

Medicines for Plant Health: Fungicides

A position statement by The American Phytopathological Society on the importance of agricultural fungicides to the U.S. food supply

Plant Diseases Limit Food Production

As with people and animals, diseases develop in plants as a result of infection by pathogenic microorganisms. Plant diseases affect all major food crops world-wide and must be controlled to prevent production losses. In North America, plant diseases cause the loss of over 10% of total crop production despite the use of available controls. Much greater losses would occur without such controls. Diseases also significantly reduce food quality for both humans and animals.

Effective Disease Control Requires Several Practices

Effective plant disease control requires that several practices be combined into plant health management systems tailored to specific crops and locations. Crop rotation, sanitation procedures, tillage, disease-free planting stock, and disease-resistant varieties are basic components of these management systems. Agricultural fungicides are also key components. A fungicide is a pesticide used to protect seeds, roots, foliage, or fruit from infection by disease-causing fungi. Just as medicines are critical to maintaining human and animal health, fungicides as agricultural medicines are necessary to maintain and sometimes restore, the health of agricultural crops.

Public Concerns

Recent public concerns about food safety and environmental quality have focused on exposure to pesticides or their residues and the adverse effects these might have on human health. Some have called for the elimination of specific pesticides, or pesticides in general. Often this is done with only a partial understanding of the extent to which diseases and pests limit our food supply, and the needs for crop protection.

Our Position on Fungicides

As plant health scientists, we advocate the following positions regarding the use of agricultural fungicides:

* **FUNGICIDES. PROVIDE MANY BENEFITS** - When used prudently to protect plant health, fungicides benefit not only agricultural producers, but also the general public. The primary benefit is an abundant and constant supply of high quality, agricultural products at reasonable prices. Fungicides also protect agricultural products from spoilage, and from contamination by harmful fungal toxins. Large-scale, commercial production of many crops, especially fruits and vegetables, requires the use of fungicides in disease management systems. Without fungicides, the quantity and quality of our food supply would be reduced, and the chance of new diseases endangering our crops would increase. Commercial production of some crops would be completely eliminated in areas where humid weather favors disease. As a result, fruits and vegetables with unregulated exposure to pesticides may need to be imported to supply our markets.

* **REGULATION MUST BE SCIENCE-BASED** - Rigorous testing of new and current fungicides must be continued to identify hazards to human safety or characteristics that make them environmentally undesirable. In some cases, restrictions on use or a complete ban of certain products, may be necessary. However, just as the use of human medicines cannot be completely risk-free, neither can pesticide use. Only those fungicides that present minimal risks while providing significant benefits should be approved. Regulatory decisions about fungicides must be based on facts derived from recognized scientific procedures and not on public perceptions, emotions or speculation.

* **IMPROVED PLANT HEALTH MANAGEMENT SYSTEMS MUST BE DEVELOPED** - Research must continue to improve plant health management systems that combine several disease control procedures and minimize the use of fungicides. Improved systems will emphasize use of disease-resistant varieties, biological and cultural control procedures, and improved techniques for fungicide use. We endorse the development of new fungicides which are safe for human use, environmentally compatible, and cost effective. It is our judgement that improved plant protection systems will lessen future needs for fungicides, but that fungicides will continue to be critical components of modern plant health management systems for the foreseeable future.

* EDUCATION IS CRITICAL TO SAFE PESTICIDE USE - Education is the most important factor in the safe and environmentally responsible use of fungicides and other agricultural chemicals. The continued training and licensing of pesticide applicators, and education of farm workers is necessary to minimize exposure. The public needs accurate information on important issues facing modern agricultural production such as food safety, risk/benefit assessment, pest management alternatives, environmental impacts, and the responsible use of pesticides. It is only through a well-informed public that valid judgements can be made on the relative risks and benefits of pesticide use in maintaining our currently abundant, high quality, and relatively inexpensive food supply.

The American Phytopathological Society is a nonprofit organization of over 4500 U.S. and international scientists who study plant diseases and their control. It is an international leader in advancing modern concepts of plant health management in agricultural, urban, and forest settings.

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