

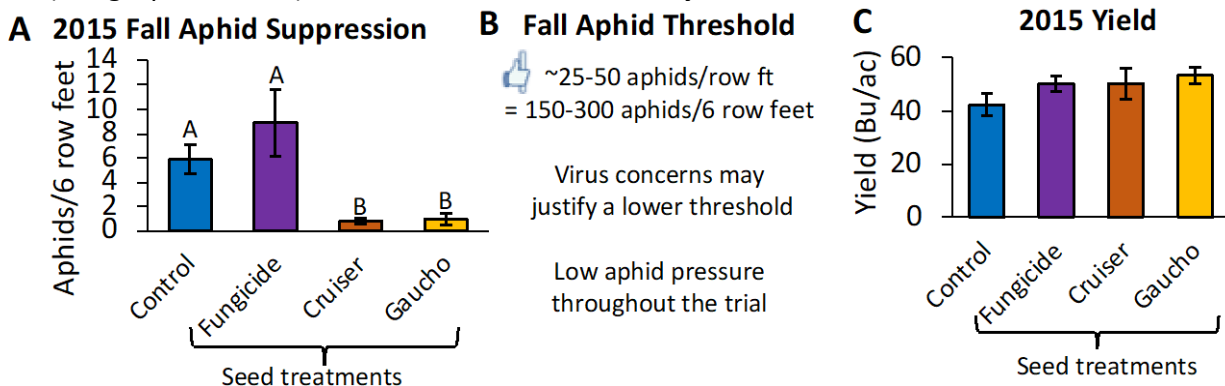
Small Grains Insect Management Update

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Insecticide Seed Treatments

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Neonicotinoids are insecticides commonly applied to the seed in grain crops [neonicotinoid seed treatments (NSTs)]. They provide protection against early season insect pests; however, they only improve yield when pest pressure is high. We evaluated pest suppression and yield benefits in a rotation of full-season soybean, winter wheat, double cropped soybean and corn from 2015-2017 at two sites. Insecticide treated seed (Cruiser + fungicide seed treatment and Gaucho + fungicide seed treatment) was compared to fungicide seed treatment alone and bare seed. Insecticide treated seed (Cruiser and Gaucho) significantly suppressed aphid populations compared to bare seed (Control) and seed treated with only a fungicide (Fungicide) across two sites and sampling dates (Dec 3 and 16, 2015) (See graph A below). No difference was seen in spring aphid or cereal leaf beetle populations. Aphid and cereal leaf beetle pressure was low throughout the experiment and few natural enemies were present (See threshold B below). No yield benefits were observed in winter wheat in our 2015 trial (See graph C below). **This research was funded by MGPIB and MSB.**



Ongoing research will determine the duration of aphid control provided by NSTs and how this impacts parasitism by wasp natural enemies.

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Ongoing research will focus on predicting cereal leaf beetle activity to better time scouting efforts using degree day models that predict the effect of temperature on cereal leaf beetle development. This model will be validated in Delaware and could predict activity to within 3 days. Efforts are led by Bill Cissel and David Owens will be participating.