REGULATION OF DIURNAL POLLEN RELEASE. Brian Viner, Raymond Arritt and Mark Westgate. Graduate Research Assistant, Professor and Professor, Department of Agronomy, Iowa State University, Ames, IA 50011.

The ability to accurately model pollen dispersion is reliant on reasonably predicting the magnitude of pollen shed over the day. To develop a predictive equation, pollen was collected at two field sites from 29 July to 3 Aug 2003. Based on measurements of collected pollen, a rate of pollen shed was calculated over each day and normalized to the total amount of pollen collected. Our model predicts the rate of shed as a function of two processes. The first equation is a Gaussian curve that predicts the percentage of pollen that is available for shed as a function of vapor pressure deficit. The second process predicts the amount of available pollen that will be shed. The output from this model would provide the rate of pollen shed in terms of the percent of a day's total shed. Results from this model show R^2 values ranging between 0.54 and 0.99 when compared to our field observations.

2007 North Central Weed Science Society Proceedings 62:75.