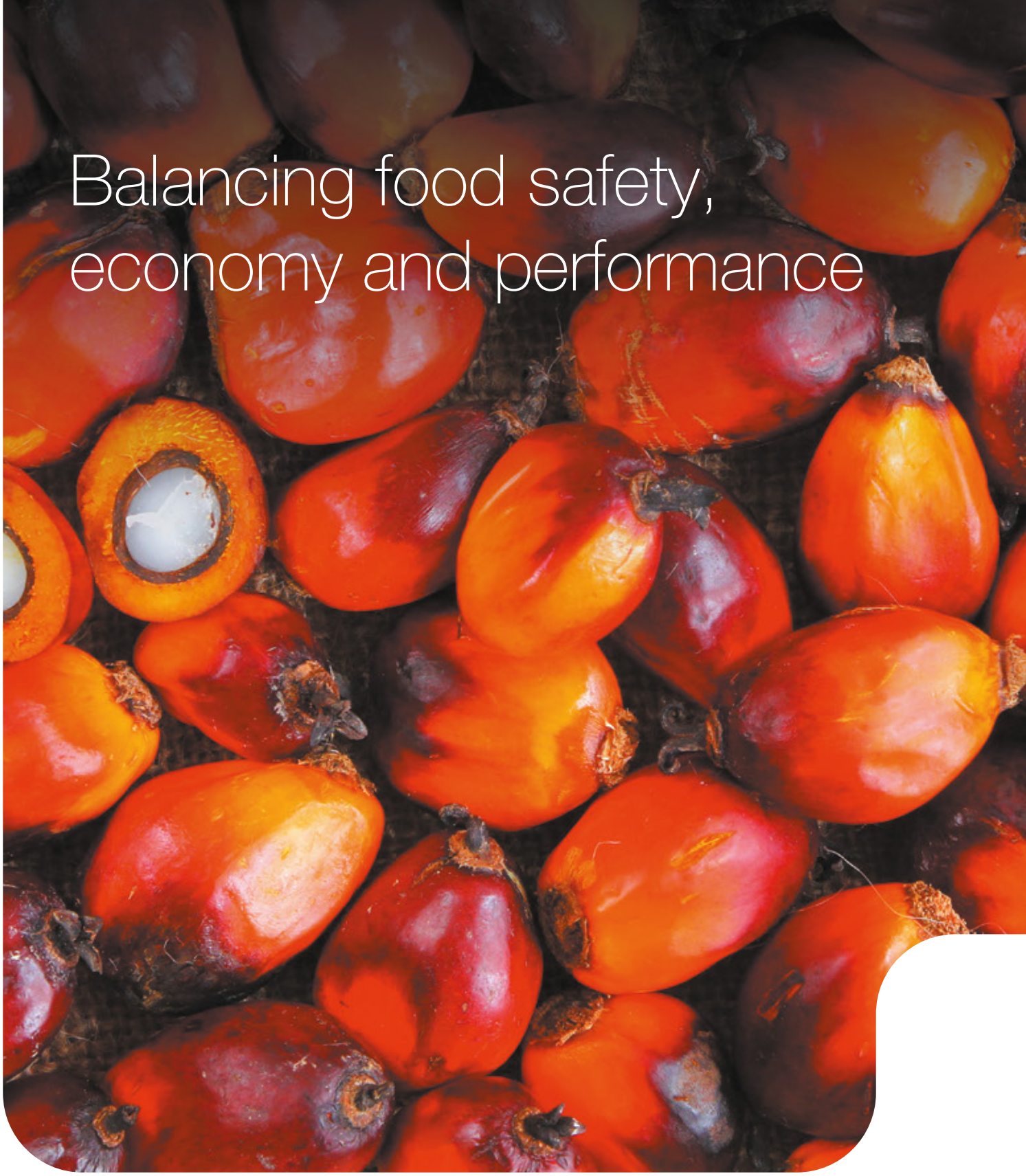

Balancing food safety, economy and performance

Innovative solutions to reduce 3-MCPDE and GE from palm oil processes

Alfa Laval's innovative solutions to mitigate 3-MCPDE and GE help palm oil producers to adapt to changing needs and future regulations - while ensuring operating reliability, flexibility and maximum uptime.
Making the world better, every day. It's all about Advancing better™.

Advancing better. With Alfa Laval.

Alfa Laval · Palm oil solutions · malaysia.info@alfalaval.com · +60 3 5122 2880 · alfalindo@alfalaval.com · +62 21 7918 2288

JJ-Lurgi Steps into the Future with the Power of Augmented Reality

JJ-Lurgi taps on augmented reality wearables to provide real-time remote assistance from Malaysia to regional and global customers in the oils and fats sector

Using the ThinkReality A6 head-mounted display, JJ-Lurgi field engineers can now provide local and global clients with real-time support without having to travel on-site (Photo: JJ-Lurgi)

JJ-Lurgi, the life sciences joint venture of the diversified industrial conglomerate, Jebsen & Jessen Group, introduces the integration of ThinkReality A6, an Augmented Reality (AR) head-mounted display developed by Lenovo and powered by Artasi technology, into its existing site services portfolio. The innovative AR technology will enable Malaysia-headquartered JJ-Lurgi to more efficiently address client needs in the edible oils, fats, oleochemicals, and biofuels industries amid challenges posed by the COVID-19 pandemic, providing remote support, expertise, and assistance from Malaysia without being physically present on site.

