

PalmSphere



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CAREY ISLAND: MALAYSIA
COMMITTS TO SUSTAINABLE PALM
OIL AND TRACEABILITY

EU COMMISSIONER'S MALAYSIA VISIT
DELIVERS PROGRESS BUT NOT 'LOW RISK'
RECLASSIFICATION, YET

FROM CLASSROOM
SNACKS
TO BETTER HEALTH:
NEW EVIDENCE ON
THE BENEFITS OF
RED PALM OIL



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MESSAGE FROM THE CEO



Belvinder Sron
CEO of MPOC

Dear Readers,

As we approach the final quarter of 2025, *PalmSphere* returns with another issue, spotlighting the Malaysian palm oil industry's multidimensional contributions to health, sustainability, and responsible trade. In this edition, we begin with an inspiring and timely cover story on the role of red palm oil (RPO) in public health nutrition. The latest findings from a Malaysian supplementation study reveal that RPO-enriched biscuits are a potent food-based solution for addressing vitamin A deficiency. With global interest in sustainable, food-based interventions rising, this research positions Malaysian palm oil at the forefront of real-world impact and innovation. Meanwhile, our *Spectrum* section continues to track regulatory developments. Malaysia recently welcomed Her Excellency Jessika Roswall, European Commissioner for Environment, Water Resilience and the Competitive Circular Economy, for a visit to Carey Island, showcasing the country's readiness in the sector. While there is no formal shift in Malaysia's EUDR "standard risk" classification, the acknowledgement of the Malaysian Sustainable Palm Oil (MSPO) certification scheme marks important progress. We also bring you Part 2 of our *Innovations in Practice* series with Wild Asia, which continues to highlight the creative resilience of MSPO-certified smallholders. To conclude the edition, our *FAQ* section this month shines a spotlight on a comprehensive umbrella review, comparing the health effects of various edible oils, including palm oil. Finally, we encourage all stakeholders to mark their calendars for the upcoming Nutrition Satellite Symposium at PIPOC 2025, we explore the emerging scientific insights on tocotrienols, red palm oil, dietary lipids and more. As always, I appreciate your continued support. Let us remain united in advancing Malaysia's leadership in sustainable palm oil – through science, transparency, and partnerships that deliver meaningful change.



RPO-enriched biscuits, offered in schools, help boost vitamin A and iron levels in children within six months.

FROM CLASSROOM SNACKS TO BETTER HEALTH: NEW EVIDENCE ON THE BENEFITS OF RED PALM OIL

A comprehensive Malaysian study reveals how red palm oil (RPO), when fortified into everyday snacks like biscuits, can play a pivotal role in addressing vitamin A deficiency among children.

A large nutritional study in Southeast Asia, called SEANUTS (Southeast Asian Nutrition Surveys), revealed that vitamin A deficiency persisted among Malaysian children. The study showed a higher prevalence of 6.4% in rural areas, with even higher rates among Orang Asli (Indigenous) communities. Other studies like Ngah et al. (2002) reported 82.2% of 213 Orang Asli children at Pos Piah, Sungai Siput Utara, Perak, Malaysia, showed ocular signs of vitamin A deficiency (e.g., night blindness to corneal scars) and Al-Mekhlafi et al. (2010) found 27.4% of 214 Orang Asli children at Pos Betau, Kuala Lipis, Pahang, Malaysia, with low serum retinol levels ($<0.7 \mu\text{mol/L}$) - a threshold where vitamin A deficiency becomes a public health concern if $\geq 20\%$ of a population is affected. Despite vitamin A deficiency being classified as mild nationally, its severity and potential underreporting among undernourished rural children highlight a critical research gap, as overall data on vitamin A deficiency prevalence in Malaysia remain scarce.

For access to the full paper.

[CLICK HERE](#)

Supplementing red palm oil (RPO) for vitamin A deficiency has been extensively studied among children, pregnant and lactating mothers. Numerous research studies following red palm oil supplementation from South Africa, India, Indonesia, and China have documented:

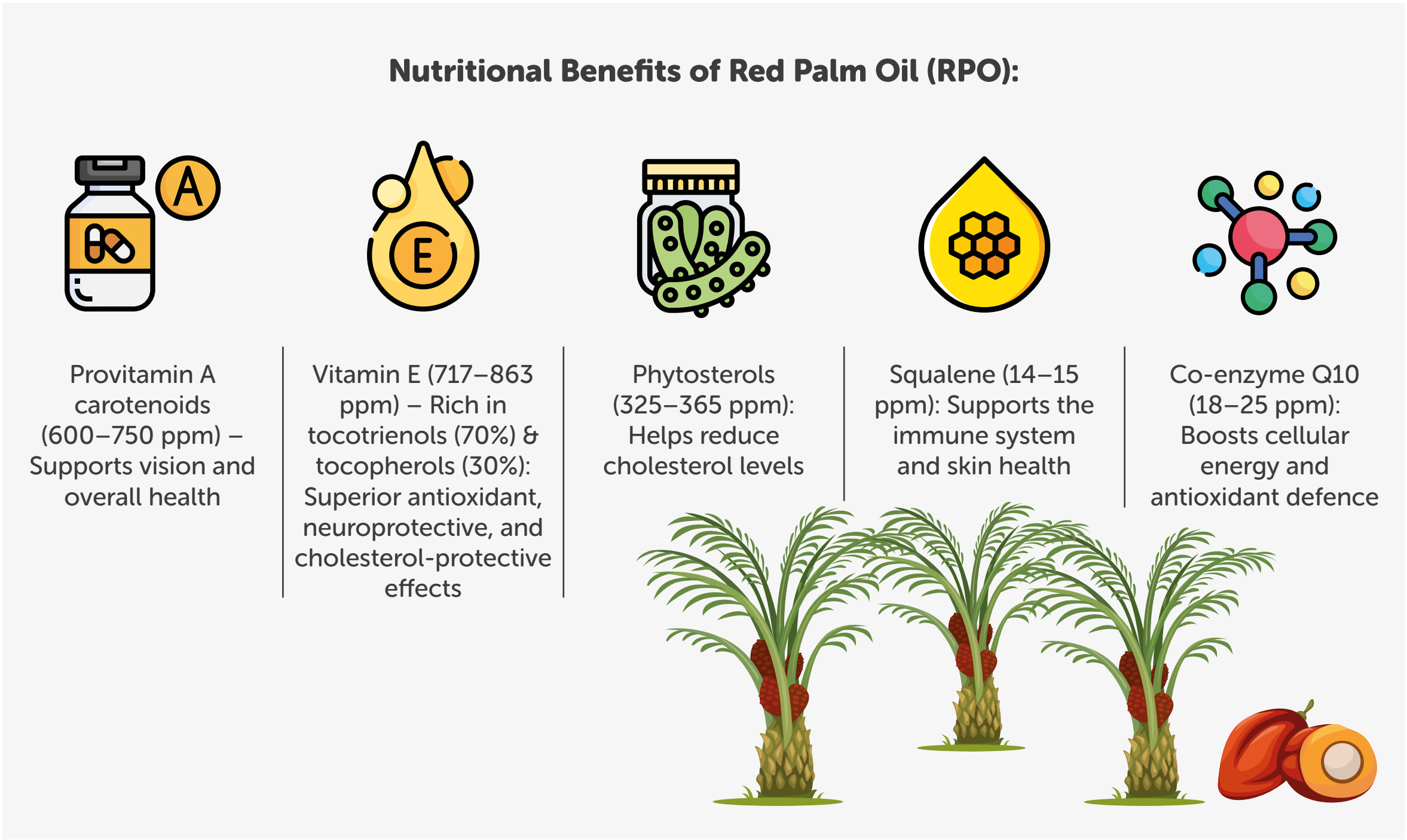
- Significant rise in serum retinol (vitamin A) levels
- Improvement in the ocular signs of vitamin A deficiency
- Increase in haemoglobin
- Improvement in body height and weight

This inspired a group of researchers led by the Malaysian Palm Oil Board (MPOB) to conduct a similar trial in a Malaysian setting. The study focused on rural Malaysian national primary schools across five states.

RPO is a virtual powerhouse of nutrition. It provides us with essential fatty acids to help keep us going all day and is also loaded with a fascinating mixture of natural, health-promoting phytonutrients. It is considered one of the world's richest natural plant sources of provitamin A-rich carotenoids, which give the oil and fruit their brilliant orange-red colour.



Red palm oil is one of nature's richest sources of provitamin A carotenoids, vitamin E, CoQ10, and phytosterols.



Oral supplementation with preformed vitamin A is a primary approach to combat vitamin A deficiency (VAD). Still, its effectiveness in children with consistently low dietary intake lasts only about three months, underlining the need for sustainable, food-based solutions such as fortification, multi-micronutrient powders, biofortification through selective breeding, and dietary diversification. Excessive intake of preformed vitamin A can lead to hypervitaminosis A or toxicity. This risk is significantly reduced with provitamin A-rich foods, which the body converts to vitamin A as needed. In this context, fortifying biscuits with natural red palm olein, rich in provitamin A carotenoids, offers a promising strategy to address vitamin A deficiency in children.

Supplementation using biscuits is one of the most effective and practical food vehicles for micronutrient-fortified feeding among primary schoolchildren, due to its high acceptability, as biscuits are considered a snack rather than a meal. Additionally, they require no preparation, are easily distributed and monitored, and have a long shelf life. As a locally sourced and sustainable ingredient, RPO can be a cost-effective method to support food-based public health strategies. With a long shelf life and suitability for mass production, these biscuits offer an efficient way to deliver essential nutrients to vulnerable populations.



Using locally produced RPO as a food fortificant highlights the palm oil industry's role in advancing public health.

The supplementation of RPO-enriched biscuits significantly improved vitamin A and iron absorption in children, primarily due to their high β -carotene content, which enhanced iron bioavailability from the daily diet, making iron easier for absorption.

Over six months, subjects receiving RPO-enriched biscuits showed notable improvements in serum iron status, along with significant increases in key blood health parameters (hematological parameters such as Hb, PCV, MCV, and MCH), and a marked reduction in microcytic anemia, a type of anemia where the red blood cells are of abnormal sizes. These outcomes suggest that supplementing RPO-enriched biscuits may have beneficial effects on red blood cell production.

