

# Mulch Color: Black, White or Black Plastic Painted White for Fall Pepper Production in Georgia



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## Materials and Methods

- Four randomized 50-foot sections of plastic mulch for each rep.
- Mulch Types: black, black painted white and white.
- 10% white latex paint solution diluted with 90% water and sprayed at 50 gallons per acre.
- Each rep harvested two times during the growing season.
- Collected marketable and unmarketable numbers and weights.
- Early season soil temperatures collected.
- This study was conducted in a commercial bell pepper farm in Lowndes County in 2025.

### Early season soil temperatures

Below are Soil temperature (°F) at the surface and at 2, 4, and 6-inch depths by mulch type.

Mulch type	Surface (°F)	2-inch (°F)	4-inch (°F)	6-inch (°F)
Black	148.1	114.9 a	108.5	102.4
Black Painted		115.5		
White	136.8	a	109.0	103.4
White	98.5	96.0 b	94.6	91.2

## Results

- White mulch had the lowest soil temperatures and highest marketable yield.
- Black painted white mulch showed intermediate performance.
- Black mulch had excessive soil heat and lowest yield.
- Trends were consistent across both harvests.

## Introduction

Plastic mulch plays a crucial role in regulating soil temperature, retaining soil moisture and fumigants, and suppressing weeds resulting in increased plant vigor and yields in vegetable production systems.

## The problem?

Growers are seeking cost saving alternatives to white plastic and are considering using black plastic mulch or black plastic mulch painted white for fall bell pepper production in Georgia. Depending on the plastic quality and size of operation a possible 10-25% cost decrease.