The oils and fats industry remains a significant sector in the economies of many Southeast Asian countries, with revenue amounting to US$8.641b in 2021 and expected to grow by 3.20% annually. Malaysia alone is one of the world's largest oils and fats producers and exporters, accounting for 9.1% and 19.7% of the world's total production and exports of oils and fats in 2020.

Across the globe, the COVID-19 pandemic presents challenges affecting industries and economies. Challenges such as mounting health concerns, as well as extensive lockdowns and border control measures, hinder the ability of many businesses to provide or receive vital on-site support for maintenance and troubleshooting. JJ-Lurgi's integration of the ThinkReality A6 headset with Artasi's technology enables their regional and global clients to remotely and safely access expertise from the company's headquarters in Malaysia despite the constraints, keeping vital sectors in the global trade running during this time.

"Amid challenges in this new normal, we remain forward-looking and ready to embrace new and innovative technology that enables us to continue providing the best value and support for our clients even in challenging circumstances. The recent adoption of AR technology in our services portfolio has greatly improved our efficiency and productivity in providing accelerated assistance to local, regional and global customers, leading to minimal disruption and downtimes," said Jakob Helms, CEO of JJ-Lurgi.

Typically, whenever businesses such as industrial factories or manufacturers encounter issues with their plant or equipment, engineers would need to be promptly dispatched to the location for on-site assistance. In these cases, issues and faults can even lead to a halt in production and output, causing considerable downtime and losses if not resolved quickly.

With the ThinkReality A6 headset and the Artasi Application, clients' on-site operators who face issues or require assistance will be able to receive immediate assistance from the technical team at JJ-Lurgi. Instantly sharing on-site audio and video with the technical team at JJ-Lurgi, the experts, from their headquarters in Malaysia, will be able to provide the operators with specific instructions and solutions using voice commands, pictures, documents, and even videos relayed to the headset in real-time. Regardless of whether the client is based abroad, or even with the presence of travel restrictions or local movement control orders, the impact on business operations caused by lengthy downtimes can now be avoided as troubleshooting and resolving of issues can be performed expeditiously.

"Designed specifically for enterprise users, the ThinkReality A6 with the Artasi application has been successfully deployed in several industrial sectors to help on-site engineers and technicians access information and assistance remotely while performing their tasks. Harnessing disruptive technology in their workflow, JJ-Lurgi has evolved their existing workplace tools to increase operational efficiency, especially in the face of challenges brought on by the pandemic," said Gildas Coldeboeuf, Global CEO of Artasi.

In its maiden deployment at an oleochemical site in Sumatra, Indonesia, the AR headset and software-enabled several engineering personnel to investigate, troubleshoot and develop a remedy in just 45 minutes following the client's call for assistance. Traditionally, the lead time for this would take five to seven working days, as an engineer would be deployed and required to spend several days on-site conducting the evaluation, consultations with various engineering heads back at the headquarters, and report generation before a remedy is provided to the client. In addition to being able to assist clients more efficiently, the process is now much more cost-effective and increases a site's productivity by reducing valuable downtime. Besides performing remote troubleshooting at their existing plant and equipment, this has also enabled JJ-Lurgi's experts to assist these long-term customers in various other capacities, including a viability assessment for the start-up of a partially completed oleochemicals production complex and the pre-commissioning of a glycerine distillation plant.

While the new AR technology is currently deployed in the South East Asian region, it is expected to be rolled out to clients on a global scale subsequently.

This initiative is part of JJ-Lurgi's bigger plan to adopt innovative technologies and be at the forefront of the Fourth Industrial Revolution (Industry 4.0). Partnering with Artasi, JJ-Lurgi is exploring ways to integrate 3D plant models with AR and virtual reality (VR) to enable VR reviewing of yet unbuilt processing plants; VR safety and operability reviews of plants being designed; as well as AR workflow assistance for specialized and complicated technology deployed at the plants.

JJ-Lurgi is also preparing to digitalize engineering processes to increase accuracy, efficiency, and customization. In the near future, JJ-Lurgi will also operate on an interconnected platform, where central data management and intelligent editing will allow for better consistency and agility to meet ever-changing global demands.

About JJ-Lurgi

JJ-Lurgi Engineering is a joint venture between Jebsen & Jessen Group and Air Liquide. Our engineering roots are in Germany; in Asia, we contract ourselves locally and have established in-house a new generation of expertise attuned to our client's particular needs. With more than 20 years of experience, we produce highly customizable products that fit our clients' needs, reducing waste and cost. Our technologies include Edible Oil Extraction, Oil Refining, Fats Modification, Oleochemicals, and Methylester (Biodiesel).

For more information, visit us at www.jj-lurgi.com.

About Jebsen & Jessen Group

We are an ASEAN-focused industrial conglomerate. Our business spans manufacturing, engineering, and distribution activities. We have five core business units: Cable Technology, Ingredients, Life Sciences, Packaging, and Technology. Through our network of companies spanning 31 locations, including 10 manufacturing facilities in Cambodia, China, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam, our 3,000 people work as one to develop meaningful products and services for the 20,000 customers we serve.

