As the last of the corn and soybean harvest leaves the fields, growers and consultants may be wondering if extra dollars spent on fungicides paid off this season. Fungicide applications to corn and soybean have been increasing in recent years as a result of industry marketing and a number of field trials showing plant health and yield benefits.

Especially with higher yields this year putting downward pressure on corn prices, “Producers need to look at their budgets and make sure they are implementing practices that have a consistent return on investment,” suggests Bryan Jensen, University of Wisconsin Extension IPM coordinator.

**History**

Routine fungicide use in corn and soybean is a relatively new trend. In the past, producers typically managed diseases through crop rotation, disease-resistant hybrid selection, optimum planting timing, and post-harvest tillage to hasten decomposition of potentially contaminated plant residue. There was little marketing or research attention given to fungicide use. “In corn, there are a lot of great disease-resistant hybrids, and the joke in the industry is if you have a disease, you chose the wrong hybrid,” says Damon Smith, University of Wisconsin field crops pathologist.

This changed when soybean rust, a devastating pathogen caused by the fungus *Phakopsora pachyrhizi*, was first discovered in 2004. Early estimates predicted potential losses of 50% in the Southeast and 10% in the upper Midwest and Canada. Industry ramped up fungicide production to be ready to help growers prevent potentially steep losses.

However, after nine years of living with the threat, economic damage from soybean rust has been largely limited, in part due to the Soybean Rust IpmPIPE. This collaborative effort by USDA, universities, and the soybean industry includes a forecasting system that uses scouting and sentinel plots to alert growers to rust movement northward from overwintering sites in the Deep South. With less-than-expected need for the expanded fungicide inventory, attention turned towards research trials to identify potential uses and benefits.

Claims of improved plant health and higher yields soon followed. Bond McInnes, DuPont’s Fungicide Technical Manager reports, “We found that strobilurins have physiological effects. They reduce senescence, and this greening effect increases shoot and root...”

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By Peter Werts, Specialty Crop IPM Project Coordinator, and Thomas Green, Ph.D., CCA, TSP, and President, IPM Institute of North America

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