



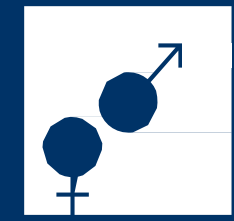
# Hybrid Bermudagrass Dormancy Management in a Cool Season Climate

Clarissa Peterson, Glenl A. Wear, Ashley Beazer, Caden J. Seely, Neil C. Hansen, \*Bryan G. Hopkins  
Brigham Young University (BYU), Provo, UT, USA \*hopkins@byu.edu

## GLOBAL OBJECTIVES



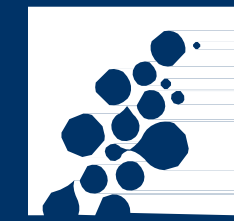
MAINTAIN SOIL HEALTH  
AND VEGETATIVE COVER



CREATE SAFE AND  
FUNCTIONAL FIELDS FOR  
SPORTS AND RECREATION



CONSERVE  
IRRIGATION WATER



LAWNS REDUCE THE  
HEAT ISLAND  
EFFECT

## Introduction

Hybrid bermudagrass (*Cynodon dactylon* [L.] Pers. × *Cynodon transvaalensis* Burt Davy):

- most common warm-season grass
- outstanding sports field surface
- better drought tolerance than Kentucky bluegrass
- thrived in Utah research plots since 2007 (dormant November to May)

## Objectives

In an effort to create viable athletic field surfaces that better align with outdoor sport seasons, the objectives of this study are to evaluate the impacts of growth covers, colorants, fertilizers, surfactants, and organic acids on hybrid bermudagrass dormancy.

## Methods and Materials

- Irrigated Tahoma 31 hybrid bermudagrass field studies (RCBD replicated 4 times) at BYU in 2024-25
- Treatments include fully fertilized plots alone or with added nitrogen (N), humic acid (HA), surfactant (surf.), or green colorant (color); compared to an untreated control. Two studies were conducted identical treatments, either covered with a growth tarp during cold periods (south half of Fig. 1) and not covered (north half of Fig. 1).
- Measurements:
  - Visual Ratings
  - NDVI
  - Percent Cover
  - aerial imagery (drone)