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Promoting Malaysian Palm Oil to the World

The Government is striving to establish a zero-waste industry that is highly sustainable, well-regulated and mindful of the needs of its end-users and workers, says Zuraida.

Palm oil is a key driver of Malaysia's agriculture and agro-based sectors, generating approximately RM91.4bil in export revenue and sold in more than 180 countries between January and November 2021.

According to Plantation Industries and Commodities Minister Zuraida Kamaruddin, the palm oil industry is a strong, resilient and innovative industry that is of strategic importance to the country.

"Malaysia has steadfastly worked towards promoting the important message that palm oil is a nutritious and affordable food for all.

"Our scientists – who have also collaborated with renowned research institutions worldwide – continue to explore new technologies to ensure that the industry remains dynamic, spawns high-income jobs and entrepreneurial opportunities, as well as raises export earnings," she says.

She adds that the Government is striving to establish a zero-waste industry that is highly sustainable, well-regulated and mindful of the needs of its end-users and workers.

In Malaysia, palm oil has had a positive impact with a domino effect that directly benefits local communities by not only establishing necessary infrastructure, but also uplifting their livelihoods.

She shares, "Malaysian palm oil has had an overwhelmingly positive impact at home, by alleviating rural poverty, increasing employment, bringing infrastructure, education and healthcare, as well as improving the quality of life of small farmers and their families, even in remote areas.

"It is a decade-long story of achievement and social progress. This is an unassailable fact that has been documented by the United Nations and the World Bank, among leading international bodies."

Sold in more than 180 countries, palm oil generated about RM91.4bil in export revenue between January and November 2021.

Potential in Asia Pacific markets

On a wider outlook of the palm oil trade in the Asia Pacific region, Zuraida reveals that traditional China and India markets in particular hold 'significant promise'.

The reason is that India and China imported a total of 5.48 million tonnes of palm oil in 2020, alongside 4.95 million tonnes from January to November 2020.

In total, this accounted for 35% of Malaysian palm oil exports over this period, which is why China and India are expected to become the largest markets for Malaysia's palm oil industry in the foreseeable future.

Moreover, China and India boast vast populations – 1.44 billion people and 1.39 billion respectively – that will support increased imports of vegetable oil, including the nutritious and affordable palm oil.

"Malaysian Palm Oil products, which are readily available and competitively priced, are poised to meet the growing demand," she says.

When it comes to China, Zuraida shares that Malaysia is right on the doorstep of the Chinese consumer market, owing to the establishment of the Palm Oil Research and Technical Service Institute of Malaysia in 2005.

"(As such), we believe the institute will expand the use of Malaysian palm oil in the formulation and manufacture of China's food and non-food products.

Legislative and regulatory threats

An ongoing battle for the acceptance of Malaysian palm oil in the European Union (EU) is the anti-palm oil campaign, in the legislative and regulatory threats via actions initiated by Brussels, as a gatekeeper to the region.

Given the interconnectivity of the global supply chain, the EU is an important market for many of Malaysia's largest palm oil exporters, with some of their biggest customers based in Europe.

The main challenge, she says, lies in the fact that the European Commission and the European Parliament are seeking to regulate Europe's imports of palm oil.

She explains, "This is associated with the trade protectionism agenda of the EU, which is a major producer of rapeseed oil.

"However, the productivity and versatility of rapeseed oil are not as competitive as those of palm oil.

"There is no doubt that Malaysia has a superior product in terms of productivity, versatility and price."

Against this backdrop, what Zuraida seeks to build is a relationship with the EU that is based on trust and fair trade, rather than 'geopolitical tensions'.

"Malaysia has always adopted a diplomatic approach in addressing trade issues relating to its commodities. We will therefore continue to engage the EU constructively to resolve this issue.

"Malaysia's environmental stewardship and leadership have been acknowledged by the world over. Brussels should therefore also accept the progress made by the Malaysian palm oil sector to drive sustainability.

"If improvements are deemed necessary, the EU should consider offering assistance – technical or financial – to move matters forward," she opines.

At the same time, within Malaysia, efforts are geared towards the consultation process over the upcoming EU due diligence proposals, which she says will provide an opportunity to ensure that Malaysia's trade interests are incorporated into regulations.

She adds, "We will also utilise various avenues to exchange unambiguous information with the EU on the sustainability of our palm oil industry.

"These include the Asean-EU Joint Working Group on Palm Oil and other collaborative projects.

"Still, the 'softly-softly' approach may not always work out and Malaysia must be prepared to take firm action whenever required.

"This has happened with our attempt to engage the EU via the World Trade Organisation over the latter's stance against the use of palm oil in their biofuel and renewable energy sectors, which did not produce a mutually-acceptable solution.

Anti-palm oil sentiments on the global stage, particularly arising from the European Union and the United States (US), are not new to the Malaysian palm oil industry.

The key accusations levelled at Malaysian palm oil are violations of labour and human rights, which are among the biggest challenges facing the sector's growth worldwide, says Zuraida.