Additionally, biscuits enriched with RPO have also been shown to exhibit potential anti-inflammatory effects, prevent the development of dry eyes or night blindness, and lower roundworm reinfection, which may be attributed to its high phytonutrient content.

This research shows that RPO-enriched biscuits could effectively improve the health status of vitamin A-deficient children, highlighting palm oil potential in improving public health concerns.

By using RPO, a nutrient-rich, local resource, the study offers a simple, affordable way to address micronutrient deficiencies, supporting the industry's role in creating healthy, sustainable food options that can benefit communities and align with national nutrition goals."



Micronutrient delivery, especially in rural and remote communities, can be significantly improved by incorporating RPO-enriched foods into large-scale fortification initiatives.

The children enjoyed the RPO-enriched biscuits, offered in four flavours four days a week, making them a well-received snack. Some schools noted improvements in the students' energy levels and focus, with some even requesting additional biscuits for their preschool children. A number of school headmasters expressed enthusiasm for transforming the trial into a long-term supplementation programme, reflecting a desire for sustained nutritional support beyond the research scope. Overall, the positive responses from children, teachers, and parents underscored the biscuits' acceptability and perceived impact, reinforcing the intervention's success and community support.

The demonstrated health benefits of red palm olein in this study position it as a valuable food fortificant for integration into national nutrition programmes targeting vitamin A deficiency and malnutrition.

These findings provide strong evidence for public health authorities, including the Ministry of Health (MOH), UNICEF, and WHO, to enhance existing intervention strategies.

By incorporating RPO-enriched foods into large-scale fortification initiatives, policymakers can improve micronutrient delivery, especially in rural and remote communities, ultimately strengthening efforts to combat vitamin A deficiency and malnutrition on both national and international levels.

These findings advance the broader scientific understanding of micronutrient fortification by demonstrating that RPO-enriched biscuits, rich in bioavailable provitamin A carotenoids, could significantly improve vitamin A status, iron levels, and erythropoiesis in vitamin A-deficient children over a six-month supplementation period. By providing evidence from a double-blinded, randomised controlled trial in a real-world rural setting, these results enrich the scientific foundation for designing practical, scalable interventions that can enhance child health globally, particularly in underserved populations prone to malnutrition.

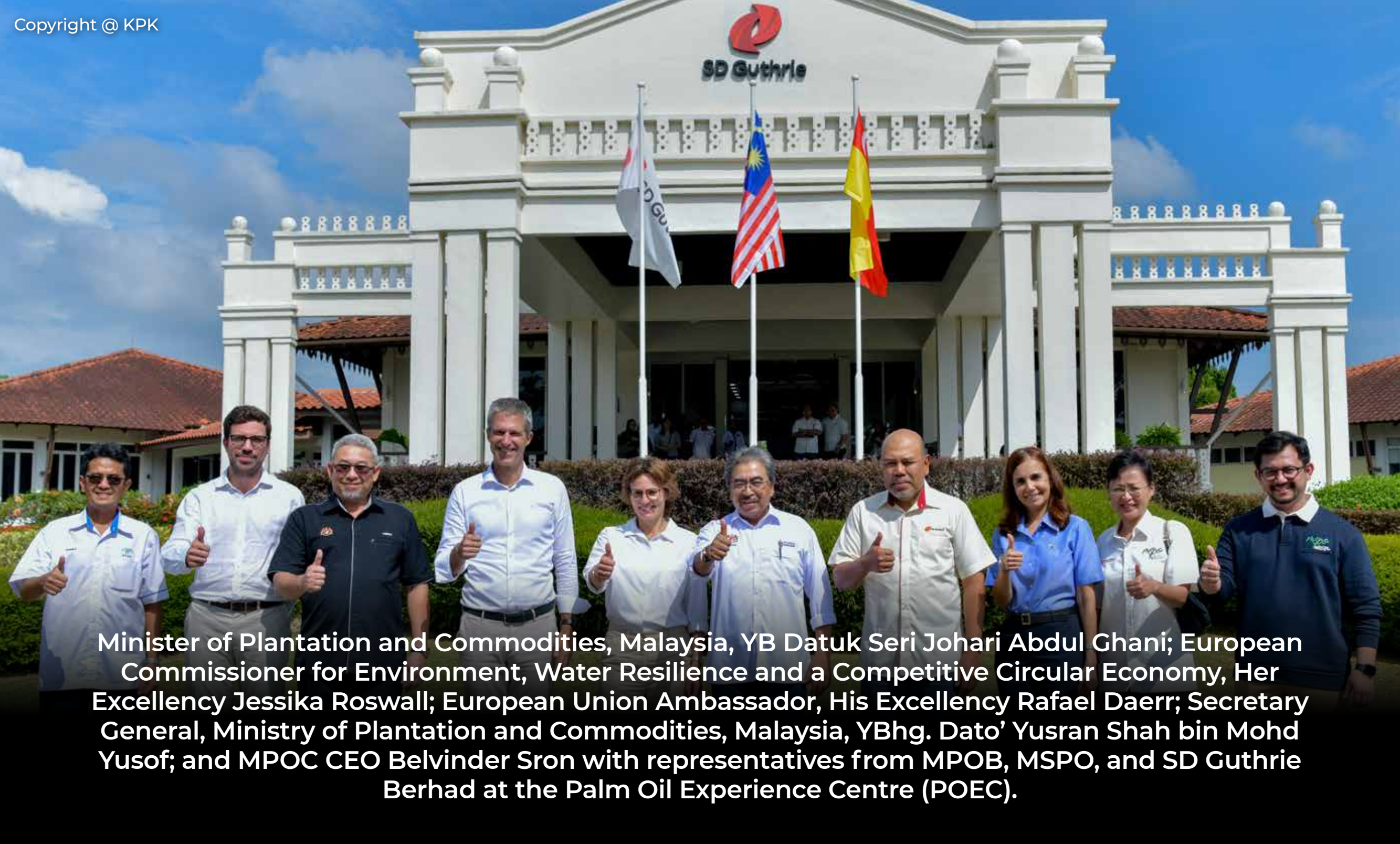
Learn more about this Malaysian red palm oil study and its findings