## Marketable, Unmarketable, Total Weight & Percent Marketable

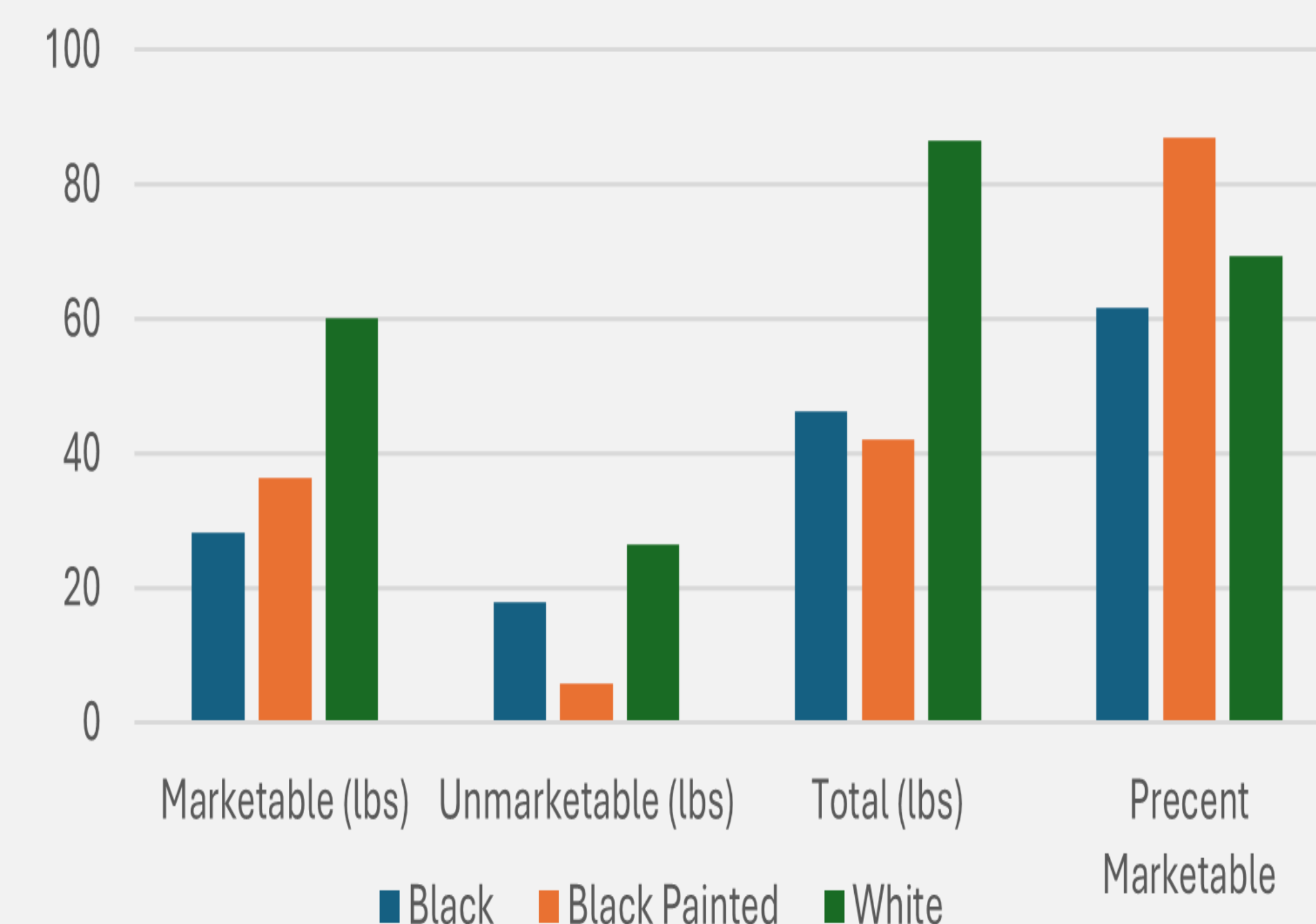


Figure 4. Weight per plot of marketable, unmarketable, total and percentage of marketable fruit from both harvests combined.

## Conclusion

White plastic mulch remains the most effective option for fall bell pepper production in Georgia.

## Pepper Number

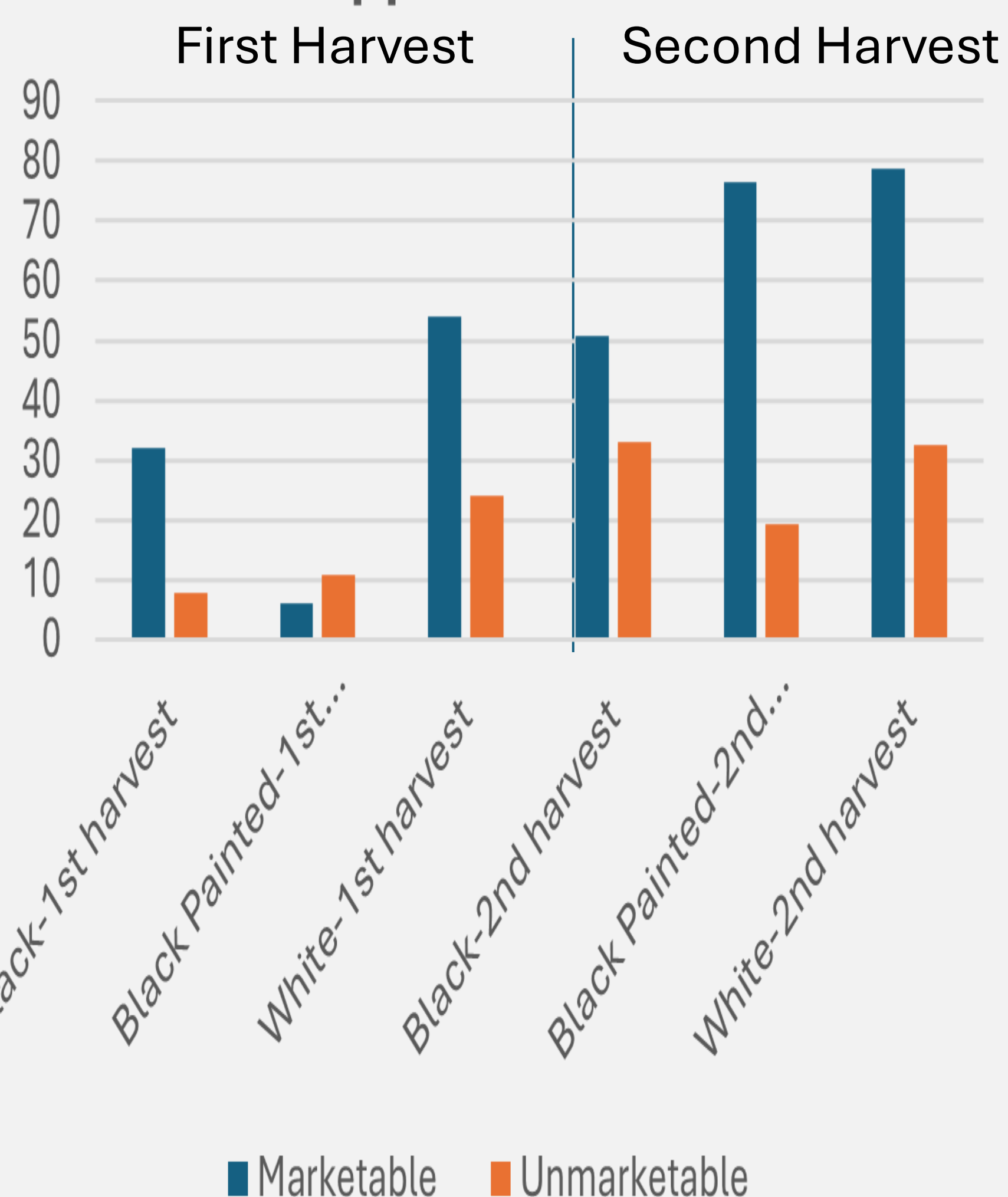


Figure 1. Number of marketable and unmarketable peppers picked per plot from the 1<sup>st</sup> and 2<sup>nd</sup> harvests.

