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Waste not palm oil



Allysha, Nur Sabrina and Nurshafiqah with their demonstration kit showing how their absorbent, made from palm oil shells, can soak up different types of toxic waste.

By **TAN SHIOW CHIN**
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WHO would have thought that such disparate items as organic toothpaste, environmentally-friendly tissue paper, fish food and a heavy metal filtering system could come out of palm oil waste products?

These items were but a few of those on display during the Malaysian Palm Oil Board's (MPOB) Open Day last month in conjunction with its 10th anniversary.

And the surprising part is that none of these products are results from the MPOB's own research and development efforts.

Instead, they came from the minds of 31 teams of students from cluster schools and boarding schools around the country.

The students, who ranged from Year Six to Form Five, had around two months to come up with their entries for the palm oil-based Invention and Innovation Competition.

For residential school students Nur Hafizah Saffian, Nursyafiqah Jazlan and Hani Hamizan Nor Hashim, the process of coming up with their product took two weeks of research and analysis, and three days of cooking.

Inspired by the fact that the cereals available in Malaysia have to be imported into the country, the girls from Tunku Kurshiah College, Seremban, decided to come up with their own version of the breakfast food.

"We came up with cereal made from local materials, so that it would be cheaper," said

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Nursyafiq.

She explained that their product called Olava, was made from cassava – a rich source of carbohydrates and fibre – fried in unfractionated palm oil, which provides antioxidants in the food.

“Sometimes, our friends don’t have breakfast, so we think this is good for them to eat on the go,” she said, adding that Olava can also be used to make cookies and muesli bars, among other items.

Being from a new school, SM Sains Tapah students Muhammad Shakir Mohd Shahar, Khairul Afifi Ngajeni and Muhammad Nazrul Asyraf Zunaidi decided to seek some outside help for their invention.

Using the facilities and advice from the Forest Research Institute Malaysia’s (FRIM) bioenergy programme, the Form One students came up with a methylene blue dye absorbent made from discarded palm oil husks.

“Our product removes 75.1% of the methylene blue from waste water,” said Muhammad Shakir.

“We chose methylene blue because it is used as the baseline for many other dyes.”

He added that it took them two days to do the research, two weeks to discuss their idea and two days to conduct their experiments.

All the teams had a chance to exhibit their work at MPOB’s campus in Bandar Baru Bangi during the Open Day.

Said MPOB director-general Datuk Dr Mohd Basri Wahid: “I think these school children are impressive.

“They have ideas that we haven’t even thought of!”

He added that it was good the students are so interested in palm oil, as the country needs many more new scientists – now and in the future – in the various fields of study related to the industry.

Deputy director-general (research and development) Datuk Dr Choo Yuen May, who was in charge of organising the competition, was also pleasantly surprised at the quality of entries they received.

“They are very good. They know what they

are doing, and they’re very aware of environmental issues,” she said, adding that the ideas were interesting and creative.

“Maybe MPOB will take some of the ideas and develop them further,” she added.

Aside from exhibiting their work, the students also did a short presentation to the three groups of judges moving around the room, as well as visitors who attended the event.

According to Dr Choo, each group of judges, consisting of MPOB and Education Ministry officials, shortlisted their own top three teams after visiting all the booths.

The judges then compared their selections and made the final list of winners.

Each team was judged on their creativity (25%), scientific thinking (25%), attention to detail (12%), skill (12%), clarity (10%), and teamwork (16%).

First place, with a cash prize of RM3,000, a trophy and certificates, went to Allysha Michael, Nur Sabrina Shaiful Bahari and Nurshafiqah Azhar from SM Sains Seri Puteri, Cyberjaya, for their toxic waste absorbent made out of palm oil shells.

The team from SM Sains Kepala Batas, comprising Mohd Termizi Mastor, Nurul Syafiqah Norsham and Athirah Liyana Sharuddin took home the second prize of RM2,500, a trophy and certificates, with their “Palm Oil Hero, Pollution Zero” concept.

Meanwhile, the third prize of RM2,000, a trophy and certificates, went to Muhamad Syahmi Mohd Nor, Mohamad Syahman Shafei and Ahmad Sukri Zahari from SM Sains Tengku Muhammad Faris Petra, Pengkalan Chepa, for their “Ethanol from Cellulose” entry.

Winning the special Jury Award of RM500 and certificates were the only primary school participants – SK Sultan Ahmad Tajuddin, Jitra, students Jayshan Karunakaran, Mohamad Afif Azhan Azis and Muhammad Aqil Yaakob – for their handicraft products made out of palm oil leaves.

However, the rest of the teams did not go home empty-handed as they were each awarded participation prizes of RM500 and certificates.