

FOR IMMEDIATE RELEASE

New, high-yielding planting material from PT SMART Tbk to increase crude palm oil yields to the highest levels in the industry

- Two clones of high-yielding oil palm planting material registered in Indonesia's Catalogue of Seeds and approved for use by the Ministry of Agriculture
- These planting materials to potentially increase crude palm oil yields to more than 10 tonnes of CPO/hectare/year at prime age from our current capability to achieve around 7.5-8 tonnes/hectare/year under optimal conditions.
- This development supports PT SMART Tbk's intensification efforts, increasing the productivity of existing plantations.

Jakarta, 22 May 2017 – PT SMART Tbk (SMART), a subsidiary of Golden-Agri Resources Ltd (GAR), today announced its breakthrough in cultivating exceptionally high-yielding oil palm planting material, developed in the company's research centres, [SMART Research Institute's \(SMARTRI\)](#) and [SMART's Biotechnology Centre](#), through an advanced biotechnology programme. These planting materials – Eka 1 and Eka 2 – are registered in Indonesia's Catalogue of Seeds and were approved for cultivation on 21 April 2017 by the Directorate General of Plantation, Ministry of Agriculture. They will enable the company to increase yields to the highest levels in the industry, without increasing land under cultivation.

President Director PT SMART Tbk, Daud Dharsono, said, "This kind of breakthrough is at the heart of our intensification efforts, which we see as essential to delivering sustainable production of palm oil to meet a growing global demand. We will continue to identify new technologies and accelerate the adoption of the latest modern techniques to enhance not only our own sustainable agricultural practices, but those of the industry as a whole."

Building on two decades of research jointly undertaken by SMARTRI and SMART's Biotechnology Centre, the new planting materials were developed naturally through conventional selection programme and tissue culture from elite palms. They carry the potential of increasing the company's crude palm oil yield to more than 10 tonnes of CPO/hectare/year at prime age (10-18 years) from our current capability to achieve around 7.5-8 tonnes/hectare/year under optimal weather and soil conditions. Indonesia's industry average yield is still below 4 tonnes/hectare/year.

Head of Plant Production and Biotechnology Division Dr Tony Liwang said, "Tissue culture helps us propagate planting materials through a non-GMO process that produces more crude palm oil, and in the near future, it will help to produce planting materials that make better use of nutrients and are more resistant to both disease and drought. With the success to date of our tissue culture programme, we can expect to see substantially higher yields with Eka 1 and Eka 2, and greater oil extraction levels from the fruit itself."

At its prime maturity, the Eka 1 seedlings are expected to yield 10.8 tonnes of crude palm oil (CPO) per hectare, with oil extraction levels of 32 percent due to the exceptionally high ratio of oil in the fruit. The Eka 2 seedlings show even greater promise, with expected yields of 13.0 tonnes per hectare and oil extraction levels of 36 percent. In addition, Eka 1 and Eka 2's expected time to harvest is 24 months, compared to the current industry average of 30 months.

Over the next five years, the company will multiply these clones through tissue culture, to cultivate a sufficient quantity to plant over a larger commercial area starting in 2022.



More than 4,000 oil palm trees of differing varieties were initially studied in 2007 by our team of researchers and field technicians over a ten year period to select and breed optimal specimens for the tissue culture programme, with the first clonal seedlings planted in 2011. Following numerous trials and commercial pilots, as of 2016, GAR has planted these planting materials across Sumatra and West Kalimantan with seedlings from the programme.

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About PT SMART Tbk and Golden Agri-Resources Ltd (GAR)

PT SMART Tbk (SMART) is one of the leading, publicly listed, integrated palm based consumer companies in Indonesia. SMART listed its shares on the Indonesia Stock Exchange in 1992.

SMART is a subsidiary of Golden Agri-Resources Ltd (GAR), which is one of the largest palm-based companies in the world, listed on the Singapore Exchange. SMART also manages all of GAR's oil palm plantations, bringing the total planted area under management to 488,000 hectares (including plasma smallholders) in Indonesia. This relationship leverages on the economies of scale in plantation management, information technology, research and development, sourcing of raw material, and access to a wide domestic and international marketing network.

The companies are focused on sustainable palm oil production. In Indonesia, primary activities include cultivating and harvesting of oil palm trees; processing of fresh fruit bunch into crude palm oil (CPO) and palm kernel; merchandising and refining CPO into value-added products such as cooking oil, margarine, shortening and biodiesel.

Besides bulk and industrial oil, SMART's refined products are also marketed under several brands such as Filma and Kunci Mas. Today, these brands have been recognised for their high quality and command significant market share in their respective segment in Indonesia. For more information visit: www.smart-tbk.com.

GAR also has operations in China and India including a deep-sea port, oilseeds crushing plants, production capabilities for refined edible oil products as well as other food products such as noodles. For more information visit: www.goldenagri.com.sg

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