When it comes to the US State Department's demotion of Malaysia to Tier 3 in its 'Trafficking in Persons Report 2021', she stresses, "It is unfair and an overly simplistic assessment. We will continue to work with the US government to address its concerns and set the record straight.

"At this juncture, any intervention from the Malaysian government should be focused on improving workers' rights through legislation, enforcement and labour policies.

"We hope for cooperation and goodwill, especially since Malaysia has renewed a strong commitment to addressing labour-related issues."

Positive progress for workers' rights

Against criticism that there has been insufficient progress in championing the rights of workers, she acknowledges that while the industry faces challenges related to labour issues, the Government is continuously working to improve governance and enforcement practices, via the tools of the Malaysian Sustainable Palm Oil (MSPO) certification standard.

The MSPO standard is built on seven principles that form the general requirements of a management system framework. This, in turn, promotes the three pillars of sustainability – to be economically viable, socially acceptable and environmentally sound. The principles cover:

- Management commitment and responsibility
- Transparency
- Compliance to legal requirements
- Social responsibility, health, safety and employment conditions
- Environment, natural resources, biodiversity and ecosystem services
- Best practices
- Development of new plantings

Each of the seven principles also has specific criteria and indicators that the certification bodies use during the audit process, to determine compliance and award certification.

In addition, she says that there has been positive progress in the right direction, with the Ministry of Human Resources (MOHR) launching the Working for Workers (WFW) programme in May last year.

WFW is a dedicated platform that caters to over 15 million workers, primarily foreign workers, to submit and report complaints related to labour issues online.

The nature of complaints covers contract disputes, late payment of salary, being forced to work while on leave, unfair dismissal, failure to report the employment of foreign workers, improper treatment, as well as employees being prevented from working from home while the various COVID-19 movement control orders were in place.

"This is an important tool for ensuring workplace compliance with Malaysian laws. I have full confidence in MOHR to ensure the success of this programme.

"At the same time, our largest exporters and government-linked companies have signed up to a range of standards and commitments to protect the interests of employees," she says.

Zuraida is also committed to looking into the best way forward for the industry, especially when it comes to sustainability aspects that relate to environmental, social and corporate governance considerations, as well as the United Nations' Sustainable Development Goals.

Advocating women in the plantation sector

A strong advocate for the advancement of women, she is planning to extend this passion into the plantation sector.

"Improving the rights of women – in particular, expanding female participation in Malaysian life – has been a key objective of my political career. I am proud to have founded the Institute of Empowered Women and the Women's Institute for Research, Development and Advancement," she shares.

Source: www.nst.com.my

Zuraida, who also serves as the president of the Council of Malaysian Women Political Leaders and Malaysia's country ambassador for the association, highlights that she looks forward to working with ministry officials, the private sector, civil society and other key stakeholders to ensure that women working throughout the palm oil sector supply chain have the same rights and opportunities to succeed.

She adds, "I have also said that I would like to see more women leaders appointed to corporate boards and as heads of various agencies. Let me set an example that others can follow.

"Since the palm oil industry has traditionally been a male-dominated one, I foresee some resistance to my ideas."

However, she points out that the management consulting firm McKinsey – in a study themed 'Delivering through Diversity 2018' – revealed a positive correlation between having a big proportion of women leaders in large companies and the corporate financial performance.

This was particularly so in senior executive roles, where the majority of strategic and operational decisions are made.

"Similarly, I believe the palm oil industry will reap the results of women's participation and gender mainstreaming," she opines.

In moving forward, Zuraida notes that based on her experience founding non-governmental organisations and charitable groups – especially the ones focused on women's rights – there is an opportunity to bring fresh ideas to the plantation sector.

This is because the plantation sector has already made 'wonderful advancements' for Malaysia over many decades, by uplifting millions out of poverty in rural areas and creating jobs, generating tax revenues and rendering economic growth.

She believes that this can be the case with women in the palm oil industry as well.

She concludes, "From my initial conversations with a few palm oil companies and the Ministry officials, there is a strong collective willingness to support reform where needed and I am very heartened and encouraged by this.

"This will provide a strong basis for all stakeholders to work together to implement changes. Improving the palm oil community can only lead to the industry thriving at every level."

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Selontra: Rodent Control & BASF's Effort in Minimalizing Environmental Impact

Hans Athaide, Msc(Hons) Professional and Specialty Solutions ASEAN

A 21 year veteran of the industry, Hans has previously held positions in research and development and regulatory affairs prior to assuming a commercial role.

He is currently the Business Manager of the Professional and Specialty Solutions business in ASEAN, which includes Oil Palm, Forestry, Professional Pest Control, Public Health, Turf and Ornamentals.

1. BASF supports the Roundtable of Sustainable Palm Oil (RSPO) and market transformation towards a certified product. Do share with us BASF's progress in this aspect.

In 2021, we published our fifth progress report – the BASF Palm Progress Report – for greater transparency in the value chain. Based on our voluntary commitment to sustainably source palm oil products, we purchased 227,213 metric tons of certified palm kernel oil and palm oil in 2020. This represents 100% of our total volume (completely/100%) as RSPO certified.

