

Working Group

Soybean Rust (SBR) Action Plan

5/20/03

This is an unofficial summary of action currently being taken or planned by stakeholders to combat soybean rust caused by *Phakopsora pachyrhizi* which also affects other leguminous crops. It is the product of discussions in the Soybean Rust Working Group. The reader is encouraged to suggest amendments or additions to the outline below so that we can all be informed of the broad range of activities that are in progress or planned concerning soybean rust. The first part of this action plan is organized by subject and is followed by one that lists individual stakeholder activities. A strategic plan on this subject can be found on the USDA Animal and Plant Health Inspection Service (APHIS) website at: http://www.aphis.usda.gov/ppq/ep/pestdetection/soybean_rust/soybeanrust.html

Exclusion:

- o APHIS continues to ensure safeguards on imports or require appropriate treatment of articles moving into the United States that may serve as a pathway for the introduction of soybean rust. Once the disease has been introduced into the United States, APHIS will review its policy regarding importation of soybean rust infected material consistent with its international trade obligations.
- o APHIS will liaison with security agencies to reduce the risk of the introduction soybean rust through a terrorist event.
- @ APHIS International Services provide periodic updates about soybean rust situations occurring in countries that may serve as a pathway into the US.

Surveillance:

- @ CSREES in cooperation with ARS and APHIS will develop technical information for survey training programs and program aides for distribution to stakeholders and interested parties.
- @ CSREES will identify and activate distribution systems to communicate technical information.
- @ CSREES in cooperation with APHIS and ARS will development a rust screening and identification system for submitted samples and information sharing about the process of submission.

Diagnostic Laboratory Instructions

University or state department's of agriculture laboratories will screen samples with initial positive detections of *Phakopsora spp.* to the USDA, APHIS National Mycologist in Beltsville, Maryland for official verification and species determination and contact Drs. Mary Palm (301) 504-5327 or John McKemy at (301) 504-5280.

- @ APHIS and State Plant Health Directors will ensure that initial detections of soybean rust are reported into the National Agricultural Pest Information System (NAPIS).
- @ Dr. X.B. Yang, Iowa State University, in cooperation with APHIS, ARS and CSREES, will review existing air current data in an effort to correlate potential dispersal of the disease from known infected areas to potential survey locations in the United States and or natural land pathway movement northward.
- @ APHIS will help coordinate with ARS & CSREES a train-the-trainer workshop for the diagnostic regional centers and select states (10 persons total).

Soybean Resistance Development

- @ ARS and CSREES with cooperation of seed companies are developing commercially acceptable rust resistant soybean varieties to minimize the economic impact of soybean rust on the industry.

Communication

Following detection/confirmation, APHIS will communicate the detection in the following manner:

- @ APHIS will notify leadership of the National Association of State Departments of Agriculture through a conference call.
- @ APHIS will notify the President of the National Plant Board through a telephone call and e-mail the membership of the National Plant Board and the Association of American Pest Control Officials.
- @ APHIS will notify the American Phytopathological Society of the soybean rust detection through email.
- @ APHIS will issue a press release announcing the detection of soybean rust. This may be done jointly with the affected State and/or the United Soybean Board.
- @ APHIS will distribute press release to all interested soybean and industry publications and will coordinate answers to media inquiries.
- @ APHIS legislative personnel, along with USDA's Office of Congressional Relations, will contact representatives in the affected state(s), along with other interested stakeholders.
- @ APHIS will post notification on soybean rust web site. A hot issues link will be posted on APHIS' web site with updated press releases, fact sheets, and industry alerts.

Fungicide Selection and Registration

- @ USDA and individual registrants are conducting comparative efficacy trials to determine the best fungicides to combat soybean rust. This will provide a basis for Section 3 and Section 18 registrations.

- @ A group of 10 or 12 interested individuals are developing Section 18 fungicide requests for soybeans and minor crops. These individuals comprise the State Departments of Agriculture, Land-Grant Universities and USDA. Plans are to have interested states piggyback on the initial submittals with their state-specific information.
- @ Section 3 registrations are encouraged. Thus far only two fungicides are specifically registered for soybean rust on soybeans in the U.S. They are azoxystrobin (Quadris Flowable, Supplemental Label to 100-1098) and chlorothalonil (Bravo Weather Stik, Supplemental Label to EPA Reg. No. 50534-188)

Roles of Stakeholders

Role of Animal Plant Health Inspection Service (APHIS) of USDA

- @ As described

Role of Office of Pest Management Policy (OPMP) of USDA

- @ Collect any available efficacy information from the registrants and the ARS comparative efficacy data in Paraguay and Zimbabwe and provide the data to the Regional Pest Management Centers for posting on the web
- @ Work with IR-4 on minor crop needs and residue testing
- @ Work with the USDA Pesticide Data Program to collect residue data on triazoles
- @ Coordinate the Soybean Rust Technical Working Group
- @ Work with EPA to ensure Section 3s, Section 18s, Section 24(c)s are available

