

# Effect of varying disease management programs and digging dates on disease severity and yield of Virginia-type peanut in North Carolina



LeAnn Lux, Ethan Foote, and David Jordan  
NC State Extension, Raleigh, NC 27695

**NC STATE UNIVERSITY**

## Introduction and Objectives

## Materials and Methods

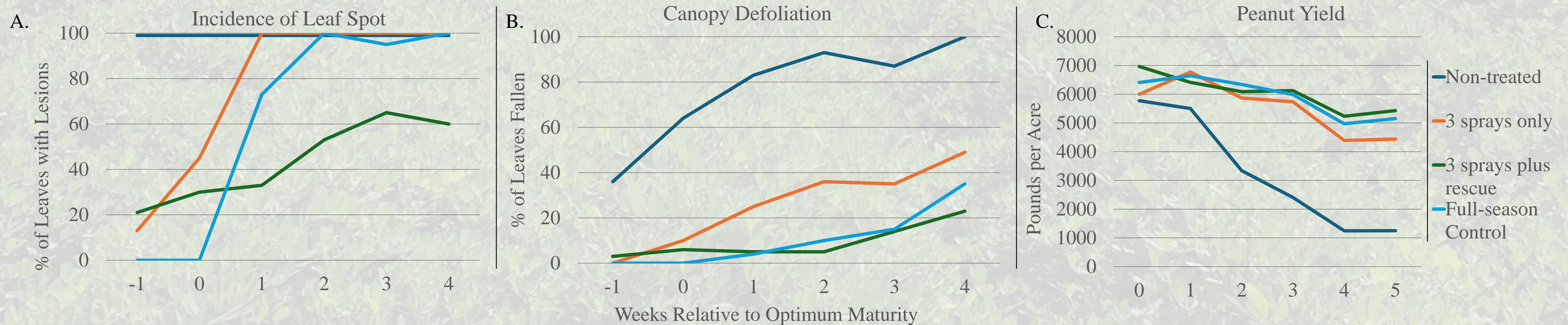
- Peanut (*Arachis hypogaea* L.) digging dates are critical as they can have a significant impact on yield and quality. A difference of just one week prior to and/or post optimum maturity can lead to substantial yield loss.
- Digging date decisions can often be challenging for growers as many environmental factors and management practices can influence pod shed and yield loss.
- The objective of this field experiment was to investigate varying fungicide programs and their effect on leaf spot incidence, canopy defoliation, and yield loss relative to digging dates relative to optimum maturity.

- A field experiment was conducted in Lewiston-Woodville, NC at the Peanut Belt Research Station in 2023.
- The experiment was conducted in a randomized complete block design, in a split plot arrangement with four replications. The main plots consisted of four fungicide programs including a non-treated control (NTC) (Table 1) and the sub-plots consisted of six different digging dates; 1 week prior to optimum maturity, at optimum, and at 1, 2, 3, and 4 weeks post optimum maturity.
- Leaf spot incidence (%), canopy defoliation, and yield were collected and analyzed using PROC GLM

**Table 1.** Experiments treatment names and fungicides of each fungicide program. \*Rescue treatment applied when leaf spot incidence was ~20%

Treatments	Fungicide Program
NTC	-
3-spray program	<ul style="list-style-type: none"> <li>• Chlorothalonil</li> <li>• Chlorothalonil + Tebuconazole</li> <li>• Chlorothalonil</li> </ul>
3-spray program + *rescue treatment	<ul style="list-style-type: none"> <li>• Chlorothalonil</li> <li>• Chlorothalonil + Tebuconazole</li> <li>• Chlorothalonil</li> <li>• Provost Silver + Microthiol Disperss</li> </ul>
Full Season (4-spray program)	<ul style="list-style-type: none"> <li>• Chlorothalonil</li> <li>• Miravis + Elatus</li> <li>• Chlorothalonil + Tebuconazole</li> <li>• Chlorothalonil</li> </ul>

## Results and Discussion



**Figure 1.** (A) Incidence of Leaf Spot (%), (B) Canopy Defoliation (%), and (C) Yield (lbs/a) when peanuts were dug one week prior to optimum maturity, at optimum maturity and up to five weeks following.

- The NTC Pod yield (lbs/a) significantly decreased as digging date was delayed along with the fungicide treatments, though at a much less rapid rate than the NTC.
- There were no significant differences in yield between the 3-spray+rescue fungicide program and the full season fungicide program, however there was a significant decrease in leaf spot pressure with the 3-spray+rescue treatment program.

## Acknowledgements

The authors would like to thank everyone who assisted with this project including all the individuals at the Peanut Belt Research Station and the North Carolina Peanut Growers Association for funding this project.