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Minister of Plantation and Commodities, Malaysia, YB Datuk Seri Johari Abdul Ghani; European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall; European Union Ambassador, His Excellency Rafael Daerr; Secretary General, Ministry of Plantation and Commodities, Malaysia, YBhg. Dato' Yusran Shah bin Mohd Yusof; and MPOC CEO Belvinder Sron with representatives from MPOB, MSPO, and SD Guthrie Berhad at the Palm Oil Experience Centre (POEC).

CAREY ISLAND VISIT HIGHLIGHTS MALAYSIA'S COMMITMENT TO SUSTAINABLE PALM OIL AND TRACEABILITY

Malaysia showcases its leadership in sustainable palm oil and traceability through unending efforts in the MSPO certification, smallholder engagement, and the upcoming National Traceability System (SKN).

AS part of Malaysia's ongoing engagement under the Forest, Agriculture and Commodity Trade (FACT) Dialogue, European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall, visited SD Guthrie's oil palm plantation on Carey Island, Selangor. The engagement supports the broader objectives of the FACT Dialogue, a voluntary partnership between producing and consumer countries that aims to promote transparent and deforestation-free supply chains.

Malaysia currently serves as Co-Chair of the FACT Dialogue for the 2025–2026 period, alongside the United Kingdom. The Ministry of Plantation and Commodities leads the country's participation, reinforcing Malaysia's role in shaping sustainable agricommodity trade frameworks.



Minister of Plantation and Commodities, Malaysia, YB Datuk Seri Johari Abdul Ghani and European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall share a moment with the Mah Meri community in Kampung Sungai Judah, symbolising the harmony between culture, community, and sustainability in Malaysia's palm oil sector.

Demonstrating Sustainability at Every Level

From field-level regenerative agriculture practices in Kampung Sungai Judah to technical briefings at the Palm Oil Experience Centre (POEC), the visit offered a comprehensive look at how sustainability is operationalised throughout Malaysia's palm oil sector. These on-ground demonstrations provided a close-up view of the implementation of the Malaysian Sustainable Palm Oil (MSPO) certification, particularly among smallholders and indigenous communities.

At POEC, the programme continued with technical presentations by the Malaysian Palm Oil Board (MPOB), MSPO and SD Guthrie Berhad. These sessions aimed to update stakeholders on Malaysia's advancements in traceability, certification, and governance, as well as how these systems are being aligned with evolving international requirements, including the European Union Deforestation Regulation (EUDR).

Previewing Malaysia's National Traceability System

MPOB led a live demonstration of the *Sistem Kebolehejakan Nasional* (SKN), a national digital platform designed to enhance palm oil traceability, which is soon to be released.

SKN consolidates several key systems, including:

- SIMS, which tracks palm oil movements along the supply chain
- GeoSawit, which maps plantation geolocations, including smallholders
- e-MSPO, which links certification data and legal compliance

Strengthening Certification and Market Access

MSPO briefing, delivered by CEO Mohamed Hafizin Mohamed Tajudin, outlined the certification scheme's alignment with EUDR expectations. As a mandatory, government-regulated scheme, MSPO offers third-party verification on land legality, environmental safeguards, and social responsibility. Key elements include:

- Verification of land ownership and legal operating licenses
- A prohibition on conversion of natural forests, protected areas, and High Conservation Value (HCV) areas after 31 December 2019
- Traceable documentation of Fresh Fruit Bunch (FFB) movement, volumes, and transactions



Minister of Plantation and Commodities, Malaysia, YB Datuk Seri Johari Abdul Ghani presents a token of appreciation to European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall, during the Carey Island visit.

Its digital system supports traceable FFB movement across the supply chain, a feature noted by the European Forest Institute (EFI) as valuable for EUDR due diligence. While MSPO was not developed initially to meet EUDR, EFI observed that it contains “much information that could be relevant,” including traceability modules and accessible data.

Inclusion and Balance

Throughout the visit, Malaysia’s commitment to inclusive and balanced sustainability was showcased. Dialogues with smallholders and community leaders underscored efforts to implement traceability and certification in ways that preserve rural livelihoods and promote shared responsibility across the sector.

