THE BOREAS MOBILE WIND MACHINE (BOREAS) IS A PROPRIETARY GIANT MOBILE WIND MACHINE developed by DuPont Pioneer to test the ability of corn hybrids to withstand violent wind storms that cause significant yield loss. This technology allows our researchers to examine how well plants can stand against intense winds.

STATUS: This technology addresses brittle snap and root lodging problems by screening corn products prior to commercialization

TECHNOLOGY LOCATION: U.S., Europe, with global applications

CROPS: Corn

TECHNOLOGY APPLICATION: Validation & Development

- Improve Precision and Speed in Creating and Testing Products
- Ayt™ System Technology

ANTICIPATING NEEDS / Pioneer research estimates wind related damage can cost North American corn growers more than $1 billion annually through root lodging, stalk lodging, and brittle snap. Boreas (pictured) is used to create turbulent winds that exceed 100 miles per hour and allow researchers to conduct testing across multiple environments and developmental plant stages. Boreas testing provides accurate and precise data for making hybrid advancement selections.

Pioneer is continually looking for more innovative opportunities to test hybrids against wind damage. As the need to increase agricultural productivity continues, Pioneer is developing new tools to assist and advance our products to meet grower needs.

DELIVERING SOLUTIONS / The Boreas mobile wind machine has changed how Pioneer scientists approach field research studies for standability traits by imitating the variety and intensity of winds that occur in nature. Prior to this machine, researchers depended solely on unpredictable natural weather events and mechanical push tests.

Pioneer scientists are using multiple trait-specific mobile wind machines to screen for improved standability traits that allow plants to withstand damaging root lodging, stalk lodging and brittle snap. Pioneer® brand hybrid characteristics in catalogs are backed by Boreas data that helps growers choose the right product for the right acre.