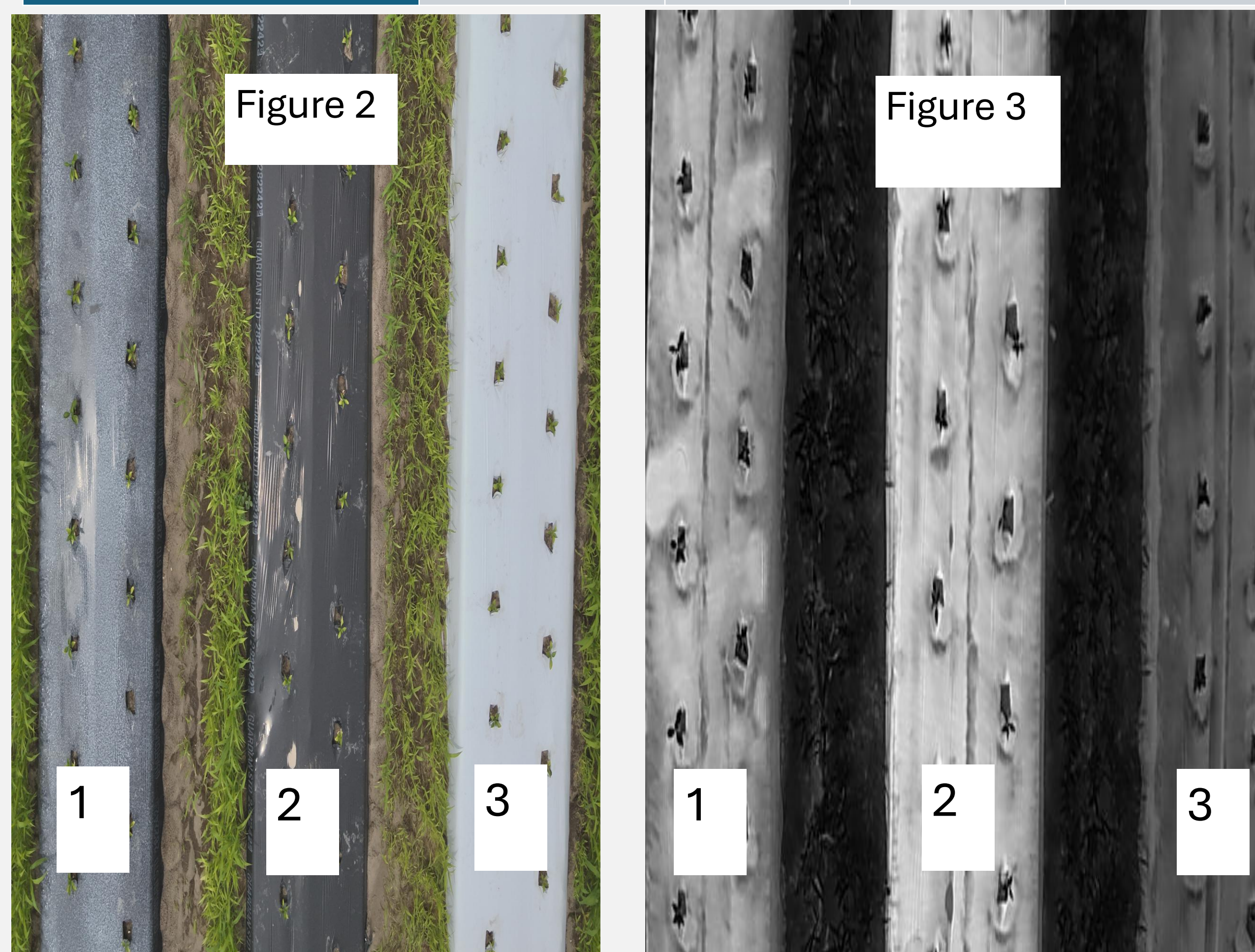


Figure 2. Visual appears of plastic mulch. Figure 3. Thermal imaging of plastic where white indicates hotter. Left to right is (1)black painted white, (2) black, and (3) white mulch.