Remarks by the Minister of Plantation and Commodities, Malaysia, YB Datuk Seri Johari Abdul Ghani, emphasised that Malaysia is not seeking exemptions under the EUDR, but rather a fair and evidence-based recognition of existing national frameworks.

Reinforcing Confidence through Transparency

With MSPO certification fully enforced across the palm oil sector and digital tools like SKN, Malaysia demonstrated strong alignment with international sustainability requirements. The Carey Island visit offered a valuable platform for strengthening mutual understanding and enhancing constructive collaboration between Malaysia and the European Union in advancing sustainable palm oil trade.



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A closer look at the palm oil plantation reveals the community’s responsible farming practices, aligned with the MSPO certification scheme.

EU COMMISSIONER'S MALAYSIA VISIT DELIVERS PROGRESS BUT NOT 'LOW RISK' RECLASSIFICATION, YET

European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall, notably praises Malaysia's palm oil sector for its efforts in reducing deforestation and improving the overall traceability system.



IN early September this year, European Commissioner for Environment, Water Resilience and a Competitive Circular Economy, Her Excellency Jessika Roswall visited Malaysia to co-chair the first-ever ASEAN–EU Ministerial Dialogue on Environment and Climate Change. While the meeting on Langkawi Island focused on biodiversity, water resilience, and the need for transnational cooperation on climate change, Commissioner Roswall also visited Kuala Lumpur for a pivotal meeting with YB Datuk Seri Johari Abdul Ghani, Minister of Plantation and Commodities, Malaysia, YB Datuk Seri Johari Abdul Ghani. She also met representatives of the Malaysian palm oil industry and visited SD Guthrie's oil palm plantation site on Carey Island.

Commissioner Roswall's visit was not expected to result in a breakthrough announcement on Malaysia's 'standard risk' status under the European Union Deforestation Regulation (EUDR), which is the main bone of contention with the Commission, but it did result in a notable rhetorical shift from the EU. The EU delegation's traditional post-visit statement was more positive than usual. It praised Malaysia for its progress in reducing deforestation in line with international expectations. It acknowledged Malaysian Sustainable Palm Oil's (MSPO) high-quality digital traceability system and independent third-party audits, and it acknowledged MSPO as "a credible pathway to compliance" under the EUDR.

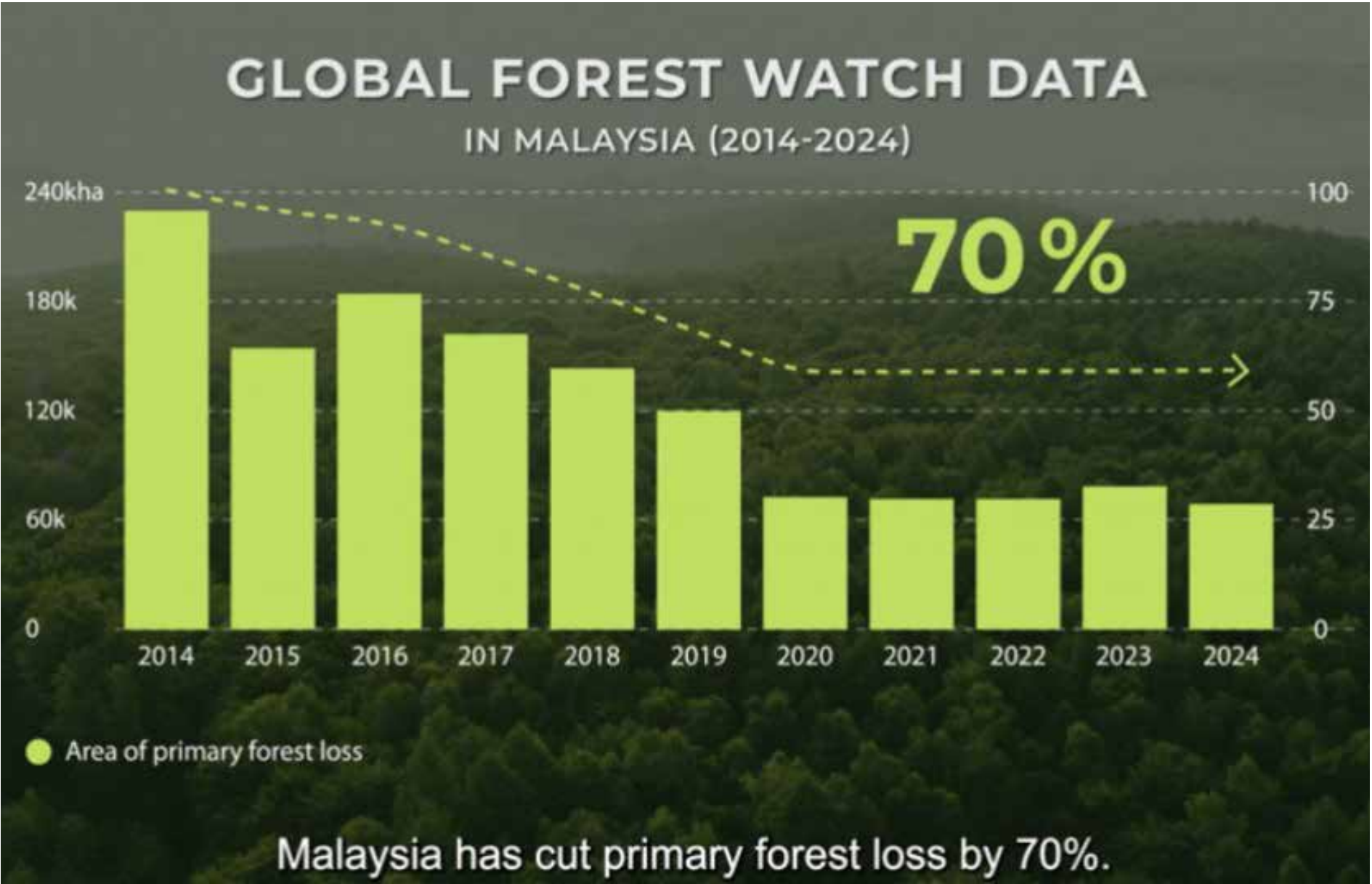
This is a promising development for Malaysia's palm oil producers, about 91% of whom are already MSPO-certified, including more than 209,000 smallholders.