BASF also continues to drive forward the RSPO supply chain certification of our sites for cosmetic ingredients. In 2020, 25 production sites worldwide were RSPO certified. At the same time, we will step up our efforts to improve transparency and traceability in the supply chain. We can trace almost 95 of our overall oil palm exposure back to the oil mill level in 2020 - totaling 441.107 metric tons.

On top of these achievements, BASF published and enhanced Palm Sourcing Policy as well as our Forest Positioning. In 2020, BASF also participated for the first time in CDP Forest, which resulted in A-.

2. Selontra contains cholecalciferol in a highly palatable bait matrix that can control rats and mice. What was the main driving force behind this innovation? And how long did BASF take to come out with such a formulation?

Selontra is a result of more than a decade of research and development. Our driving force was a clear market need for an innovative, palatable and effective bait that did not rely

on anticoagulants – given their many disadvantages. After screening and testing over 1,200 different possible candidates over 10 years, cholecalciferol was identified as the best candidate for a new rodenticide active ingredient – as it offered a unique mode of action (hypercalcemia), short time to death, and reduced environmental impact. However, a highly palatable bait matrix was required to transform cholecalciferol into an effective rodenticide bait. It took a team of biologists and formulation chemists three years to develop the right formulation for Selontra. But the result speaks for itself.

3. Describe 'Speed Baiting', which is one of the unique features of Selontra. How does it differ from other products of rodenticides?

Selontra's extremely high palatability and fast stop-feeding effect mean that plantation mangers can control even large rodent populations within 7 days with just a single application of 1 bait block per tree (though in cases of very high infestations, an additional application may be needed). This means that Selontra can control infestations in as little as 1-2 applications. In comparison, other rodenticides often require 4-8 applications to get effective control – resulting in a need for additional bait and labor, and more damage of oil palm fruit due to slower control of the infestation.

With the unique chemistry and palatability of Selontra, plantations can reduce the amount of bait and the number of applications needed to control rodent infestations, which saves valuable time and money and reduces yield loss.

Selontra has minimal impact on non-targets, especially barn owls that are natural predators of rodents. This makes it aligned with the RSPO principles of Integrated Rodent Pest Management using natural predators of rodents.

4. Please share with us how BASF caters their products to a different group of clients, especially smallholders. Would they be able to benefit from this and its affordability?

Selontra is available to farmers both large and small. All producers value protecting their yield from rodent damage. In addition, when you factor in labor costs/time savings and increased yield, Selontra is more cost-effective than the current anticoagulant baits used by smallholders. We're working to help educate the market – including smallholders – on how to use Selontra effectively so that they can increase their yields, reduce costs, and ultimately boost their income.

5. It's not often that we see BASF involved in the palm oil industry, are there other new products lined up with regards to pest management besides Selontra as BASF makes its foray into the industry?

BASF has a wide portfolio of products for the oil palm market – which includes herbicides and insecticides, in addition to rodenticides like Selontra. Our main objective is to help oil palm planters produce more from their existing plantations. Our products help farmers in reducing the number of agrochemicals being applied in the environment, reduce labor costs, and protect their yield.

For the future, we have a pipeline of long-lasting herbicides which have the potential to improve labor productivity and reduce applications that are planned for launch in Indonesia in the coming years.

Solidaridad:
Leading the Charge to Sustainability and Climate Change in Indonesia

Dr Suresh Motwani, General Manager, Edible Oil, Solidaridad

Dr. Suresh is a specialist in sustainable supply chain development across various global agro-commodities and especially edible oils. Currently, he coordinates Solidaridad's sustainability initiatives in agriculture especially in the edible oil supply chains in Asia.

He has held many positions in international and national organizations, focusing on the area of sustainability, agricultural research, extension, entrepreneurship, and policy advocacy for more than 20 years. He is having vast experience in developing and managing successful public-private partnerships models and innovative digital extension and knowledge transfer models across various countries in Asia.

Dr. Suresh has been instrumental in facilitating the development, ground implementation, market uptake, and strengthening processes of various national and international sustainability frameworks and standards for many agricultural commodities, especially edible oils. For the last decade, he has been key in the development and promotion of sustainability standards and multi-stakeholder platforms for soybean, palm oil, and many other oilseeds crops. He is actively involved in various multi-stakeholder and dialogue platforms for facilitating transformation towards building a more sustainable edible oil industry.

He was one of the key experts in the development of the Indian Palm Oil Sustainability (IPOS) framework, China Sustainable Soy Guidelines, Indian Standards for Sustainable Soy, and many other national and international sustainability standards. He has published many research papers in the journal of national repute and presented a paper in various national and international conferences.

1. Could you share with us how Solidaridad started in Indonesia's palm oil industry? What are Solidaridad's mission and goals in fostering a sustainable supply chain?

Indonesia is the largest producer and exporter of palm oil products in the world. Palm oil is one of Indonesia's primary export commodities. The palm oil sector provides direct and indirect jobs as well as a livelihood to millions of Indonesians. It is a core source of livelihood and employment for many rural communities, especially for more than 2.3 million smallholders. About 4.7 million hectares of oil palm plantation areas are grown on smallholder land, which accounts for around 41% of total plantation under oil palm in Indonesia.

