



**ARS International
Research
Seminar Series**

Seminar

Tuesday, November 7, 2006 ♦ 1:00 p.m. – 2:30 p.m.
GWCC ♦ 5601 Sunnyside Ave, Bldg. Beltsville, MD 20705
Conference Room 4-1255/1125

**Dr. Yue Jin
Research Plant Pathologist
USDA-ARS, Cereal Disease Lab**

“Stem rust state in US and abroad with special reference to Ug99”

Dr. Yue Jin is a Research Plant Pathologist, USDA-Agricultural Research Service, Cereal Disease Lab, St. Paul, Minnesota. Dr. Jin received his Ph. D. in Plant Pathology, North Dakota State University.

Stem rust of wheat, caused by *Puccinia graminis* f. sp. *tritici*, was one of the most feared plant diseases in the past because it regularly caused crop failures in many parts of the world. In the early 1900's, stem rust epidemics were frequent and destructive in the Midwest and Northern Great Plains. The epidemics in the 30's and 50's destroyed more than half of the wheat crops in the Northern Great Plains states. Massive crop were lost due to these epidemics stimulated intensive research efforts in understanding the disease and developing means to control it. Host resistance was widely used. As a result, a major stem rust epidemic has not occurred for more than five decades in North America. Through its core rust research infrastructures, USDA-ARS has played a leading role in the successful control of stem rust in US and worldwide by developing knowledge and germplasm, monitoring population dynamics, and by helping breeders to develop resistant cultivars. The emergence of a new race, TTKS (or Ug99), in recent years in East Africa raised considerable concerns because the majority of currently grown wheat cultivars worldwide are susceptible to Ug99. The race is considered a serious threat to food security, particularly for developing countries. A Global Rust Initiative, led by CIMMYT and ICARDA, has been launched to coordinate global efforts to reduce the threat posed by Ug99. ARS has provided pivotal supports to the Global Rust Initiative and coordinated the screening of US wheat germplasm in Kenya for resistance to Ug99. ARS scientists are conducting research in sources and genetics of resistance to Ug99 in wheat and barley, facilitating breeding programs across the US to incorporate Ug99 resistance into new cultivars, and developing diagnostic DNA markers to detect this race.

Dr. Jin will present the current stem rust state in the U.S. and abroad and present the USDA-ARS role in managing this disease.



(Presentation includes Question and Discussion Time)
Please RSVP to Shannon Lee at 301-504-4526, fax: 301-504-4528, or email: Shannon.lee@ars.usda.gov
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