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THE EFFECT OF CONTROLLING SEED-BORNE PATHOGENS ON SEED GERMINATION IN SOYBEANS

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Twelve soybean (*Glycine max* (L) Merrill) genotypes, consisting of advanced breeding lines and cultivars, were tested to study the effect of controlling seed-borne pathogens on seed germination at optimal (30°C) and above optimal (38°C) temperatures. Benomyl (Benlate 50 WP), a fungicide, and amended and acidified potato-dextrose agar (PDA) were used to control seed-borne fungi and bacteria while plain PDA served as control.

The germination percentage increased and percent infection by bacteria decreased significantly when seeds were germinated on acidified PDA at 38°C. Meanwhile, Benlate controlled the fungal infection and improved the germination significantly at 30°C. The percentages of germination and fungal infection declined and percent infection by bacteria increased when the incubation temperature was raised from 30 to 38°C. However, two geno-types germinated as well at 38 as at 30°C with over 80%, despite differing incidences of seed-borne bacteria and fungi. Coefficients of correlation between germination percentage and percent of seed infection by seedborne pathogens were negative and significant.

It appears from this investigation that controlling of seed-borne fungi at low temperature and seed-borne bacteria at high temperature would improve seed germination in soybeans.