Smallholders Training at Farmers' Field School

Smallholders Training at Farmers' Field School

The palm oil sector in Indonesia has achieved much in the past and can be rightly proud of its achievements. At the same time, some sustainability challenges are to be addressed. These challenges are related to smallholders' inclusion in the global sustainable palm oil supply chain, lack of knowledge and capacities as well as poor access to improved technologies, and obtaining a fair market price for sustainable palm oil. In addition to this, there are other concerns related to the environmental performance of the sector. Palm oil production is often associated with negative practices. Rather than a ban, we need sustainable palm oil production and consumption. The efforts are needed to reduce the negative impacts of oil palm production and to increase the positive impacts.

Solidaridad in Indonesia started its first project in 2012. In Indonesia, Solidaridad is facilitating interventions around both sustainable production and trade, which is in line with the government of Indonesia's priorities and commitments towards sustainable palm oil. We are supporting smallholders and preparing them for Indonesian Sustainable Palm Oil (ISPO), with the engagement of the national government i. e. Coordinating Ministry for Economic Affairs, The Republic of Indonesia, Indonesian Palm Oil Board (DMSI), and many other stakeholders for facilitating sustainability in the sector. We are implementing many initiatives around smallholders' support. These initiatives are related to increasing sustainable palm oil supply by supporting Indonesian smallholders.

In the year 2018, a Memorandum of Understanding (MoU) was inked between Solidaridad, the Solvent Extractors Association (SEA) of India, and the Indonesian Palm Oil Board (DMSI). The MoU recognizes the Indonesian Sustainable Palm Oil (ISPO) and the Indian Palm Oil Sustainability (IPOS) Framework as legitimate sustainability frameworks for palm oil production and trade between Indonesia and India. As part of MoU, a high-powered committee i. e. "India- Indonesia Joint Working Committee for Sustainable Palm Oil" has been formed to discuss the global and regional palm oil challenges and facilitate sustainable palm oil trade between two countries. The committee aims to promote the Indonesian Sustainable Palm Oil and Indian Palm Oil Sustainability Framework in India and other markets; besides it aims to create awareness on the health benefits of palm oil and enhance cooperation on trade-related matters.

Women's Training at Farmers' Field School

2. What are Solidaridad's mission and goals in fostering a sustainable supply chain?

At Solidaridad, we believe it is possible to transition to a truly sustainable global supply chain. We believe it is possible to meet the growing demand for palm oil by making better use of land already under cultivation. Yields of smallholders can be increased through better access to inputs, technologies, economies of scale, and finance. To achieve this, Solidaridad works with a range of actors to create more sustainable and inclusive supply chains. Our goal is to safeguard biodiversity and improve the livelihoods of smallholders by bringing innovative sustainability solutions to scale. Through better land use planning and support at both a policy and market level, we believe palm oil can play a vital role in providing global food security for millions while protecting local ecosystems.

We reclaim sustainability in the palm oil sector in three ways

1. **Prosperous:** Under this, we promote increased productivity of existing lands and improved livelihoods**,** living and working conditions of smallholders and workers through better farm management, access to inputs, and improved and promotion of inclusive business ownership models. A large part of our focus lies in raising the yields of smallholder

farmers on existing land through implementing better practices. To bring our interventions to scale, we develop innovative technologies such as digital applications, which allow for rapid and targeted distribution of information to farmers.

2. **Balance with Nature:** we aim to make healthy eco-systems within the oil palm sector. We address ecological poverty through building resilience against climate change, healthy, regenerative, circular, pollution - and waste-free production.

3. **Inclusivity:** as part of promoting inclusivity, we address political poverty. We work on creating civic space and voices of youth, indigenous, and minorities as well as gender equity.

we are in process of developing its standard for sustainable palm oil. We support all of these national initiatives to develop robust mechanisms to demonstrate their impact. Mutual recognition among national sustainability standards i. e. IPOS-ISPO, and ISPO-MSPO are facilitated to foster cooperation among producing and consuming countries and to promote the production and trade of sustainable palm oil.

3. Solidaridad has continued to strengthen its initiatives on climate change and came out with three landscape programs focusing on reducing carbon emissions. Could you share with us the new programs that were introduced in Indonesia?

Smallholders Training at Farmers' Field School

Smallholders Training on Bio-Fertiliser Preparation

National Platforms & Initiatives

We work with major palm oil procuring and consuming countries in Asia to promote sustainable production and trade. We contribute towards the establishment of nationwide initiatives and solutions with the objectives to reach maximum impact. We work with governments to develop policy instruments that support the development of a sustainable palm oil sector. Engaging a range of influential stakeholders, including the government, is key to driving national-level improvements.

