



Integrated Management of Soybean Cyst Nematode in the North Central United States

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The soybean cyst nematode, *Heterodera glycines*, is a major threat to profitable soybean production in the United States. This nematode is widespread, often causes no obvious symptoms, can increase population densities quickly and survive in the absence of a host for long periods of time, and can reduce soybean yields substantially. The most effective strategy for managing *H. glycines* in the north central United States is a three-pronged, integrated approach of 1) scouting for early detection, 2) use of nonhost crops, and 3) use of *H. glycines*-resistant soybean varieties. Unfortunately, there are problems associated with each of these management strategies. Most soybean growers do not scout for early detection of *H. glycines* and since symptoms may not be obvious, nematode population densities often increase for years before other management strategies are implemented. Also, much of the soybean-producing area in the north central United States is in a two-year, corn/soybean rotation. Consequently, corn is the only nonhost crop that is grown in most *H. glycines*-infested fields, and it is grown only for a single year before soybeans are again cultivated. Resistant soybean varieties produce greater yields and support lower reproduction of *H. glycines* than susceptible soybean varieties. However, the number of early maturing (maturity groups 0 & I), *H. glycines*-resistant varieties are limited, especially resistant varieties with additional specialty traits such as herbicide resistance. Furthermore, the yields of resistant varieties are significantly reduced by *H. glycines*, especially when the nematode is present at high population densities. Also, virtually all *H. glycines* resistance in soybean varieties grown in this part of the country is derived from the plant introduction, PI 88788, so the possibility of selection for nematode populations that overcome resistance exists. The integrated management program of scouting, nonhost crops, and resistant soybean varieties can effectively prevent increases in *H. glycines* population densities and maintain profitable soybean yields in fields infested with the pest. However, new management strategies to reduce *H. glycines* population densities rapidly are needed.