Role of Agricultural Research Service (ARS) of USDA

- @ Provide leadership role in search for resistance in available soybean germplasm
- @ Look at molecular approaches to soybean rust management through the development of identification techniques for rapid and accurate identification, development of gene libraries of *Phakopsora pachyrhizi* and *P. meibomia*, and to develop a molecular understanding of the nature of soybean rust virulence
- @ Develop a better biological understanding of soybean rust in order to prepare for and manage the disease once it arrives, including studies of its potential establishment and dispersal
- @ Maintain an international network of technical advisors in order to better understand the status of the disease worldwide and seek advise on necessary preparations for soybean rust
- @ Develop comparative fungicide efficacy trials that indicate which fungicides will be most efficacious in managing soybean rust

Role of Land Grant University Scientists

- @ Through NC504 Committee advise states and direct appropriate research and educational materials to protect soybean growers
- @ Make recommendations to soybean and other affected leguminous crops on means of dealing with

soybean rust

- @ Assist in the submission of Section 18 registrations to ensure the availability of adequate tools for use by growers
- @ Provide expert assistance to growers in their region

Role of the Regional Pest Management Centers of USDA, CSREES

- @ Work within their region to develop appropriate educational materials for distribution to target audiences
- @ Host a section on their web site for the collection of efficacy information and other facts about soybean rust
- @ Help alert states in their region about soybean rust information including available Section 18 templates

Role of Cooperative State Research, Education, and Extension Service (CSREES) of USDA

- @ Diagnostic Centers
 - @ NC 504 Soybean Rust Committee
- Five objectives:
1. **Soybean Rust Survey** - work with APHIS, crop consultants, land grant universities, regional diagnostic centers, state lead agencies and others. Need a contact person in each state who will be responsible to help map the spread
 2. **Education & Outreach** - produce fact sheet. Educate plant breeders. Work with APHIS on publicity plan for when SB rust is found in the U.S.
 3. **Soybean Production Impact Evaluation** - work with ERS?? Continue to investigate further
 4. **Management & Efficacy** - coordinate work on Sec 18s between regional centers, OPMP, APHIS and states. Coordinate with registrants to have fungicides available when needed
 5. **Research Priority** - several research areas were identified
 - A. Investigate resistant varieties and then request germplasm bank to increase seed of resistant varieties
 - B. Need uniform nurseries - standards for nurseries - breeders working on this
 - C. Standardized fungicide testing and look at the affect on SB
 - D. Economics of tank mixes of fungicide with insecticides or herbicides
 - E. Application methodologies - how to get the fungicide into the lower canopy
 - F. Population of rust - research races
 - G. Climatology - weather moving from South America to North America and the likelihood of SB rust appearing in U.S.
- o NCR 137 Soybean Disease Committee
 - o IR-4 support of pesticide registration and contacts especially on minor crop issues

Role of National Plant Board (NPB)

- @ Collaborate with APHIS in initial detection and surveillance efforts
- @ Facilitate public education and awareness efforts with CSREES and APHIS
- @ Initiate regulatory actions if appropriate (unlikely in this situation)
- @ Assist in the submission of Section 18 registrations to ensure the availability of adequate tools for use by growers

- @ Serve as the scientific liaison for State Departments of Agriculture in all collaborative efforts with state and federal governments
- @ Represent the interests of growers and the states in protecting their crops

Role of Association of American Pest Control Officials (AAPCO)

- @ Assist in the submission of Section 18 registrations to ensure the availability of adequate tools for use by growers

Role of American Soybean Association (ASA)

- @ Represent needs of growers to federal and state agencies
- @ Through the **United Soybean Board** they foster research, much of it done by ARS, listed above, and education programs designed to serve soybean growers

Role of American Phytopathological Society (APS)

- @ Provide technical oversight to importance of soybean rust, when appropriate interact with federal and state agencies, keep membership of plant pathologists informed on status of disease, and provide outlet for publishing technical articles on soybean rust

Role of the United States Environmental Protection Agency (EPA)

- @ Advise state and federal agriculturalists on the preparation of registration submittals of materials to combat soybean rust and expeditiously act on those submittals

Role of Registrants

- @ Cooperate with USDA, states, and NC504 Soybean Rust Committee by supplying efficacy and other data needed to support Section 18s, 3s, and 24(c)s

If you have questions or suggested changes, contact Kent Smith, 202-720-3186/ ksmith@ars.usda.gov, or Teung Chin, 301-734-8943/teung.f.chin@usda.gov of the USDA Office of Pest Management Policy.