



US Environmental Protection Agency Office of Pesticide Programs

BIOPESTICIDE REGISTRATION ACTION DOCUMENT

February 13 2009

**Letter from Universities regarding
the strobilurin, pyraclostrobin (Headline),
supplemental label**

Mr. John Bazuin
United States Environmental Protection Agency
Office of Prevention, Pesticides and Toxic Substances
Registration Division
Fungicide Branch, Team 22

February 13, 2009

Dear Mr. Bazuin,

We are writing to express our concerns about the supplemental label recently issued for “Plant Health” for the strobilurin, pyraclostrobin (Headline). One concern is that this action will open the floodgates for manufacturers of similar products to follow suit, resulting in many more labels of the same sort. As plant pathologists, agronomists, and IPM managers, we work diligently to encourage responsible stewardship of the land, by promoting integrated pest management, including the use of fungicides when necessary to control disease. We are aware that fungicides can have physiological effects on plants. However, the supplemental label contains broad statements such as “... plant health benefits may include improved host plant tolerance to yield-robbing environmental stresses, such as drought, heat, cold temperatures, and ozone damage”, and “Headline can improve plant utilization of nitrogen and can increase tolerance to bacterial and viral infections. These benefits often translate to healthier plants producing greater yields at harvest, especially under stressful conditions.”. Expanding the label for a fungicide to include such broad-sweeping claims invites increased, widespread use of this product to supposedly ameliorate the effects of a multitude of conditions caused by the weather. Furthermore, while the specific claims such as “better tolerance to hail”, “improved tolerance to frost”, and improved tolerance to other environmental stresses may be supported by some limited number of controlled studies in some crops, the publicly available data at our disposal does not instill confidence in the use of Headline for these purposes. The use of a fungicide for growth regulating properties is a serious blow to IPM principles and almost guarantees earlier selection for resistance in certain pathogen populations to a valuable class of fungicides. According to the Fungicide Resistance Action Committee (FRAC) as of December 2008, there is now documented field resistance to strobilurins in thirty two species of fungi comprising twenty one genera, including *Alternaria* spp., *Botrytis cinerea*, those that cause powdery and downy mildews, anthracnose, and others. There are also non-target effects of fungicides (including strobilurins) to consider such as suppression of beneficial fungi in many cropping systems. Aphid flares have been documented in potatoes treated with fungicides, due to disruption of entomopathogenic fungi that help to keep aphid populations in check. Spider mite outbreaks have resulted from fungicide use to control rust in soybeans, contributing to yield losses.

Additionally, there are specific claims on the label such as improved stalk strength in corn and straw strength in wheat, and improvements in seed quality in soybeans. Stalk strength in corn can be improved when foliar diseases are managed. But there is no evidence that stalk strength will be improved generally, and when disease pressure is low. We have not seen publicly available data that demonstrate many of these effects. In fact, there is a published scientific report (Wrather et al. 2004. Plant Disease 88:721-723) that treatment of soybean with a strobilurin (azoxystrobin in this study) can actually result in lower quality seed compared to untreated plants). Data supporting claims of enhanced seed quality in soybean when Headline has been applied have not been properly substantiated. In addition, there are numerous published research reports where application of Headline to soybean prior to the onset of drought conditions DID NOT result in improved yields. Likewise, the large majority of publically available university-managed tests conducted under stressful conditions show no statistically significant improvement in yield in the absence of significant levels of foliar disease.

We understand that the EPA (except for specific classes of products such as antimicrobials) does not routinely require manufacturers to submit efficacy data for their products. However, “the label is the law”. Growers are unlikely to realize that efficacy data were not submitted for this supplemental label, and may view the label as endorsement and approval of the claims made on the label. This will very likely result in the use of Headline for protection against a host of crop stresses in fields where disease pressure is very low or non-existent. The environmental and biological impact of these uses in the absence of a disease threat may be considerable. This is especially worrisome when one considers that corn, soybean and wheat are grown on 220 million acres in the United States and that fungicides are now routinely applied on 25-30% of those acres. We sincerely hope that the EPA will consider a secondary review of this label, as the claims for this product far exceed those made for similar products.

Sincerely,

Diane Brown-Rytlewski
Extension Outreach Specialist, Field Crops
Department of Plant Pathology
Michigan State University

Paul Vincelli
Extension Professor and Provost's Distinguished Service
Professor
Department of Plant Pathology
University of Kentucky

Tom Allen
Assistant Extension/Research Professor
Department of Entomology and Plant Pathology
Mississippi State University

Gary C. Bergstrom
Professor
Department of Plant Pathology and Plant-Microbe Biology
Cornell University

Carl Bradley
Assistant Professor of Plant Pathology / Extension
Specialist
Department of Crop Sciences
University of Illinois

John Damicone
Professor and Extension Specialist
Department of Entomology and Plant Pathology
Oklahoma State University

Erick De Wolf
Extension Plant Pathologist
Department of Plant Pathology
Kansas State University

Anne Dorrance
Associate Professor
Department of Plant Pathology
The Ohio State University/OARDC