We cooperate with the Indonesian and Malaysian governments through the Indonesian and Malaysian Sustainable Palm Oil Initiatives i.e. ISPO and MSPO, similarly in India together with the Solvent Extractors' Association of India (SEA) and Solidaridad with the support of the Indian Institute of Oil Palm Research (IIOPR), SOPOPRAD and many industry stakeholders developed India's standards for sustainable palm oil (IPOS). IPOS is well adapted to the Indian context both in terms of smallholders' and consumers' perspectives. In China,

Solidaridad promotes a landscape approach which is around the promotion of national initiatives and sustainability standards which provides a potential opportunity to align with national priorities and commitments. These standards provide the best platform to facilitate national consensus and actions towards addressing ground issues and related sustainability challenges. National standards like ISPO, MSPO, and IPOS; as part of national sustainability initiatives help the local governments and local industry to participate in a sustainability discourse more actively and as a result, lead to market transformation. At Solidaridad, we call these standards fourth-generation standards as these facilitate inclusive and continuous improvements while enhancing the sustainability performance of the sector and achieving compliance with applicable national and international laws and regulations.

Through facilitating multi-stakeholder platforms among the government, private sector, and civil society actors, we enable key landscape stakeholders to set joint agendas around different

issues e. g. climate change, reducing carbon emissions, etc. Stakeholders in the landscape are best placed to make their values explicit and prioritize actions. This process of building partnerships, commitments, and overall coordination of efforts is the core of our landscape approach.

As part of climate action, Solidaridad is promoting the National Initiatives for Sustainable Climate-Smart Oil Palm Smallholders (NI-SCOPS). The program supports smallholders to implement climate-smart agriculture (CSA). This is aimed at creating thriving and resilient oil palm landscapes, improving community livelihoods, reducing GHG emissions from deforestation, and making farms, forests, and communities resilient to climate change. The NI-SCOPS program has been designed as a new mechanism to provide tangible support to enable palm oil-producing countries to measurably contribute to sustainable development goals. The program supports local governments and other stakeholders to improve the productivity and incomes of smallholders and workers, and at the same time protect and restore valuable natural resources in the palm oil-producing landscapes. It also envisions making smallholders led palm oil supply chain more economically robust, socially inclusive, and resilient to climate change.

The NI-SCOPS is being implemented in selected states, provinces, and regions of four countries: Indonesia, Malaysia, Ghana, and Nigeria. The program also contributes towards cooperation with major palm oil-producing countries. The initiatives under NI-SCOPS are public-sector partnership programs, co-owned by national and local government actors. The 'Key Performance Goals' for the National Initiatives correspond to the three dimensions of Climate-Smart Agriculture (CSA) as defined by FAO: livelihoods, climate adaptation, and mitigation. Overall, the program contributes towards the global climate and sustainable development goals.

Memorandum of Understanding (MoU) inked between Solidaridad, the Solvent Extractors Association (SEA) of India and the Indonesian Palm Oil Board (DMSI)

4. Technology has been influential in the palm oil industry and especially so in recent years. How has Solidaridad been utilizing or harnessing technology to drive its objectives?

Solidaridad has been utilizing technology on smallholders' profiles and land mapping to support its work in improving the livelihood and sustainability of smallholders. We use innovative digital solutions these include training app, plantation mapping using GPS devices and drones, etc. To address barriers in this pandemic challenge, we have been applying digital tools for training modules on good agriculture practices. The digital extension tool is being developed to introduce efficient and cost-effective processes, solutions, and systems for preparing smallholders for sustainability certifications. It is an integrated tool for self-assessment to gauge sustainability levels of smallholders, identifying risks, planning, effective implementation of practices, and continual improvement. Furthermore, to support the traceability agenda, we use a traceability mobile tool for efficient data management for smallholders.

The traceability model is being developed with three types of functions: a) Training application; b) Self-assurance process; c) Traceability from the oil palm producer to the consumer. The traceability tool facilitates a mechanism to make data work


Meeting of India- Indonesia Joint Working Committee for Sustainable Palm Oil

for the oil palm farmer's improvement, traceability, and fairer returns for the farmers. In other words, it lays down the rules for making data-related practices in the oil palm supply chain. It creates a basis for next-generation "beyond certification" sustainability frameworks, driven by farmers' self-assessment and continual improvement.

5. The Indonesian Sustainable Palm Oil (ISPO) is recognized as a legitimate sustainability framework. In your opinion, what other initiatives can help address the challenges in adhering to sustainability practices especially amongst smallholders?

Cost, complicated paper-works, lack of adoption of sustainability practices, and low uptake of sustainable palm oil are among many challenges faced by smallholders to comply with certification. To address those challenges, we have been conducting farmer field schools on good plantation practices and facilitating them to establish smallholder groups/ cooperatives to increase the social capital of burden-sharing and peer learning.

We are preparing smallholders for implementation of Indonesian Sustainable Palm Oil (ISPO) and introducing innovative digital tools which help the smallholders to self-assess their performances against sustainability parameters, provides them access to training materials and knowledge. Furthermore, through the technology application, we support them to fulfill the traceability and transparency agenda.

The other recommendations are as follows

- Increased market uptake of sustainable palm oil to incentivize the smallholders for the adoption of ISPO
- Greater awareness about sustainable palm oil as well as awareness about the goodness of palm oil among consumers need to be created

6. What are some of the challenges that Solidaridad has faced during the pandemic? And what do you foresee in 2022 as we slowly emerge from it?

