



THE BENEFITS OF FUNGICIDES IN U.S. CROP PRODUCTION

Introduction

With a grant from CropLife America, the Crop Protection Research Institute (CPRI) is conducting a study of the benefits of using fungicides in growing 50 crops in the US. This study was started in January, 2004 and will be completed in November 2004.

Methodology

For each of the 50 crops, the CPRI study documents the role of fungicides in managing diseases. Each major disease is described for each crop – 225 plant diseases are described in the CPRI study. The history of managing each disease is documented including estimates of losses prior to the use of fungicides. The study documents how fruit and vegetable crops have been treated with fungicides since the early 1900's. Large quantities of copper and sulfur were used annually in the first 50 years of the twentieth century to manage plant diseases. The CPRI study documents how the introduction of synthetic chemicals improved disease management with less damage to plants and significant reductions in the aggregate use of fungicides due to lower use rates. The CPRI study cites experiments that document the increased production with fungicides in comparison to untreated controls. The importance of fungicides is emphasized by pointing out that organic growers use fungicides too, copper and sulfur in particular. The CPRI study cites over 1,000 references from the plant pathology literature. This documentation has been assembled to provide credibility to estimates of potential aggregate yield reductions that would likely result if fungicides were not used. These yield impact estimates are drawn from a series of reports from the US Department of Agriculture (USDA) and the American Farm Bureau Federation (AFBF). The USDA and AFBF estimates were collected from University plant pathology specialists.

The CPRI Study documents current use of individual fungicide active ingredient by crop and state. Estimates of the number of acres treated, the use rate per treated acre, and the cost of the chemicals and their application are made. The cost of the fungicides and their application are compared to the estimates of aggregate crop loss if fungicides were not used in order to calculate the net benefit of using fungicides for each crop and state.

The CPRI Study includes the major-producing states for each crop. The average number of states per crop is eight. Thus, the CPRI study calculates 400 estimates of the net benefit of fungicide use by state and crop. The average number of crops included for each state is also eight.

CPRI is asking commodity organizations that represent the growers of each crop to review the case studies for their crops and to provide letters of endorsement. CPRI anticipates receiving endorsement letters from 30-40 commodity organizations.

Outreach

The CPRI report will be released in late November, 2004. A press conference will be held in Washington, DC and in individual states for which the greatest impacts are projected. The report will be posted on the CPRI website as 50 separate case studies (approximately 250 pages) and as an Executive Summary (15 pages).

CPRI is pursuing numerous outreach opportunities for the fall, winter, and spring of 2004-2005. CPRI anticipates making 20-25 presentations on the fungicide study to state legislative conferences and national food meetings, and as university seminars. Each presentation will be tailored to the states and crops appropriate for the audience. Since most audiences will not have backgrounds in plant pathology, each presentation will include a basic introduction to plant diseases and fungicides. CPRI is assembling a set of images for each crop showing effects of the diseases and the effectiveness of fungicide use in controlling these diseases. Approximately 10 slides are being assembled for each crop.

Research Agenda

CPRI will be following the fungicide benefit study with a study of the impacts of regulation on the availability and cost of fungicides in the U.S. This study will also examine current publicly funded plant pathology research programs in terms of their likely success in managing plant diseases without fungicides. Basically, this study will identify whether current public policies need to be changed to ensure that U.S. growers have access to effective plant disease management methods in the future.

CPRI will also be conducting national benefit studies for plant growth regulators, fumigants, and insecticides. A report on the benefits of herbicides has already been issued.

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