
Ug99 (TTKS)


Resistant
Susceptible

- Coordinate seed acquisition and cereal rust resistance evaluation of currently grown cultivars, advanced breeding lines, and repository accessions. Aberdeen, Idaho

  Outcome:

  Cooperation with CIMMYT and KARI. ARS established screening nursery for stem rust in Kenya. Over 1,000 lines collected from U.S. regional breeding nurseries.

- Evaluation of United States Wheat Germplasm to Stem Rust in Eastern Africa. CIMMYT

  Outcome:

  NJORO Kenya Research Station. Seed distributed, vernalized, planting, data collected.

-

- **Established a dedicated web page and links on GrainGenes to provide comparative genetic maps of Ug99 and other stem rust resistance genes and identified DNA markers. Albany, Calif.**

- **Develop a national sampling program through examination of rain samples as a reliable method for predicting soybean rust infections through aerial transport of urediniospores from the southern U.S. RT-PCR identificaiton., CDL, St. Paul.**

  Outcome:

  Rain samples from 19 NADP sites. PCR analysis 3x more P. pachyrhizi in 2006 than 2005.

- **Optimize fungicide spray programs for management of Asian soybean rust, determine efficacy of labeled and Section 18 products under U.S. conditions. Develop a list of additional Section 18 products and evaluate product application scenarios including rates, residual activity, and comparisons of combination applications. Urbana, IL.**

  Outcome:

  Comparison of nozzles, apertures, pressures. Canopy coverage no different between upright and bushy cultivars.

- **Develop international/domestic screening nursery for selected germplasm. Stoneville, MS, Urbana, IL.**

  <u>Outcome</u>:

  500 soybean accessions evaluated in Paraguay, Florida and Alabama. Differential response within two maturity groups from FL and AL. Indicates virulence differs in rust populations from FL and AL. Isolates in U.S. are as virulent as isolates from Asia, Africa and S. America.

  300 lines advanced. Segregating population for Rpp3 used to map location of this gene and identify associated molecular marker. Cooperation with Ft. Detrick.

- ARS research in common bean genetics to identify genes, develop new tools for characterizing the putative genes, and discover the function of genes that confer resistance to ASR, Beltsville, MD.

-

- **Evaluate presently grown varieties and potential new varieties and breeding lines in the uniform regional wheat varietal nurseries for both seedling and adult-rust resistance to cereal rusts. Raleigh, NC.**

  <u>Outcome</u>:

  Coordination with NWIC Regional Nurseries to phenotype, genotype advanced breeding lines and characterize R genes by mapping recombinant inbred populations.