

Policy Pennings by Dr. Daryll E. Ray

Adding to the peril of soybean farming

It is not that soybean farmers did not have enough to worry about already. Since Spring highs of over \$10.00 per bushel of soybeans in central Illinois, the bears have been in charge of the market with prices plunging by 50% to the \$5.00 range. U.S. markets squeaked by with a miniscule 112 million bushel carryover with no disruptions as a record 3.1 billion bushel harvest began pouring in. The Brazilians have continued their production growth with the 2004/05 crop expected to come in at a record 2.4 billion bushels up by 500 million bushels over the previous season.

Now, on top of all of this, the USDA's Animal and Plant Health Inspection Service (APHIS) announced on November 10, 2004 that the presence of Asian soybean rust had been confirmed on "soybean leaf samples taken from two plots associated with a Louisiana State University research farm." While soybean producers in other nations have had to contend with soybean rust for a number of years, it had not previously been detected in the contiguous 48 states.

Because the disease is spread by windborne spores, its introduction into the U.S. could not be prevented. However, it did arrive sooner than expected, probably arriving on the winds of the recent hurricane season. It was expected that the disease would make its way through Central America and on into the U.S. from there, but instead it appears that it came directly into the U.S. from South America.

The disease is of concern to U.S. farmers because untreated, yield loss can range from 10% to 100% depending on the infestation level and growth stage of the soybean plant. Once the spores are blown onto a plant, the disease matures in 6-7 days and then produces spores for the next 10-11 days. As a result of this short life cycle the disease can spread very quickly. At present there are no commercially available soybean varieties that are resistant to the soybean rust, although research is being conducted in this area.

While the disease is not expected to be able to winter over in the more temperate soybean growing regions of the U.S., the short life cycle combined with summer winds from the south can annually carry the disease into the middle of the soybean growing region in time to create problems for farmers. Another factor affecting the spread of the disease is the presence of a number of host plants

besides soybeans including kudzu, an invasive exotic species that is widespread in the south. While the Asian soybean rust will not kill the kudzu, it will serve as a continual source of inoculum. Other host plants include yellow sweet clover, narrow-leaved lupine, yellow lupine, black medic, wooly-pod vetch, narrow-leaf vetch, and Colorado River hemp. The presence of a number of host species will aid in the spread of the disease from the areas of the southern U.S. where it can overwinter. In addition soybean rust affects other beans including green beans, snap beans and pinto beans.

The USDA reports that "soybean rust can be managed with the judicious use of fungicides. However, early detection is required for most effective management of soybean rust. Monitoring soybean fields and adjacent areas is recommended throughout the growing season." At present, two fungicides are currently available for use in controlling the disease and a number of others are in an expedited regulatory review process. It is estimated that the cost of control will be in the range of \$25 per acre. With an average yield of 38 bushels per acre, this treatment increases the cost of producing soybeans by 66 cents a bushel or 13% of the current price in many areas.

Given the risk and this potential increase in the cost of production we wonder if some farmers in the south might decide that it is not worth the risk and shift production to more cotton acres and fewer soybean acres while their more northern counterparts shift some soybean acres into corn production. In addition, for farmers who are already experiencing nematode pressures, the presence of soybean rust may again tilt the scales in favor of more corn. One thing is certain: all soybean farmers will have to monitor their fields even more closely than they have in the past.

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