

News Release

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BASF's IrgaCycle™ stabilizes recycled plastics used to protect pineapples from sunburn in Malaysia

■ IrgaCycle™ enhances the quality of post-consumer and post-industrial polyolefin material for re-use in various applications

Hong Kong SAR, China – July 19, 2022 – BASF and 3T Industries Sdn Bhd, a leading recycling company in Malaysia dealing with post-industrial and post-consumer recyclates, are helping pineapple plantations in Malaysia to increase their yields and save resources. For the first time, 3T Industries has applied BASF's IrgaCycle™ UV033 DD to enhance 100% recycled high density polyethylene (HDPE) sheets used as protectors for pineapples.

While pineapples require a warm and humid climate, they are susceptible to damage from solar radiation and high temperatures (> 32°C) which can significantly reduce marketable yield and cut deep into a grower's profit. Symptoms include sunburn or bleaching which are visible as yellow-white skin that turns pale grey or brown upon damage to the tissue underneath. This damaged tissue is susceptible to disease and infestation. The HDPE protector shields the fruit from direct sunlight while still allowing photosynthesis to occur.

"Plastic additives specifically for the agricultural sector are highly customized to fulfil critical customer needs for enhanced crop protection solutions," says Hermann Althoff, Senior Vice President, Performance Chemicals Asia Pacific. "We offer full customer support in all questions of quality improvement of recyclates to make them viable materials in new applications."

Previously, 3T Industries used a combination of antioxidants and light stabilizers to achieve the performance requirements stipulated by the grower – the HDPE protectors needed to last through the intended service lifetime of four seasons.

IrgaCycle offers a one-pack solution that is immediately available for the recycler without the need for further premixing. It is also more efficient at lower concentrations compared to traditional antioxidant systems and reduces the overall quantity of additives required. This results in easy and accurate dosing, improved product quality, as well as upgraded recyclate for use in long-term applications.

“We use our expertise in recycling technology and post-consumer resins to provide better solutions to consumers and communities,” says PH Tan, Managing Director of 3T Industries. “With IrgaCycle, we were able to use recycled feedstock to design a new product that features a high amount of recyclate content and makes more sustainable agricultural plastics possible.”

BASF not only provided 3T Industries with the suitable additive solution, but also the technical recommendations to stabilize the recycled polymers during processing and outdoor weathering. This is important as an effective and sustainable application of recycled materials depends on, amongst others, the optimization of process conditions and modifying agents.

Launched in 2021, IrgaCycle consists of a series of plastic additive formulations, which enable recycled plastics to be reused for the production of high-value plastics in combination with virgin materials. The additive solution addresses specific quality issues associated with recycled resins, such as limited processability, poor long-term thermal stability and insufficient protection from outdoor weathering.

The IrgaCycle range is offered as part of the VALERAS™ portfolio. In addition to enabling plastics circularity with IrgaCycle, VALERAS solutions bring significant sustainability value to plastic applications by improving durability, saving energy, as well as reducing waste and emissions.

About BASF Plastic Additives

BASF is a leading supplier, manufacturer, and innovation partner of plastic additives. Its comprehensive and innovative product portfolio includes additives which provide ease in processing, heat and light resistance to a variety of polymers and applications including molded articles, films, fibers, sheets and extruded profiles. The portfolio is constantly analyzed, assessed and actively improved towards solutions which make a larger contribution to sustainability. More information about

plastic additives: www.plasticadditives.basf.com.

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