Moreover, once EUDR is up and running, it potentially signals a more permissive approach to Malaysian palm oil imports from the EU member states' national 'Competent Authorities,' the bodies charged with policing and enforcing the EUDR in Europe. It could mean that Competent Authorities will be inclined to treat MSPO certification as credible evidence of sustainable practices.

From a practical perspective, this means that palm oil suppliers will be able to use existing MSPO documentation as part of the EUDR due diligence process, including evidence related to compliance with local laws, deforestation cut-off dates and traceability chains. This should mean less documentation, lower compliance costs, and increased clarity for producers as they prepare for the EUDR implementation deadline.

However, while undoubtedly a step forward for the sector, the Commissioner’s statement stopped short of granting MSPO “equivalence” for EUDR purposes. It is not the case that MSPO-certified palm oil will now automatically be deemed EUDR-compliant. Malaysian producers will still need to prove compliance on a shipment-by-shipment basis, with MSPO documentation treated as evidence of sustainability rather than proof of compliance in itself.

Nor does the EU’s rhetoric suggest a softening in the Commission’s stance on Malaysia’s country benchmarking status under the EUDR. Malaysia is currently classified as ‘standard risk’ despite the current data pointing to the possibility of ‘low risk.’ The Commission is expected to review its benchmarking assessments in the first quarter of 2026, once new FAO forest resources data becomes available. If Malaysia’s status doesn’t change, suppliers will continue to face steeper regulatory hurdles than their counterparts in ‘low-risk’ countries such as Sweden, the USA, Australia, and Japan.



World Resources Institute data shows Malaysia reduced its primary forest loss by 70% between 2014 and 2024. (Reference)



Perak-based independent smallholders Azmah Dongkin and Lim Ah Kou embrace livestock integration and crop diversification to supplement their income.

INNOVATIONS IN PRACTICE: BUILDING RESILIENCE IN SMALLHOLDER FARMERS (PART 2)

Beyond helping independent smallholders boost sustainable oil palm production, Wild Asia empowers them through alternative income-generating enterprises. In Part 2, we highlight independent smallholders in Peninsular Malaysia who are integrating crops and livestock to boost income, food security, and resilience. (Read Part 1 [here](#))

ALTHOUGH these community enterprises mainly take place in Sabah, resourceful WAGS farmers in Perak who have embraced diversification are reaping the benefits, both literally and figuratively.

Indigenous Semai farmer Azmah Dongkin manages a 4-ha MSPO-certified farm in Kampung Chenderong Kelubi. In her backyard, however, she planted a cluster of oil palm trees organically, alongside vegetables and fruit trees. A flock of *ayam kampung* (free-range chickens) happily roam amidst clumps of *pandan* (*Pandanus amaryllifolius*), moringa, water spinach, pineapple and peanut bushes, as well as papaya and banana trees.

Innovations in Practice is a series that showcases MSPO (Malaysian Sustainable Palm Oil) certified farmers who adopt sustainable land management practices and carbon removals through nature-based and low-tech solutions, as a pathway to achieving a nature-positive palm oil.

"I've never used any chemicals on this 0.01 ha-plot since I started growing the edible garden in 2013," says Azmah, who sells her chickens, bananas and pineapples for extra income. "My chickens love to peck on the earthworm-rich soil. Compared to my other farm, the palm trees are visibly healthier with bright, green fronds and large, dense fruits."

About 20km south of Chenderong Kelubi, independent smallholder Lim Ah Kou has been intercropping bananas with oil palm on his 2-acre farm near Langkap town since 1998.

"A friend told me it's just one of many ways to maximise land use and earn extra income," says the WAGS farmer. Lim planted 100 trees from different banana varieties like *pisang berangan* (*Musa acuminata*), *pisang tanduk* (*Musa paradisiaca*) and *pisang raja* (*Musa acuminata* × *balbisiana*). At the same time, he planted his palm seedlings. Even as his palm trees matured, he continued to grow bananas, ensuring they had sufficient space to receive direct sunlight.

"They (bananas) don't require much maintenance. I apply chicken manure and commercial fertiliser on both the palm and banana trees," says the MSPO-certified farmer. In 2014, he also intercropped bananas with oil palm in a newly purchased 3-acre plot. As recently as 2019, he was still manually controlling weeds. But with age, the 75-year-old recently switched to using herbicides due to the intensive labour.



