More information on the Web

Soybean aphid –
http://www.oznet.ksu.edu/entomology/extension/InsectInfo/Soybeanaphid.htm

Soybean stem borer –
http://www.oznet.ksu.edu/entomology/extension/Current/soybstbr.html

Kansas State University publications
http://www.oznet.ksu.edu or contact your local K-State Research and Extension Office.

Special thanks to Dr. Marlin Rice, Iowa State University, for the image of the soybean aphids on the cover and to Dr. Greg Zolnerowich for the close-up picture of the soybean aphids.

Kansas Soybean Commission

The Soybean Checkoff... It Works For Everyone!

Kansas State University Agricultural Experiment Station and Cooperative Extension Service Manhattan, Kansas

K-STATE Kansas State University Research and Extension

MF 0000 **November, 2003**

Soybean Aphid and Soybean Stem Borer

Two important pests of soybeans in Kansas under study by Kansas State University with support from the Kansas Soybean Commission

K-STATE Kansas State University

Kansas State University
Agricultural Experiment Station and
Cooperative Extension Service

Soybean Aphid

The soybean aphid (*Aphis glycines*), originally a native of China and Japan, was first identified in the United States during the summer and fall of 2000. By 2001, infestations were confirmed in several Midwestern states, from Ohio to West Virginia and Kentucky, and west into Missouri and Iowa. In August of 2002 the aphid was confirmed in Kansas and had been reported in five counties as of September 2002.

This small, yellowish-green aphid has black "tailpipes," or cornicles, near the tip of its abdomen. It is the only aphid in North America to develop large colonies on soybeans. The soybean aphid can pass through 15 to 18 generations each year but reportedly must have buckthorn (*Rhamnus* species) to overwinter successfully.

Soybean aphid populations can build up at any time from early vegetative through the bloom stages. Initially, most colonies will be found in the outer canopy on new leaves. As the plants reach maturity, the aphids may move deeper into the foliage, most commonly on the undersides of leaves, and many may be found on stems and pods. Some reports indicate that a second population increase may occur from late August through early September.

If you observe heavy populations of aphids on soybeans in Kansas, contact your local K-State Research and Extension office, or e-mail Phil Sloderbeck, *psloderb@oznet.ksu.edu* so we can track the infestation and learn more about this potentially serious pest. We will post more information at: *http://www.oznet.ksu.edu/entomology/extension/topics.htm* as it becomes available.

Soybean Stem Borer

The soybean stem borer has been a recognized pest in Kansas since 1985 when it was first reported damaging soybeans in south central Kansas. For many years the problem remained fairly isolated and did not attract much attention. But, in recent years, the problems have spread into southwest and north central Kansas.

Adult beetles lay eggs inside the leaf petioles. When eggs hatch, larvae begin tunneling in the leaf petioles. Eventually, larvae move into the main stems and proceed toward the base of the plant. The first sign of damage is often single dying leaves in the middle of the soybean canopy, soon after the larvae enter the stem. As the plants reach maturity in the fall, larvae often girdle the stems and prepare an overwintering chamber in the belowground portion of the stem. The girdled plants often lodge, which results in serious economic losses.

Recent research in Republic County has shown that the beetles normally begin to appear in late June. Adult numbers seemed to peak about mid-July, based on sweep samples. However, some adults were still present until early September. Leaf death peaked in mid to late August when up to 49 percent of the plants were showing signs of premature leaf loss. Infestations in fields at the end of the season ranged from 18 to 80 percent.

Harvest losses from the soybean stem borer can be severe. Recent research efforts have focused on evaluating current varieties for signs of host-plant resistance and testing insecticides for control of the beetles or larvae. Neither effort has provided an effective management option so far. Until better management options can be identified, growers are encouraged to monitor fields during the growing season and harvest infested fields as early as possible.