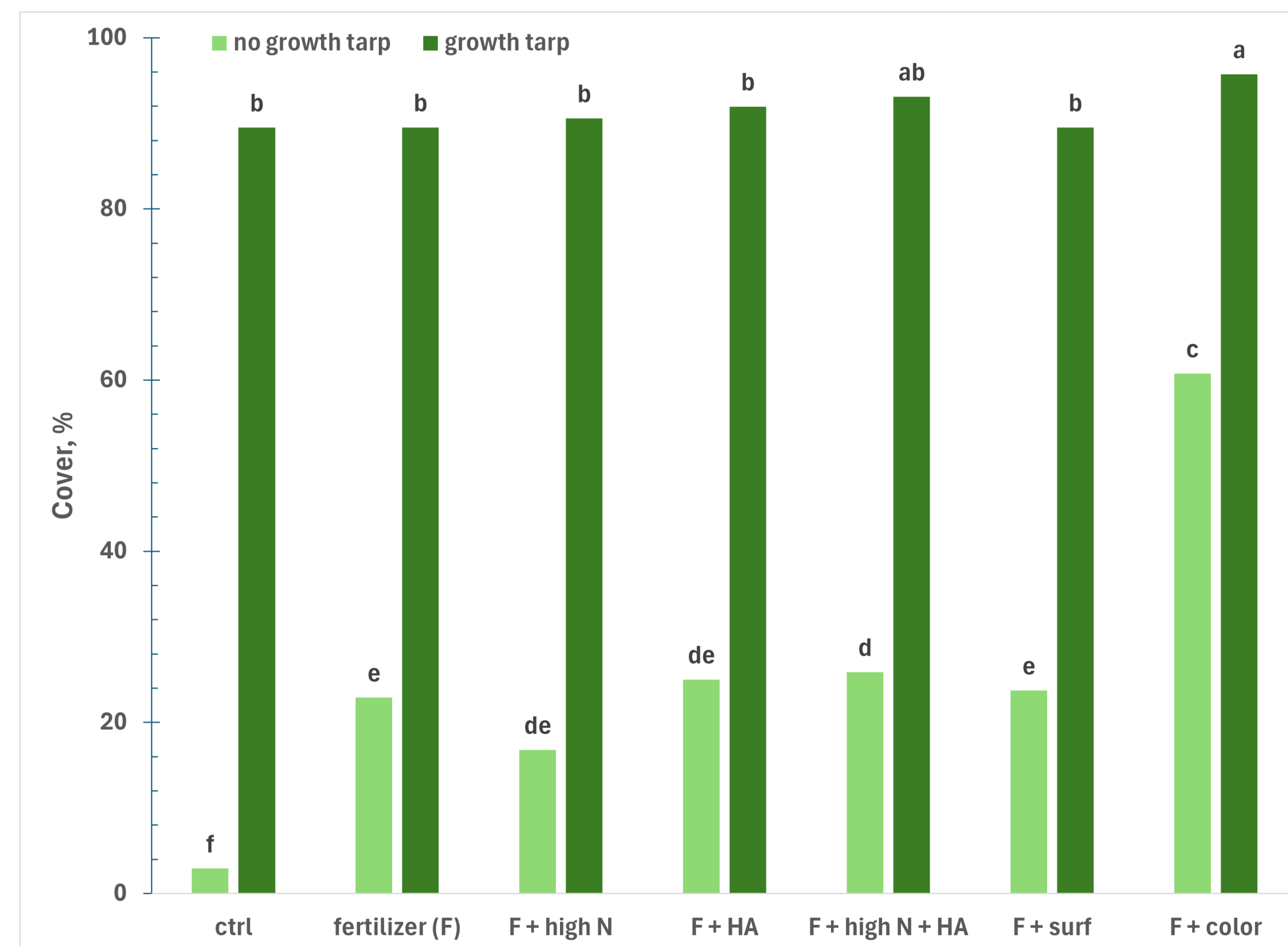


Figure 2a: Canopy cover percentages for hybrid bermudagrass on October 29, 2024

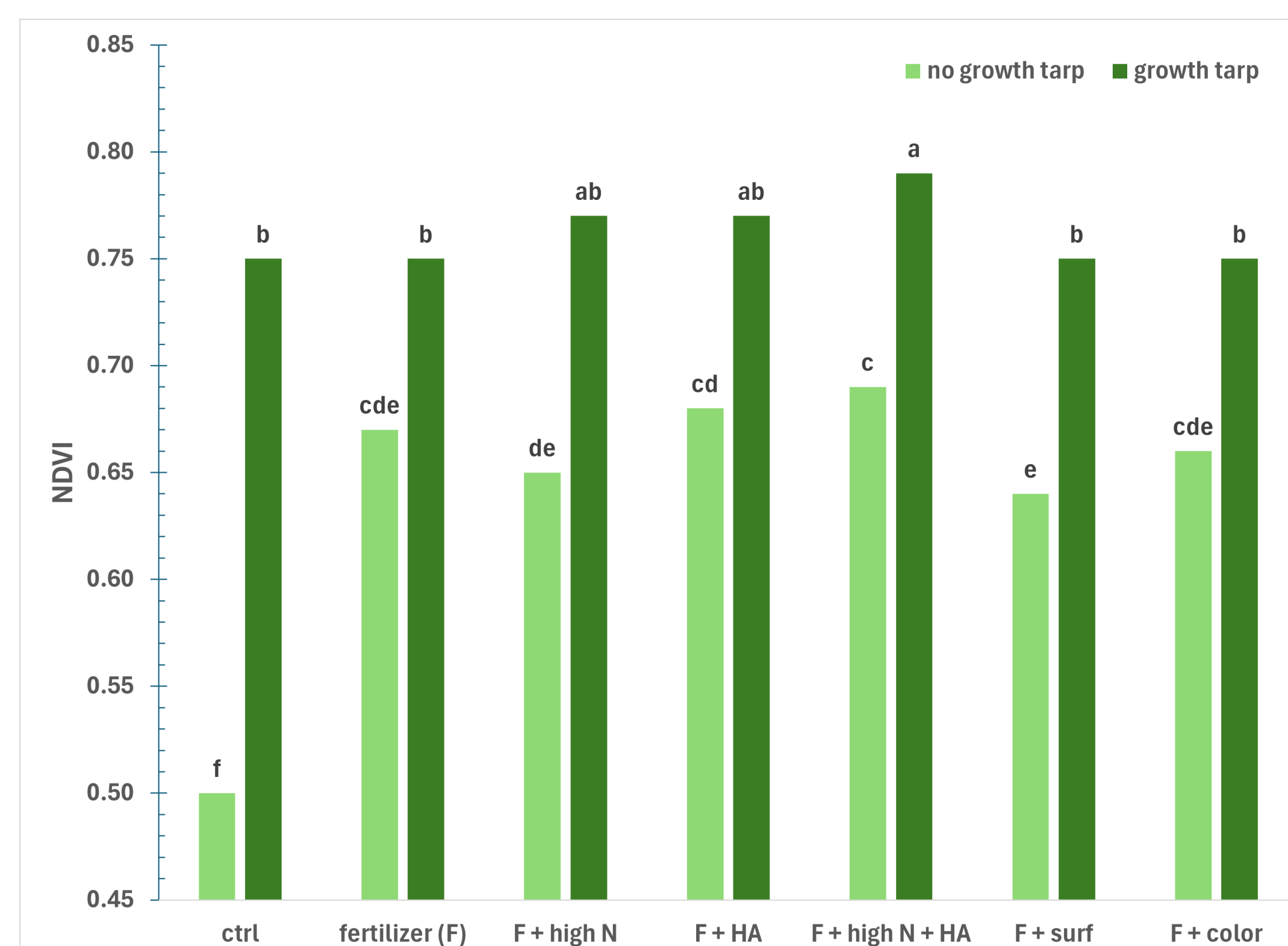


Figure 2b: Normalized Difference Vegetative Index (NDVI) for hybrid bermudagrass on October 29, 2024

## Results

- Grow tarps had much higher values for canopy cover (Fig. 2a) and NDVI (Fig. 2b) than non-covered.

### GROWTH TARP

- Canopy Cover - Colorant was significantly higher than most other treatments (Fig. 2a).
- NDVI - High N with HA was significantly higher than regular levels of N with or without surfactant (Fig. 2b).

### WITHOUT GROWTH TARP

- Canopy Cover - Similar to covered, colorant was significantly higher than all other treatments and the high N with HA was higher than regular fertilizer with or without surfactant (Fig. 2a).