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Farmers apply regenerative farming practices learned from the WAGS BIO programme to their home gardens, growing healthy, nutritious vegetables for their families. Pictured here is Nisa Usman's garden in Kampung Paris, Kinabatangan, Sabah — featured in PalmSphere, Volume 11.

“Both the palms and bananas seem to grow well, and thankfully, my palm trees haven’t been plagued by any disease outbreak so far,” says Lim. In fact, his FFB yield averages 29.62 mt per hectare per year, significantly above the national average of 16.7 tonnes (2024 figures; MPOB).

Although Lim does not keep track of his banana sales, each harvest cycle yields a minimum of RM5,000 or higher (calculations based on the wholesale market price, weight per bunch, and number of trees).

In recent years, Lim’s number of banana trees has declined by 40% due to theft, pests (such as macaques), and diseases. He recently sold the 3-acre farm and is now left with a 0.8-hectare oil palm plot and about 60 banana trees.

“Unless I build a fence around my farm, I can’t stop people from stealing my bananas just when they’re ripe for harvesting. It’s frustrating,” he admits.

Crop Diversification Studies

Findings from farmer surveys in Malaysia and Indonesia have shown that oil palm production can be more inclusive for smallholders when it addresses their diverse livelihood needs and resilience.

Smallholder inclusivity has always been defined as the access to the global palm oil supply chain. However, researchers in this study argue that to further enhance smallholder inclusivity, palm oil production systems need to address smallholder livelihoods in terms of crop choices that fit their household needs for food or for income, by connecting to marketing options and longer value chains. This would lower dependency on palm oil price swings and improve livelihood resilience from a diversity of income sources.

In 2009, the **Malaysian Palm Oil Board** published a study (**Suboh Ismail et al. 2009**) to introduce a planting scheme called the “double-row avenue system.” The research objective aligned with Malaysia’s Third National Agriculture Policy (1998-2010) to maximise land use through crop or livestock integration, generating extra income for farmers and enhancing food production.

Conventionally, farmers would plant other crops between rows of oil palm seedlings. When the palm fronds and roots are small, sufficient sunlight can reach the ground, and the palm roots do not compete for nutrients. However, as the fronds grow bigger and start to overlap with adjacent palm trees, the conditions become suboptimal for crop integration. Farmers would remove other crops once the palm trees begin to mature, typically after three years old.

To extend the duration of crop integration, the study recommends planting oil palm in two rows for every avenue. The planting distance between the palms in the same row is 6.1 m and 9.1 m between rows, while the distance between two avenues is 15.2 m - making it wide enough to plant other crops. The plant density in the double-row system is 136 palms per hectare, which is similar to the standard planting configuration system (9.1m x 9.1m x 9.1m).

In a four-year trial of black pepper integration with oil palm using the double-row avenue system (**Raja Zulkifli et al. 2016**) in MPOB Research Stations in Belaga, Sarawak and Keratong, Pahang, researchers found that there is no significant difference in FFB yields between oil palm-black pepper integration plots and control plots. Integration of black pepper “optimises oil palm land utilisation and provides additional long-term income to the growers.” However, farmers need to maintain the integrated crop using “good agricultural practices” proposed in the research.

Depending on the soil type, microclimate and rainfall distribution, various crops like banana, pineapple, hill paddy, peanuts and black pepper can be integrated and planted throughout the mature stages of oil palm and continue to generate additional income for farmers.

Reality Checks

However, it is one thing to initiate an income or crop diversification programme; sustaining farmers' interest and commitment is another story.

"During lockdown, many farmers had time on their hands, so they were willing to learn and start their home gardens. It was a success," says Wild Asia Director and Advisor Peter Chang. "The dynamics changed tremendously after the lockdown was lifted. The home gardens were neglected because everyone had no time due to other commitments."

Out of 36 farmers who participated in the home garden workshop, 11 farmers are still tending their home gardens today, four years on.

"Also, when FFB prices are high, smallholders tend to lean towards maximising oil palm production due to immediate returns and the lower labour demands compared to crop diversification, which is also influenced by external factors," Chang adds.

As for Nisa, she tended her home garden for 18 months before quitting due to a lack of time. Once the pandemic was over, she resumed her active role in *Puspanita* (women's association) events and activities.



Farmers who learn natural farming practices for their oil palm blocks often carry those skills into their home gardens. Here, Nisa Usman of Kampung Paris, Kinabatangan, Sabah puts WAGS BIO training into practice—featured in PalmSphere, Volume 11.

Profits from her lucrative mushroom business more than offset her household expenses.

“I’m thinking of restarting my home garden again. Nothing beats feeding my family healthy food grown at home,” Nisa mulls. Now that all her children, ranging in age from 21 to 33, are working adults, she has more time on her hands.

“More importantly, I look forward to learning more from BIO and finding alternative income opportunities.”

Moving Forward

More than just imparting tools and techniques, initiatives like WAGS BIO strive to inspire farmers to transcend conventional practices and explore new possibilities.

