COVER CROPS AND COTTON INSECT PESTS

D. R. Cook
Mississippi State University
Stoneville, MS

Abstract

There has been increased interest in the use of cover crops in agricultural production, including cotton production, during recent years. Cover crop usage is not a new idea, but some of the management practices that are currently being used and promoted differ from those used in the past. Previous management practices included terminating the cover crop at least three weeks prior to planting, this is the current recommendation with regard to insect/mite pest management. This practice results in a period in which there are no live/suitable host plants for insect/mite pests in the field. This "fallow" period results in insect/mite pests either leaving the field in search of host plants or dying out from lack of host plants. One practice that is being promoted is termination of the cover crop close to the time of planting or planting into the green cover crop and terminating the cover crop prior to cotton emergence. Previous research in Louisiana demonstrated that the closer to cotton planting cover crops, particularly legume species, were terminated, the greater the risk of cutworm infestations and subsequent stand reductions. Thrips are an annual pest of cotton in most areas. Research in Georgia demonstrated that cotton planted into wheat residue (wheat terminated several weeks prior to planting) had lower thrips infestations than cotton planted into fields without plant residue. Flowering/heading grass cover crops, including wheat and rye, can support large populations of thrips. It is not known if planting into live vegetation will have the same suppressive effect on thrips infestations. It is possible that thrips infesting the cover crop may move to emerging cotton seedlings as the grass cover crop senesces. Additionally, false chinch bug is a sporadic pest that infests cotton seedlings in high residue situations. It is possible that false chinch bug infestations could become more wide spread as cover crop adoption increases. Spider mite infestations on cotton seedlings can be extremely damaging and costly. Many of the winter/spring weeds and cover crops are hosts of spider mites. Termination of vegetation close to or at the time of planting creates the "Green Bridge" situation in which the cover crop or winter vegetation is senescing as cotton seedling are emerging. In this situation spider mites or insect pests can move from one host (cover crop or native vegetation) that is declining in suitability to one that is more suitable (emerging cotton seedlings). This could dramatically increase early season spider mite infestations. Soil insects, including southern corn rootworm and wireworms, have been problematic following cover crops and or high densities of native winter/spring vegetation in soybeans and corn, especially if vegetation is terminated close to the time of planting. It is possible that issues with these pests could be encountered in cotton also. Threecornered alfalfa hopper is typically a pest of soybeans. However, large and severely damaging infestations of threecornered alfalfa hopper have been observed in cotton planted into a legume cover crop. The full impact of the management practices for cover crops that are currently being promoted and used is not fully known. However, there is a distinct possibly that occurrence of some insect and mite pests, including sporadic and unusual insect pests, will increase.