KEMENTERIAN PERUSAHAAN PERLADANGAN DAN KOMODITI

MPOB

27th MPOB TOT 2021

TRANSFER OF TECHNOLOGY

SEMINAR & EXHIBITION



PALM TOCOTRIENOLS FOR HEALTH AND WELLNESS

Palm Phytonutrient for Healthy Lifestyle

Research Focus Area : Sustainability Development
Program : Value Addition

TECHNOLOGY HIGHLIGHTS

- MPOB TT558 Tocotrienol-based facial mask
- MPOB TT584 Chocolate spread with tocotrienol
- MPOB TT623 Palm tocotrienol-rich fraction chewable tablet
- MPOB TT640 Functional cookies fortified with palm vitamin (tocotrienol-rich fraction) and carotenes

DESCRIPTION

- Palm vitamin E comprises 70-80% tocotrienols and 20-30% tocopherols. Also known as tocotrienol-rich fraction, TRF. It has unique and potent health-enhancing properties.
- Fortifying food and cosmetic products with TRF would enhance their nutritional, functional and market values.

NOVELTY/HIGHLIGHTS

- MPOB has intense R&D into palm tocotrienols and its application in food and cosmetics. The research findings highlighted the TRF potency and its unique properties such as:

✓ Antioxidant, photoprotective, cardioprotective, neuroprotective, anti-cancer and cancer suppression, neurologic and brain development effects, and lowers blood cholesterol levels.



MPOB TT558 Tocotrienol-based facial mask

- Transdermal delivery of TRF through facial mask to provide the skin with antioxidant, moisture for healthy skin.
- Economic Analysis:
- CAPEX = RM261,000; Payback Period = 4 Years; ROI = 35%



MPOB TT584 Chocolate spread with tocotrienol

- Contains TRF, a natural anti-oxidant that increase shelf life of the product. The chocolate spread is trans-free and nutritious. Provides 74% retention of TRF, has rancidity level comparable to commercial product and impart flavor stability after 6 months of storage.
- Economic Analysis: CAPEX: RM 600,000; Payback Period: 3.6 years; IRR: 37.73%



MPOB TT623 Palm tocotrienol-rich fraction chewable tablet

- Contains 10-50 mg TRF per tablet of 250-1250 mg.
- Able to preserve >90% of TRF upon one-year storage at room temperature.
- Economic Analysis:
- CAPEX: RM500,000; Payback Period: 3 Years; ROI: 47%



MPOB TT640 Functional cookies fortified with palm vitamin E (TRF) and carotenes

- Able to hold high retention of TRF during the shelf-life of the product.
- Healthy & nutritious
- Have excellent nutritional, texture and sensorial qualities, comparable to regular cookies.
- Economic Analysis: CAPEX: RM1.5 Mil; Payback Period: 3 Years; ROI: 36.84%

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