“Crop diversification and regenerative farming are more than just strategies; they represent a pathway to resilience, self-sufficiency, and empowerment,” says Wild Asia Founder and Executive Director Dr Reza Azmi. However, the journey is not without its challenges. Sustaining farmer interest, integrating practices into daily life, and scaling efforts to reach more smallholders require continuous innovation, collaboration, and commitment from various stakeholders.

“We are committed to supporting smallholder farmers, not only in improving their livelihoods but also in fostering sustainable communities,” Reza sums up.



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Farmer Azmah Dongkin's chickens roam freely on her chemical-free oil palm farm, and feed on the earthworm-rich soil.

“The ripple effect of these efforts can lead to healthier ecosystems, resilient farming systems, and empowered farmers who see themselves not just as producers but as stewards of the land.”



HEALTH EFFECTS OF VARIOUS EDIBLE VEGETABLE OILS: INSIGHTS FROM AN UMBRELLA REVIEW

Your essential guide to the palm oil industry, covering nutrition and health, sustainability, environmental impact, and industry best practices.

QUESTION:

What was the main objective behind conducting this umbrella review on the health effects of vegetable oils?

THE main objective behind this umbrella review was to extract and synthesise evidence from the existing systematic reviews and meta-analyses to assess the health outcomes along with the consumption of various vegetable oils in adults. The review also aimed to clarify conflicting findings and provide a comprehensive overview as a reference for future research and dietary guidelines development.

QUESTION:

What key gaps in the existing literature did this umbrella review aim to address regarding the health effects of vegetable oils, including tropical oils like palm oil?

The review addresses the lack of comprehensive comparisons across various vegetable oils, including palm oil. It also aimed to evaluate the effects of different oil fractions and oil processing methods on health outcomes. These were the areas that previous studies often overlooked or treated inconsistently (by grouping some of the oils with one common name without considering the presence of their micro-components and different fatty acid composition, where the oil can be further fractionated into palm olein (liquid fraction of palm oil)).

Palm olein has a neutral effect on the blood lipid profile, including LDL, total cholesterol, and serum triglyceride levels (types of fat in the blood), due to its high content of unsaturated fatty acids at the sn-2 position of its fatty acid structure. In conclusion, palm oil and palm olein have a neutral effect on overall cardiovascular risk markers.



QUESTION:

How can these findings help guide nutrition advice, food industry practices, and public health messages?

The industry and public health bodies are recommended to distinguish between different types of oils, particularly between virgin and refined oils, as well as oil fractions such as palm oil versus palm olein, before recommending consumption levels. Grouping virgin and refined olive oil simply as 'olive oil' is not appropriate because their health effects do not overlap due to variations in antioxidant content.

This review highlights that not all oils rich in monounsaturated fats (MUFAs) or polyunsaturated fats (PUFAs) confer health benefits, and not all oils rich in saturated fatty acids (SFAs) lead to negative health outcomes, contrary to common belief. Such generalisations are indeed not accurate and unfair to each other.

Overall, vegetable oils offer various health benefits, particularly in improving lipid profiles by lowering the “bad” LDL cholesterol (e.g., canola oil, rice bran oil) or increasing the “good” HDL cholesterol (e.g., peanut oil, olive oil, coconut oil, and palm oil). Future research should focus on long-term studies to better inform dietary recommendations in shaping future nutritional policies.

Reference: Voon PT, Ng CM, Ng YT, et al. Health Effects of Various Edible Vegetable Oils: An Umbrella Review. *Adv Nutr*. 2024;15(9):100276.



Final Announcement



REGISTER

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NUTRITION SATELLITE SYMPOSIUM in conjunction with PIPOC 2025

Empowering Palm Oil Nutrition Today
for a Healthier Tomorrow



17 November 2025



Conference Hall 2, Level 3,
Kuala Lumpur Convention Centre (KLCC)



Jointly organised by
Malaysian Palm Oil Board and
Malaysian Palm Oil Council

Ministry of Plantation and Commodities, Malaysia

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HIGHLIGHTS OF SPEAKERS FOR NUTRITION SATELLITE SYMPOSIUM

in conjunction with
PIPOC 2025

EMPOWERING PALM OIL NUTRITION TODAY FOR A HEALTHIER TOMORROW



**YBhg. Datuk Dr. Ahmad Parveez
Hj. Ghulam Kadir**

Title: Role of Palm Oil Nutrition in Addressing
Sustainable Development Goals



Prof. Dr. Thomas Sanders

Title: Palm Oil: The Under Discussed
Unsaturated Fat



Prof. Dr. Noor Hassim Ismail

Title: The Importance of Palm Oil
Epidemiology Study



Prof. Dr. Tilakavati Karupaiah

Title: The Impact of Dietary Guideline
Transitions on Cardiometabolic Risk Profile



Prof. Dr. Abdul Halim Mokhtar

Title: The Impact of Tocotrienol and Medium-Chain
Triglycerides (MCT) Supplementation on Athletic
Performance and Exercise Recovery



Dr. Tai Mei Chee

Title: Role of Dietary Tocotrienols in the
Prevention of Breast Cancer in Asian Women

Jointly organised by
Malaysian Palm Oil Board and
Malaysian Palm Oil Council
Ministry of Plantation and Commodities, Malaysia
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