- NDVI - High N with HA was higher than high N without HA and regular fertilizer with a surfactant.

## Summary

Although the studies are still in process (final data will be taken in December 2024 and then repeated in 2025), it is apparent that growth covers have the largest impact on extending the growing season. Full fertilization with slow-release technology along with humic acid and a relatively high rate of N appears to be slightly additive to the green cover in this preliminary data.

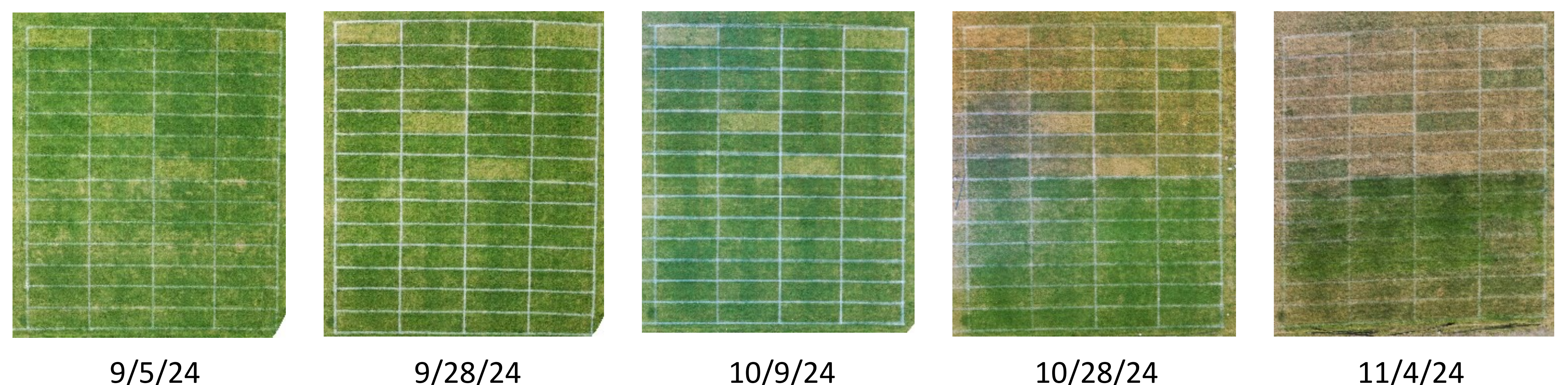


Figure 1: Aerial imagery for hybrid bermudagrass. The bottom 7 rows were covered during cold periods.