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Stink bug in Brazil: a serious threat to soybean sustainability

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Among insects feeding on soybeans, piercing-sucking bugs are noteworthy for injuring directly the pods, seriously affecting crop yields, as well as, physiological and sanitary quality of the seeds. At least 54 species from the family *Pentatomidae* have been reported from soybean fields. Among them, the Neotropical brown stink bug *Euschistus heros* is the most abundant in Brazil. The few options of insecticides with different modes of action, pest resistance, and difficulties associated to pesticide spraying make stink bug outbreaks even worse and a serious threat to soybean sustainability. Soybean yields in Brazil more than doubled over the last 40 years. The yield increase along with higher soybean prices and lower insecticide costs fostered the abandonment of Soybean-IPM and led to excessive use of insecticides, impairing efficiency of the natural biological control. Moreover, to make control quicker and simpler, growers started using insecticides mixed with fungicides or herbicides sprayed in a single application. This practice was generally adopted in Brazil in an attempt to optimize field operations, even without performing pest sampling and therefore without the adoption of pest economic thresholds (ET). However, recent results obtained in Embrapa Soybean have demonstrated that ETs recommended for stink bugs are safe, regardless of soybean cultivars, and should be seriously considered and used by growers to reduce the use of chemicals without reducing yields and overall production. Even though the established ETs are restricted to key pests, and address only chemicals, soybean-IPM proved to be efficient in stink bug management. Research results indicate that abusive use of insecticides on soybeans does not result in higher productivity. Therefore, the full adoption of IPM, respecting ET and choosing more selective pesticides to beneficial arthropods, is feasible and the best option to improve soybean sustainability with excellent pest control.