Industry News

Wheat cultural practices are changing in the United States. The new varieties being planted have higher yield potential but also often have lower disease resistance. This, along with conservation tillage, double cropping, and high nitrogen input, has led to a rapidly expanding testing program of fungicides on wheat. In the United States, Bayleton, Benlate, maneb, and mancozeb are the major foliar fungicides currently registered for wheat. In Europe, wheat and barley comprise one of the largest fungicide markets (about $350 million), reflecting the level of the price support system in the European Economic Community and the high yield potential of these crops.

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The Symposium on Ergosterol Biosynthesis Inhibitors at Reading, England, in March included reports that: 1) the mode of action of the morpholine derivatives tridemorph and fenpropimorph appears to be based on inhibition of delta reductase and not, as previously supposed, on inhibition of the delta 8 to delta 7 isomerase; 2) cytochrome P450-controlled C^{-14} demethylation seems to be blocked by binding of sterol-inhibitor fungicides to the reactive site of the enzyme; 3) the two known resistance mechanisms against sterol-inhibitor fungicides are nonconversion into the toxic principle and reduction in the rate of net uptake; and 4) cross-resistance is the rule between all fungicides in the C^{-14} demethylation inhibitor group and occurs, but is not the rule, between these fungicides and morpholine derivatives.

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Ciba-Geigy is again undertaking resistance monitoring programs on tobacco blue mold and potato late blight for sensitivity to metalaxyl. University and extension personnel wishing to submit samples should contact Tom Young (305/567-5218). Ciba-Geigy is also providing a citrus soil bioassay for identifying groves with high populations of Phytophthora parasitica and therefore the potential for root and foot rot.

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The marked increase in publications on "resistance to fungicides" may be because the term is being used to cover such a wide variety of phenomena, including the sudden, dramatic loss of a fungicide's ability to control a disease in the field and the growth of an artificially produced laboratory mutant in a medium with fungicide levels normally expected to inhibit the fungus. Test data of the fitness of such mutants in vivo are rarely available. Is it not time to review the terminology and definition of fungicide resistance?

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Research and development on foliar application equipment continue to improve spray droplet deposition, with less water being used. Micron West Corp. and Sprayrite Manufacturing Co. are among the companies selling controlled-droplet applicators, and Tifa Ltd.'s aerosol generators are being accepted in the tropics.

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This column is prepared by the members of the APS Industry Committee. Items of interest may be sent to: H. V. Morton, Ciba-Geigy Corporation, P.O. Box 18300, Greensboro, NC 27419.

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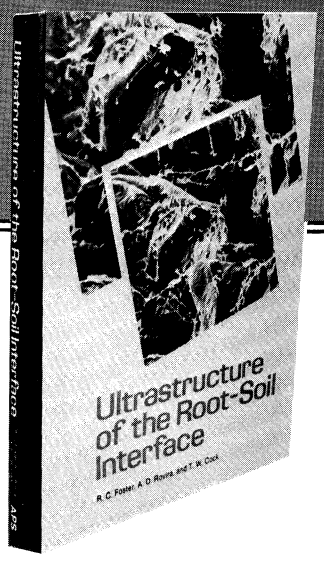

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