

Errata

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Abstracts of papers presented at the 1981 Annual Meeting of The American Phytopathological Society were published on pages 855-914, but the following abstracts were inadvertently omitted.

EFFECT OF COMPETITION ON YIELD IN CORN. L. P. Hart and W. C. Fulton. Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824 and Department of Entomology, Purdue University, West Lafayette, IN 47907.

We analyzed published data on the weights of healthy and diseased ears from fields with different levels of stalk rot. When the weight of healthy ears in a field is plotted against the level of stalk rot in that field a highly significant curvilinear relationship was found, with a peak at about 47 percent stalk rot. This suggests that planting populations for optimum grain yield for corn were developed under moderate levels of stalk rot. Furthermore, healthy plants with stalk rotted neighbors should have greater yield because of decreased competition. We tested this hypothesis in 1979 and 1980. Dry weight of grain from healthy plants was significantly greater when one or both of its nearest neighbors were affected by *Fusarium* stalk rot. *Fusarium* stalk rot always occurred with root rot, but plants with root rot only did not affect the yields of healthy neighbors.

PRODUCTION OF ZEARELENONE AND VOMITOXIN IN COMMERCIAL SWEET CORN HYBRIDS INOCULATED WITH ISOLATES OF GIBBERELLA ZEAE. L. P. Hart and T. C. Stebbins, Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824.

Vomitoxin or vomitoxin and zearalenone were extracted from thirty-three commercial hybrids of sweet corn inoculated in the field with *Gibberella zeae*. All three isolates of *G. zeae* produced vomitoxin in infected kernels, but only isolated W-8 produced both vomitoxin and zearalenone. Vomitoxin was extracted from all 33 hybrids. Mycotoxin extractions were made only from infected kernels and the variation between hybrids and within replications was high. Concentrations of vomitoxin within replications ranged from none detected to >500 µg/g tissue. Concentrations of zearalenone ranged from none detected to >180 µg/g tissue. None of the hybrids inhibited the production of vomitoxin. There was no apparent correlation between the severity of infection and production of either mycotoxin. The level of ear rot was also variable within hybrids and ranged from no

infection to completely molded ears. Two hybrids consistently supported less than 25 percent mold development on all ears.

IMPACT OF OZONE ON SOYBEAN YIELD. L. W. Kress and J. E. Miller, RER Division, Argonne National Laboratory, Argonne, IL 60439.

Field-grown soybeans [*Glycine max* (L.) Merr., cv. Corsoy] were exposed to O₃ in open-top chambers. A randomized block design incorporated four replicates of six treatments: AA - no chamber; CF - charcoal-filtered chamber; NF-1 - non-filtered air plus 0.01 ppm O₃ to provide an O₃ concentration equal to that in ambient air; NF-2, NF-3, and NF-4 - non-filtered air plus 0.03, 0.06, and 0.09 ppm O₃ (respectively) above ambient. Ozone was added for 7 hr daily. As O₃ increased there were fewer and smaller seeds with a lower oil and higher protein content. Total seed weight reductions compared to the NF-1 treatment were 16, 33, and 50%, respectively, for the NF-2, NF-3, and NF-4 treatments. Seed weight per plant was significantly reduced for all O₃ treatments compared to NF-1. Protein increase and oil decrease was significant only for the 0.09 ppm O₃ addition. A comparison of the AA plots with the NF-1 plots revealed no significant chamber effects.

BORON AS A PHYTOTOXIC POLLUTANT TO VEGETATION, K.T. Palmer and S.N. Linzon, Ontario Ministry of the Environment, Air Resources Branch, Phytotoxicology Section, 880 Bay Street, Suite 347, Toronto, Ontario M5S 1Z8

In 1980, an experiment was designed to determine the mode of uptake of boron by vegetation exhibiting boron injury symptoms. Potted Norway maple (*Acer platanoides* L.) saplings were grown in a boron contaminated soil collected near an appliance manufacturing company, and in control soil. The pots were placed in two locations for one growing season: in the vicinity of the appliance manufacturing company and in a control area. The sunken pots were covered to avoid aerial contamination and boron levels in foliage were determined at the end of the growing season. Boron type injury occurred only on samplings growing in the contaminated soil irrespective of site location. On the basis of the visual symptoms and chemical analyses results we have concluded that the boron induced injury observed on natural vegetation in the vicinity of the industry resulted mainly from uptake of the element from the soil.