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POLLEN GERMINATION AND STORAGE

Studies were made at the Department of Agronomy, University of Illinois, in 1967. Pollen in vitro showed good germination on a medium consisting of 1% Difco Bacto-Agar and 20% sucrose. Addition of 10-100 ppm boric acid to the medium increased the percent of germination, but calcium nitrate in concentrations of 50-500 ppm had no effect. Neither of these chemicals reduced random variation in pollen germination studies. The component of variance for random variation was considerably higher than the components introduced by using samples of pollen mixed from different florets.

Pollen stored well both at -30°C and $+2^{\circ}\text{C}$. The best germination after 4 month storage was obtained from pollen stored at -30°C over a wide range of relative humidities from 5 to 60%. Pollen stored one month under these conditions germinated considerably better than the original fresh sample. At $+2^{\circ}\text{C}$ the optimum relative humidity was between 50-60%. At room temperature pollen could be stored up to one month in 5-10% relative humidity. The desired relative humidities were obtained equilibria established with appropriate dilutions of sulfuric acid in sealed jars or dessicators. Pollen stored in the laboratory at ambient humidity lost its viability in about 10 days.