

Extension Responds: Soybean aphid

Soybean Aphid Suction Traps Arriving in Wisconsin Summer 2005

By: Eileen Cullen, UW-Extension *Field Crops Entomologist* University of Wisconsin- Madison/ Extension, May 27, 2005

Now that growers, consultants and Extension entomologists alike have been through the recent cycle of an outbreak soybean aphid population year in 2003, followed by 2004 in which population densities of this pest were low to non-existent, what can we expect for 2005?



Suction trap

To understand soybean aphid as a pest during the soybean growing season, we need to be familiar with how this insect alternates between asexual and sexual phases on two different plant hosts over the course of a year.

Soybean aphid overwinters in the egg stage on common buckthorn, an exotic, weedy, shrub common in much of the Midwest north of I-80. Eggs hatch on buckthorn in late March and early April. From each overwintered egg on buckthorn in early spring, a wingless female soybean aphid known as the fundatrix, or “stem mother” hatches. These stem mothers are asexual and give live birth to wingless female aphid nymphs on buckthorn, producing several generations on buckthorn. Late spring, winged soybean aphid females are produced. These aphids leave buckthorn in search of soybean.

Winged soybean aphid migrants typically arrive in soybean fields in mid- to late June and begin to form colonies and multiple generations on soybean plants. In fall, soybean aphid females produce winged males and winged females (gynoparae). These winged migrants take flight back to buckthorn. Once they arrive on buckthorn, winged females give birth to a non-winged egg-laying female (oviparae). She mates with the winged males on buckthorn and lays the overwintering eggs to start the process again.

For the past four years, Dr. David Voegtlin of the Illinois Natural History Survey has operated a network of nine suction trap in Illinois. In 2001 and 2003, Illinois had low fall flights and the next growing seasons the soybean aphid was not a problem. In 2002, the Illinois suction traps had a large fall flight and we

experienced a major and widespread regional soybean aphid outbreak during the 2003 production season. The fall flight in 2004 was the highest yet, prompting us all to ask: “Does the large fall flight of 2004 mean that 2005 will be a repeat of 2003?”

Wisconsin now joins Illinois in a new Midwest soybean aphid suction trap network also including four in Iowa, six in Indiana, three in Michigan, four in Minnesota, and one each in Kansas, Kentucky, Missouri, Nebraska and Virginia. Funding for the Wisconsin suction traps and aphid identification has been provided by the *Wisconsin Soybean Marketing Board*. These funds have matched the special project grant supplied by the North Central Integrated Pest Management program allowing University of Wisconsin-Extension entomologists to install a total of five traps in Wisconsin early this summer.

While it seems inevitable that there will be more soybean aphids than in 2004, will populations reach the pest levels seen in 2003? The best entomologists can say right now is “maybe”. The 2005 growing season is the first regional attempt to test the potential of fall suction trap captures of winged soybean aphids en route between soybean and buckthorn to forecast the next year’s population potential in soybean fields.

Stay tuned to UW Extension Responds alerts (<http://www.uwex.edu/ces/ag/issues/soybeanaphid/>) and the University of Wisconsin Field Crops Entomology program (*Wisconsin Crop Manager* <http://ipcm.wisc.edu/wcm/>) for trap locations, trap collection numbers, and regional developments as the system becomes operational later this summer.

grains, soybean aphid

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