Refinements of Alfalfa Pest Management Practices in the Low Desert of Arizona

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Abstract

Global demands for high-quality forage continue to increase with growing population and diet habitats, keeping alfalfa hay production and its prices near historically high levels. Alfalfa hay production in Arizona increased about 6% from 2014. Major insect pests that cause hay yield reduction in the low desert of the southwestern US include, the Egyptian alfalfa weevil (Hypera brunneipennis); an aphid complex of pea aphid (Acyrthosiphon pisum), blue alfalfa aphid (Acyrthosiphon kondoi), spotted alfalfa aphid (Theroaphis maculate), and cowpea aphid (Aphis craccivora); and several species of leafhoppers including potato leafhopper (Empoasca fabae.), garden leafhopper (E. solana), Mexican leafhopper (E. mexara) and threecornered alfalfa hopper (Spissistilus festinus). Other insect pests include complexes of caterpillars. A persistent soil borne fungus, Phymatotrichopsis omnivore, causes Phymatotrichopsis root rot (PRR), also known as root rot in alfalfa. Pesticides applications often still needed and are commonly used to maintain pest population densities below economic damaging levels. Experiments were conducted in 2013, 2014 and 2015 at the University of Arizona Maricopa Agricultural Center to study the economic threshold of Egyptian Alfalfa Weevil and to compare efficacy of several broad-spectrum versus selective insecticides against aphid complex and hoppers in alfalfa. In 2015, two on-farm experiments were also conducted to evaluate different rates of the fungicide Topguard (ai, flutriafol) against root rot in alfalfa. The aim of this broad research is to re-establish Integrated Pest Management practices for alfalfa grown in the low desert of the southwestern United States. It is intended to provide training to PCAs and farmers on the best management practices in managing complex alfalfa pests in Arizona. Promising results were obtained from the various trials conducted to refine alfalfa pest management practices in the low desert of Arizona. It is expected that this information will enhance the ability and knowledge of Arizona PCAs and growers and providing them with up-to-date science based information to manage alfalfa pests.