

News Release

P311/23e
October 16, 2023

BASF collaborates with Yuntianhua to launch first-of-its-kind climate smart farming project in China

- **Pilot project to verify emission reductions from the use of stabilized urea fertilizer containing BASF's urea inhibitor Limus[®]**
- **By applying Limus[®] on urea fertilizer, Yuntianhua can help reduce CO₂e emissions in China equivalent to emissions of over 20,000 gas-powered cars per year¹**
- **Emission reductions will be independently verified according to international carbon accounting standards**

BASF and Yunnan Yuntianhua Co., Ltd., a China-based manufacturer of chemical fertilizer, have launched a pilot project in China to verify the reduction of CO₂e emissions from the use of Yuntianhua's stabilized urea fertilizer containing BASF's urease inhibitor Limus[®]. The results are expected to support climate smart farming initiatives in China and program expansion opportunities globally.

Around 15 percent of nitrogen in urea fertilizer is lost to the atmosphere as ammonia², causing a deterioration in air and water quality. Additionally, applied nitrogen released as nitrous oxide can enter the atmosphere as greenhouse gas. Along with the environmental effects of nitrogen loss, farmers suffer economic and yield quality losses as less nitrogen is available to crops when they need it most.

Applying Limus[®] urease inhibitor on urea fertilizer stabilizes the urea and emits less ammonia and nitrous oxide than standard, non-treated fertilizers. The first results of

¹ [Greenhouse Gas Equivalencies Calculator | US EPA](#)

² Pan et al. 2016: Ammonia volatilization from synthetic fertilizers and its mitigation strategies: A global synthesis, *Agriculture, Ecosystems and Environment* 232, 283–289

the pilot project are expected to be reported in 2024. The methodology has been validated by an independent auditor according to the international ISO 14064 standard. Based on learnings from the pilot project, BASF commits to explore similar opportunities with other fertilizer manufacturers in China and other countries globally. The aim is to enable upstream producers in the agricultural value chain to obtain verified emissions reductions from the use of stabilized nitrogen fertilizers.

BASF also collaborated with First Climate, a leading global provider of carbon management and green energy service, to develop and implement the pilot project in China. First Climate is involved in developing the methodology for quantifying the project's emissions reductions and in monitoring the project outcomes. The organization will also support the marketing of the carbon credits issued from the project's emissions reduction.

"We are excited to be a pioneer with Yuntianhua in bringing more value to farmers in China through this climate smart farming initiative," said Dr. Markus Schmid, N-Management business lead at BASF. "Our work with Yuntianhua will set the stage for future, similar projects with partners along the food value chain, which we as BASF are actively seeking."

"Partnership is the cornerstone to accelerate the path towards transformation," said Shuxin Zhai, Deputy General Manager of Yunnan Yuntianhua Co., Ltd. and General Manager of Yuntianhua Agricultural Material Chain Co., Ltd. "BASF is the ideal innovative partner of Yuntianhua, which is in line with Yuntianhua's development vision and strategic goals. We look forward to reaching a deeper and broader collaboration in the future to jointly solve the pain points and difficulties in fertilizer innovation and product upgrading."

About BASF's Agricultural Solutions division

Farming is fundamental to provide enough healthy and affordable food for a rapidly growing population while reducing environmental impacts. Working with partners and agricultural experts and by integrating sustainability criteria into all business decisions, we help farmers to create a positive impact on sustainable agriculture. That's why we invest in a strong R&D pipeline, connecting innovative thinking with practical action in the field. Our portfolio comprises seeds and specifically selected plant traits, chemical and biological crop protection, solutions for soil management, plant health, pest control and digital farming. With expert teams in the lab, field, office and in production, we strive to find the right balance for success – for farmers, agriculture and future generations. In

2022, our division generated sales of €10.3 billion. For more information, please visit www.agriculture.basf.com or any of our social media channels.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. More than 111,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €87.3 billion in 2022. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the United States. Further information at www.basf.com.