

Trap Crops for Leaffooted Bug Management in Tomatoes

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Leaffooted bugs (*Leptoglossus phyllopus*, Hemiptera: Coreidae) are a major challenge to vegetable production in the southeastern United States. Crop quality can be rapidly deteriorated resulting in major economic losses for farmers. Trap cropping, which is based on the principle of host preference, is an alternative Level-1 IPM tactic that has been under investigation in Alabama for over two years with great success. This paper discusses findings from summer trap crop studies in 2011 and 2012 where tomato was the main crop. Trap crop demonstration plots were planted at three locations statewide using various layouts. Trap crops were always planted two to three weeks ahead of the main crop. Perimeter and strip trap crop system incorporating 'NK300' silage sorghum and 'Peredovik' sunflower provided significant protection to tomatoes planted in the vicinity. Sunflowers in the seed development stage attracted the largest number of leaffooted bugs (LFBs) early in the production season (July). NK-300 sorghum was very effective trap crop for LFBs during late-season (August to September). Inter-plant migration of leaffooted bugs between trap crops extended the effectiveness of this cultural pest control tactic. After sunflower plants senesced, LFBs migrated to sorghum trap crop where they remained for extended period that allowed timely harvest of tomato fruits. Overall, there was no detectable LFB population on tomato plants when trap crops were active. LFB activity was reduced 50 to 75% with no need for targeted organic insecticide sprays on tomatoes. On sustainable and small farms, multiple trap crops can provide continuous protection of main crop but it is not a silver bullet solution to all pests. Field days were conducted in 2011 and 2012 at trap crop sites to educate farmers and to promote on-farm evaluation of trap crops (on-going). Additional scientific observations and farmer feedback will be provided to the audience through the poster.