

# News Release



## **BASF plastic additives increase durability of greenhouse film in Yunnan, China**

- **Tinuvin® XT 100 light stabilizer provides long-lasting protection against strong solar radiation, and high resistance to agrochemicals**
- **Increased service life of greenhouse film helps farmer achieve stable crop yields**

Hong Kong – May 4, 2017 – BASF’s plastic additive Tinuvin® XT 100 has been adopted by Yuxi Xuri Plastics Production Co., Ltd, a leading greenhouse film manufacturer in China, to make low density polyethylene (LDPE) film. The film is used to cover a greenhouse for growing grapes in Yunnan province in China.

The requirements for greenhouse films are highly demanding. Greenhouse film manufacturers must allow for solar irradiance, expected film durability, type of cultivation as well as type and frequency of agrochemicals used.

Yuxi Xuri Plastics was struggling to ensure that the greenhouse film did not prematurely break down in the presence of high agrochemicals. Premature failure of the films could result in compensation payouts; and for the farmer: decreased grape yields and reduced income as well as additional costs to reinstall the film. They needed a way to stabilize the film and assure its lifetime prediction.

“With Tinuvin XT 100, it is possible for us to produce LDPE films that withstand even high agricultural chemical levels and assure a service life of up to two years, even under intense sunlight,” says Mr. Wang

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Ming Xian, General Manager of Yuxi Xuri Plastics. “Switching to Tinuvin XT 100 helped us to regain our market share in Yunnan.”

“Light stabilizers specifically for the agricultural sector are highly customized to fulfil critical customer needs for enhanced crop protection solutions in China today,” comments Hermann Althoff, Senior Vice President, of BASF’s Performance Chemicals unit in Asia Pacific. “The performance of such stabilized films is also outstanding when in contact with wood and metal greenhouse structures. Without a light stabilizer such as Tinuvin XT 100, greenhouse films would not last even one growing cycle.”

### **Undercover crop protection**

Greenhouse films are susceptible to energy-rich solar radiation and thermal oxidation, leading to rapid and dramatic loss of physical, mechanical and optical properties which causes the plastic to become brittle. Further, increasingly stringent regulations require the adoption of more responsible agricultural practices. New approaches, such as biological or integrated pest management (IPM), result in different uses of agrochemical treatments, making it necessary to stabilize and protect agricultural plastics. Light stabilizers that are resistant to these agrochemicals prevent premature failure of the greenhouse film, thereby avoiding loss of yield and income, as well as higher cost to reinstall the new film.

Besides, UV absorbers which directly intercept the harmful radiation in the same way as a sun cream, compounds of the sterically hindered amine light stabilizer (HALS) class are important for protecting greenhouse films. These HALS slow down not only the weathering process due to UV radiation, but also the degradation of the material caused by heat and chemicals. Because all these trigger factors lead to the formation of free radicals – extremely reactive molecules which destroy the long molecule chains of the polyethylene – the film loses its stretch properties, becomes brittle and decays. The hindered amines of HALS compounds, incorporated in Tinuvin XT 100, intercept the free radicals and make them harmless.

### **About BASF Plastic Additives**

BASF is a leading supplier, manufacturer and innovation partner of plastic additives. Its comprehensive and innovative product portfolio includes stabilizers 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. More information about plastic additives: [www.plasticadditives.basf.com](http://www.plasticadditives.basf.com).

### **About BASF**

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