C. Richard Edwards
Emeritus Professor
Department of Entomology
Purdue University

Roger Elmore
Professor and Corn Agronomist
Department of Agronomy
Iowa State University

Paul Esker
Assistant Professor
Department of Plant Pathology
University of Wisconsin

Ron French
Extension Grain and Vegetable Pathologist
Department of Plant Pathology and Microbiology
Texas A&M University

Arvydas Grybauskas
Associate Professor and Extension Plant Pathologist
Plant Science and Landscape Architecture
University of Maryland

Marvin Harris
Professor
Department of Entomology
Texas A&M University

Don Hershman
Extension Plant Pathologist
Department of Plant Pathology
University of Kentucky

Charla Hollingsworth
Extension Plant Pathologist
UM Northwest Research & Outreach Center and
Department of Plant Pathology
University of Minnesota

Bob Hunger
Professor of Plant Pathology &
Extension Wheat Pathologist
Noble Research Center
Oklahoma State University

Thomas Isakeit
Associate Professor and Extension Plant Pathologist
Department of Plant Pathology and Microbiology
Texas A&M University

Doug Jardine
Professor
Department of Plant Pathology
Kansas State University

Bryan Jensen
IPM Manager
Integrated Pest and Crop Management
University of Wisconsin

Paul Jepson
Professor, Environmental and Molecular Toxicology &
Director, Integrated Plant Protection Center
Oregon State University

Doug Johnson
Extension Professor of Entomology and
Integrated Pest Management Coordinator
University of Kentucky

Steven B. Johnson
Crops Specialist and Extension Professor
University of Maine Cooperative Extension

Chad Lee
Associate Extension Professor, Grain Crops
University of Kentucky

Jonathan Lundgren
Research Entomologist
North Central Agricultural Research Laboratory
USDA-ARS

Ian MacRae
Assoc. Professor, State IPM Coordinator
Dept. of Entomology, University of Minnesota
Northwest Research & Outreach Center

Marcia McMullen
Professor/Extension Plant Pathologist
Department of Plant Pathology
North Dakota State University

Daren Mueller
Extension Program Specialist
Department of Plant Pathology
Iowa State University

Lawrence E. Osborne
Assistant Prof./Extension Plant Pathologist
Department of Plant Pathology
South Dakota State University

Pierce A. Paul
Assistant Professor
Department of Plant Pathology
The Ohio State University/OARDC

Guy B. Padgett
Professor
Northeast Research Station
Louisiana State University

Palle Pedersen
Assistant Professor
Soybean Extension Agronomist
Department of Agronomy
Iowa State University

Steve Rideout
Assistant Professor of Plant Pathology/Extension
Specialist
Virginia Tech - Eastern Shore

Alison Robertson
Extension Field Crops Pathologist
Department of Plant Pathology
Iowa State University

Tom Royer
Professor and IPM Coordinator
Department of Entomology and Plant Pathology
Oklahoma State University

Gregory Shaner
Professor Emeritus
Department of Botany and Plant Pathology
Purdue University

Erik L. Stromberg
Professor and Extension Plant Pathologist
Agronomic Crops
Department of Plant Pathology, Physiology and Weed
Science
Virginia Polytechnic Institute and State University

Greg Walker
Associate Professor of Entomology
College of Natural and Agricultural Sciences
University of California Riverside

Stephen Wegulo
Assistant Professor/Extension Plant Pathologist
Department of Plant Pathology
University of Nebraska

Kiersten Wise
Assistant Professor of Plant Pathology
Extension Specialist for Field Crop Diseases
Department of Botany and Plant Pathology
Purdue University

CC: Ms. Cynthia Giles-Parker, EPA OPPT Registration Division Fungicide Branch Section Chief
Mr. Tony Kish, EPA OPPT Registration Division Fungicide Branch Product Manager, Team 22

ADDENDUM

To Mr. John Bazuin
United States Environmental Protection Agency
Office of Prevention, Pesticides and Toxic Substances
Registration Division
Fungicide Branch, Team 22

CC: Ms. Cynthia Giles-Parker, EPA OPPT Registration Division Fungicide Branch Section Chief
Mr. Tony Kish, EPA OPPT Registration Division Fungicide Branch Product Manager, Team 22

February 20, 2009

Additional signatures for the letter sent February 13, 2009 regarding the “plant health” supplemental label for pyraclostrobin. We wish to add our support for the letter addressing concerns about the “plant health” supplemental label.

Sandra Sardanelli
Maryland IPM Program Coordinator
Entomology Department
University of Maryland

Natalie P. Goldberg
Extension Plant Pathologist and Interim Department Head
NM State IPM Coordinator
Extension Plant Sciences
College of Agricultural, Consumer and Environmental Science
New Mexico State University

Dr. Norman C. Leppla
Professor & Program Director, IPM Florida
University of Florida
Institute of Food and Agricultural Sciences
Department of Entomology and Nematology

Erick Larson, Ph.D.
Grain Crops Agronomist
Mississippi State University

Thomas Chase
Associate Professor
Plant Science Department
South Dakota State University

Christina DiFonzo
Professor
Department of Entomology
Michigan State University