Virginia Soybean Aphid & Rust Monitoring Program: Two Years of Experience
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Objectives
To insure that Virginia soybean producers do not suffer yield loss from soybean aphid or rust.
If aphid or rust do invade Virginia, insure that the proper insecticides and/or fungicides are used judiciously and at the proper timing.

History of Virginia Program
Mar. 2004: Soybean Specialist toured Brazil and observed rust.
Mar. 2004: VA Soybean Board request an aphid and rust survey. They allocate $10,000 towards the program.
May–Sept.: Bi-weekly survey of 76 fields in 33 counties; 20 fields contain sentinel (maturity group 3) plots.
May–Sept.: Weekly survey of 95 fields in 41 counties; 51 fields contained sentinel plots.
June 2005: Received funds from USDA to establish 5 sentinel/epidemiology plots.
May–Sept.: Weekly survey of 95 fields in 41 counties; 20 fields contain sentinel (maturity group 3) plots.
June 2005: Received funds from USDA to establish 5 sentinel/epidemiology plots.

Protocol
- Mar. - April: County Agents contacted farmers, located fields, and distributed MG 3 seed.
- May: Trained Scouts, June–Sept.: Scouted fields
- Six stops per field (3 in sentinel plots; 3 in rest of field); focused on shaded areas for rust.
- At each stop, examined 5 whole plants, bottom to top, every leaflet.
- Recorded rust (YN), no. of aphids/plant, other insect or disease signs/symptoms, and field conditions.
- Recorded time in and out of field and mileage
  - Time per field: 30-60 minutes
  - Time per week: 50 hour per scout
  - Mileage: 1,500 miles per week per vehicle
- Collected insect or leaf samples if scout could not identify in the field and transported those samples to the Tidewater Ag. Res. & Ext. Ctr. for positive ID.
  - 2004: over 200 samples (insect and leaf)
  - 2005: over 400 samples (insect and leaf)
- Entered data into database, then uploaded weekly findings to USDA web site
- Updated web site and phone hotline twice/week

Results

Common Look-Alike Diseases Found

2004
Highest No. of Aphids per Plant

Scouted once every two weeks, June – Sept.

Scouted once every weeks, June – Sept.

Soybean Aphid/Rust Monitoring Locations - 2004

Soybean Aphid/Rust Monitoring Locations - 2005

Challenges
- Time
  - Specialist-in-charge: 5 to 10 hours per week
  - Not including hiring, training, scouting
- Labor
  - Hard to find and keep reliable, conscientious scouts (part-time, low-pay)
- Expense
  - Labor (Scouts, Agents, Specialist, etc.)
  - Supplies (fuel, seed, scouting supplies, etc.)
  - Travel/Transportation (VA Soybean Association provided biodiesel pickup, leased another)

Other Issues/Possible Improvements
- Need to evaluate the overall effectiveness/productivity of the program.
- Commercial fields vs. “University/USDA sentinel” plots. How many of each?
- How many fields do we need to scout?
  - Is it better to cover a wide swath (i.e., lots of fields and counties)?
  - Or, should we look harder in less fields?
- Should we take a leaf sample from every field (rust & other disease cannot be positively identified in field)?
  - This would increase lab work.
  - There would be no screening. Scouts become robots.

What was accomplished?
- Virginia is prepared. If rust or aphids move in, we’ll know about it.
- Growers are involved and more informed.
- Unnecessary pesticide applications were minimized.
- Growers’ peace of mind!

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