

KOTA KINABALU: University of Malaysia Sabah's (UMS) seaweed research group has developed a DNA fingerprinting kit for quick identification of different varieties of seaweed using specific DNA markers.

UMS Assoc Prof Dr Suhaimi Md Yasir, the project leader of Seaweed Research Grant under the National Key Economic Areas (NKEA) Agriculture EPP3 (Entry Point Projects), said DNA fingerprinting was widely used in forensic studies and the method developed by UMS had applications in the seaweed farming and breeding industry.

"The method uses a tiny DNA sample, extracted from seaweed, in conjunction with specific DNA markers and a Polymerase Chain Reaction to produce a reproducible DNA fingerprint which can differentiate species based on their DNA content. The entire process can be completed in two hours," he told Bernama, here.

Suhaimi said the method would benefit the seaweed industry which was currently facing a loss in productivity resulting from misidentification of seaweed varieties.

He said the UMS seaweed research group

under the leadership of Professor Datin Dr Ann Anton had been instrumental in developing the DNA fingerprinting kit.

The genomic library for seaweeds was being developed by Grace Joy Chin Wei Lie and Wilson Yong Thau Lym at the UMS' Biotechnology Research Institute and specific DNA fingerprinting protocols were developed by Thien Vun Yee, he said.

According to Suhaimi, seaweeds are commercially cultivated in Malaysia and contribute significant revenue to the Malaysian economy and had been identified as one of the key areas for development under the NKEA.

He said different varieties of seaweed had different commercial values based on their phycolloid contents.

There are a total of six varieties of seaweed which had been identified for commercial cultivation based on their carrageen yield and growth.

Suhaimi said one of the major problems facing seaweed cultivators was the identification of plant material collected from the wild.

"For example, different strains of *Eucheuma* and *Kappaphycus* may have different colours

UMS researchers develop DNA fingerprinting method for seaweeds

and physical appearance which may confuse the farmers leading to a drop in productivity."

Suhaimi said the economic viability of the seaweed industry was dependent on the production of high quality germplasm with the desired traits (higher carrageen yield and higher growth rate) for incorporation into mass propagation systems.

"The current practices of identification and characterization of seaweeds are usually car-

ried out by observing their physical morphology which is influenced by both genetic make-up and environmental factors.

"This wide range of environmentally induced forms has led to confusion in the taxonomy. Therefore, molecular technique has provided an alternate method for taxonomic studies and is an important tool in solving problems associated with species delimitation," he added. — Bernama