COVID-19 pandemic has disrupted the trade of palm oil. The demand, export, and imports are dropped and the work at plantations has also been affected due to lockdowns in the producing countries. The extension support to farmers has been affected to some extent however the digital tools promoted by Solidaridad have played a key role in reaching out to farmers during the lockdown period. These tools are found to be very effective in the transfer of knowledge and technologies among farmers. We expect that with increasing exposure and familiarity with digital technologies, smallholders will be likely to be more capable and efficient in using technology to communicate their sustainability efforts to the world.

Smallholders Training on Climate Smart Agricultural Practices

7. Solidaridad has vast experience in fighting poverty and advocating sustainable production for the last fifty years. What are your views now that some people started to realize the importance of sustainability efforts and what is still lacking?

The world still sees ecology and economy agenda are two different opposite directions. Especially in this slowing-down economy due to pandemics, the environmental agenda is pushed to a later priority. However, in addition to this devastating pandemic situation, more and more natural disasters are also happening. For example, in Indonesia, in early 2020, significant floods stroke several areas in Indonesia which people acknowledge due to upstream deforestation in the past and conversion of downstream water catchment areas. As people are ignorant and forgetful easily, this message needs resounding and decision-makers need advocating persistently.

Followings are our views

- Lack of awareness among consumers about sustainability and affects the uptake of sustainable palm oil
- The engagement with local laws, national standards, and mandatory schemes would help in embedding sustainability locally
- Government intervention from both producing and consuming countries may play a key role in the uptake of sustainable palm oil
- Creating shared responsibility between producing and consuming countries because of deforestation, biodiversity loss, and unsustainable practices
- Address the issues of duplication due to multiple standards and lower the compliance costs
- Traceability in the supply chain has to be improved
- Focus on differentiated, sustainable high-value products

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MYANDE

Tailor-made Solution and Equipment Provider

Serving the vegetable oil industry

SBE from refinery
(Oil content≤20%)

Hazardous free waste
(Oil content≤3%)

Spent Bleaching Earth Recovery
Palm Kernel Cake Extraction
Refinery & Fractionation

More than 300 oils & fats turnkey projects have been supplied by Myande in 40 countries. We are serving the vegetable oil industry as a solution provider including engineering and technology, processing plant and the related equipment manufacturing.

We provide specific Spent Bleaching Earth (SBE) recovery solutions. With our special know-how gained from rich practical experience, we are in a position to ensure that the de-oiled bleaching earth complies with generally adopted government policies and guidelines relating to hazardous-free waste.

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You can find out more about Myande process technology on

COPRA MACHINE

YKL GROUP OF COMPANIES

YKL Group's Copra-Series of expeller is designed as highly efficient mono screw expeller. Numerous design improvements have been achieved to cater the industry's demand. These innovations promote:

- No Pre-chopping into pieces is required before pressing. FFA increase in Coconut Oil is minimized.
- Higher Machine Capacity. Lower CAPEX cost is feasible.
- Electricity saving in KWH/ mt Copra processed. Lower OPEX.
- Simpler process design to reduce maintenance cost.

PRODUCT SPEC

YTH-SPC50
copra series machine

1ST PRESS MACHINE	CAPACITY : 38-45 MT /Day
SUPER COPRA PRESS MACHINE	

YTH-C15
copra series machine

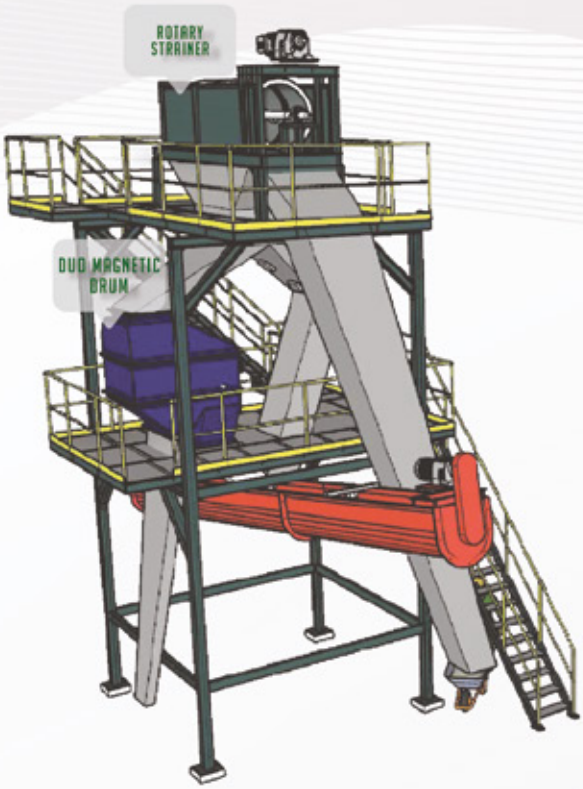
2ND PRESS MACHINE	CAPACITY : 12-14 MT /Day
COPRA FINAL PRESS MACHINE	

PRELIMINARY SCREENING SYSTEM

DUO MAGNETIC DRUM
Duo Drum with high magnetic flux to give maximum protection to machinery against metallic impurities.
Capacity : 185 (m3/h)

ROTARY STRAINER
Removing non metallic foreign material (>22mm). This sectional designed strainer screen can be replace with different size if necessary.
Capacity : 100 (m3/h)

PRODUCT SPEC



YKL GROUP OF COMPANIES
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