2007 Extension Report to the Southern Region Small Fruit Consortium

2005 Grant

2007 Update

Title: Preventing Wildlife Damage in Small Fruit Crops

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Objectives:

1) To identify species of wildlife causing crop and plant damage to small fruit plantings in the Southeast
2) To review and evaluate different options for preventing wildlife damage available in small fruit crops
3) To demonstrate methods of wildlife damage prevention in small fruit plantings
4) To develop a publication (both hard copy and online) regarding the selection, utilization (including costs) and evaluation of wildlife damage control options

Justification:

Crop losses due to wildlife damage are substantial. Eighty four percent of respondents to a survey listed bird damage as a serious problem in blueberries, with an estimated 10% of the crop being damaged (1). Fifteen states and British Columbia were included in this survey. If this damage was suffered throughout the United States, based on 1989 production and prices, bird damage to blueberries cost growers about $8.5 million.

A survey of producers in 7 major fruit producing states in 1998 revealed that $41 million, or 1% of the U. S. production of apples, blueberries and grapes was lost to wildlife damage (2). This survey, funded by USDA, APHIS, Wildlife Services included 8,850 producers and was conducted in California, Michigan, New Jersey, New York, North

Carolina, Pennsylvania and Washington. Table 1 summarizes the results of this survey

Table 1. 1998 Estimates of Wildlife Damage to Apples, Blueberries and Grapes

Crop	$ Loss	Wildlife Pest	$ Spent for
Apples	13.5 Million (1% of value of production)	Starlings (16%) Deer (14%) Mice & Voles (10%) Robins (9%)	4.0 Million Pyrotechnics (21%) Flagging (15%) Repellents (15%) Frightening Devices (14%) Fencing (14%)
Blueberries	4.4 million (4% of value of production)	Deer (18%) Blackbirds (15%) Starlings (14%) Robins (11%)	443,000 Pyrotechnics (30%) Frightening Devices (23%) Fencing (15%) Repellents (10%)

		Crows, Ravens (10%)		
Flagging (9%)				
Grapes	23.1 million	Starlings (14%)	5.4 Million	Fencing (24%)
	(1% of value	Ground Squirrels (9%)		Flagging (18%)
	of production)	Blackbirds (8%)		Pyrotechnics (18%)
		Deer (8%)		
Frightening Devices (13%)				
		Coyotes (7%)		
Repellents (7%)				

Methodologies:

This project was designed to involve at least two years. The first year was to determine potential sites and to find out what some of the problems are and what, if any, wildlife control practices have been utilized. The second year will be devoted to investigating specific control strategies for their effectiveness and their feasibility for use by growers.

Trials are being conducted with commercial small fruit producers and at University of Tennessee Research and Education Centers. During the 2005 growing season, efforts were directed at identifying sites where wildlife damage is a problem and where the size and location of plantings would lend themselves to control studies. In situations where some types of wildlife damage control efforts were expended, attempts were made to quantify the effectiveness and to discern reasons for success or failure.

Once suitable sites were located, identification of specific wildlife problems was investigated and evaluations of the sites were conducted to determine factors favoring the presence of wildlife and obstacles to control. Current methods of wildlife damage control under consideration include the use of taste repellents, scare techniques and exclusion.

Results:

Advective freezes on the nights of April 4, 5, 6, 7 and a radiation frost event on the night of April 8 resulted in a total crop loss in blueberries across the state a total loss of grape crops at the Middle Tennessee Research and Education Center in Spring Hill, TN and the Highland Rim Research and Education Center in Springfield, TN. These were the sites where the majority of the wildlife control trials were being conducted.

An extension was requested and granted. The expiration date for this grant is now December 1, 2008.

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