

Outreach Progress Report

Title: Development of weed identification, herbicide injury, and herbicide recommendations for the MyIPM App decision aid for growers of small fruit and tree and vine crops.

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Public Abstract: The MyIPM app allows farmers to use their phones to not only identify diseases and insects quickly in the field but to also determine the best control strategy. We have taken photographs of common and troublesome weeds present in small fruit, tree, and vine fruit crops. In addition, information from Virginia Tech Weed Identification website will be incorporated into the MyIPM app. This site is recognized as a highly reputable and great visual aide for weed identification (photographs and weed descriptions) by professionals in Weed Science.

Introduction: The MyIPM app created by Guido Schnabel and a team of other colleagues allows growers to identify pests (pathogens and insects) quickly and determine the optimum pesticide to spray for control. The app has been well received by growers and extension personnel. If weeds were included, the app would be a more complete tool for growers and extension personnel. Growers would be able to identify weeds quickly to aid in selection of herbicides for control. Herbicide injury photos will be included. Additionally, weed biology (growth and development) information and crop competition such as the critical weed control timing information could be included.

Description of Outreach Activity: Photos of common and troublesome weeds present in small fruit, tree and vine fruit crops will be taken in the field when available. Some weeds may be grown in pots in the greenhouse in order to document important growth stages in the weed's lifecycle and key weed identification features. Relevant herbicide active ingredients, Weed Science Society of America site of action codes, trade names,

PHI values, REI values, and herbicide recommendations for each crop/weed combination will be compiled for entry in the MyIPM app.

Herbicide injury photos will be gathered and reviewed from previous studies to see if required formatting standards are met for the MyIPM app. For those photos that do not meet these standards, crops will be grown in the field or greenhouse and treated with herbicides to simulate herbicide injury. New photos will be taken at various time intervals after application and included in the MyIPM app.

Results or Outcome: Photographs of many common and troublesome weeds, and herbicide injury in strawberry and perennial fruit crops have been taken in the field and greenhouse for MyIPM. In 2020, Dr. Guido Schnabel in collaboration with faculty from Virginia Tech negotiated a deal to incorporate additional photos and weed descriptions from the Virginia Tech Weed Identification publication site (<https://weedid.cals.vt.edu/>). This site is recognized as a highly reputable and great visual aide for weed identification (photographs and weed descriptions) by professionals in Weed Science. I meet with Guido Schnabel and Wayne Mitchem on January 8 to discuss how to proceed. I will follow this meeting with entering the herbicide recommendations for the specific weeds included in the MyIPM app and I will also provide any additional photographs that are needed to complete MyIPM.