

## **ENVIRONMENTAL FACTORS INFLUENCING THE RESPONSE OF COTTON TO ENVOKE**

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### **Abstract**

A comprehensive review of the Syngenta global database indicated that low temperatures and/or saturated soils before, during, and after an application of ENVOKE might lead to increased cotton response. Follow-up glasshouse trials were conducted to elucidate and quantify the contribution of these environmental factors and the timing of their occurrence on cotton response to ENVOKE. To ensure a significant cotton response in these glasshouse studies, applications were made to a highly sensitive stripper cotton variety, Paymaster HS26 at the 2-leaf stage. Two temperature (24°C day/13°C night and 32°C day/18°C night) and soil moisture (saturated and field capacity) regimes were evaluated. To determine the influence of these conditions opposite the timing of an ENVOKE application the following exposure timings were used: 3 days before application, 3 days after application, 3 days with the application on the second day, and six days with the application on the third day. Prior to and after these exposure timings cotton plants were grown in the glasshouse with 32°C day/18°C night temperatures and watered as needed to ensure proper plant growth and development. Results 21 days after application indicated that saturated soils and cool temperatures increased cotton response compared to field capacity soils and warm temperatures, respectively. These effects were independent of exposure timing.