

# CHARACTERIZING STUDENT USE OF VIRTUAL PLANT MAPS AS A STUDY TOOL IN PLANT IDENTIFICATION COURSES

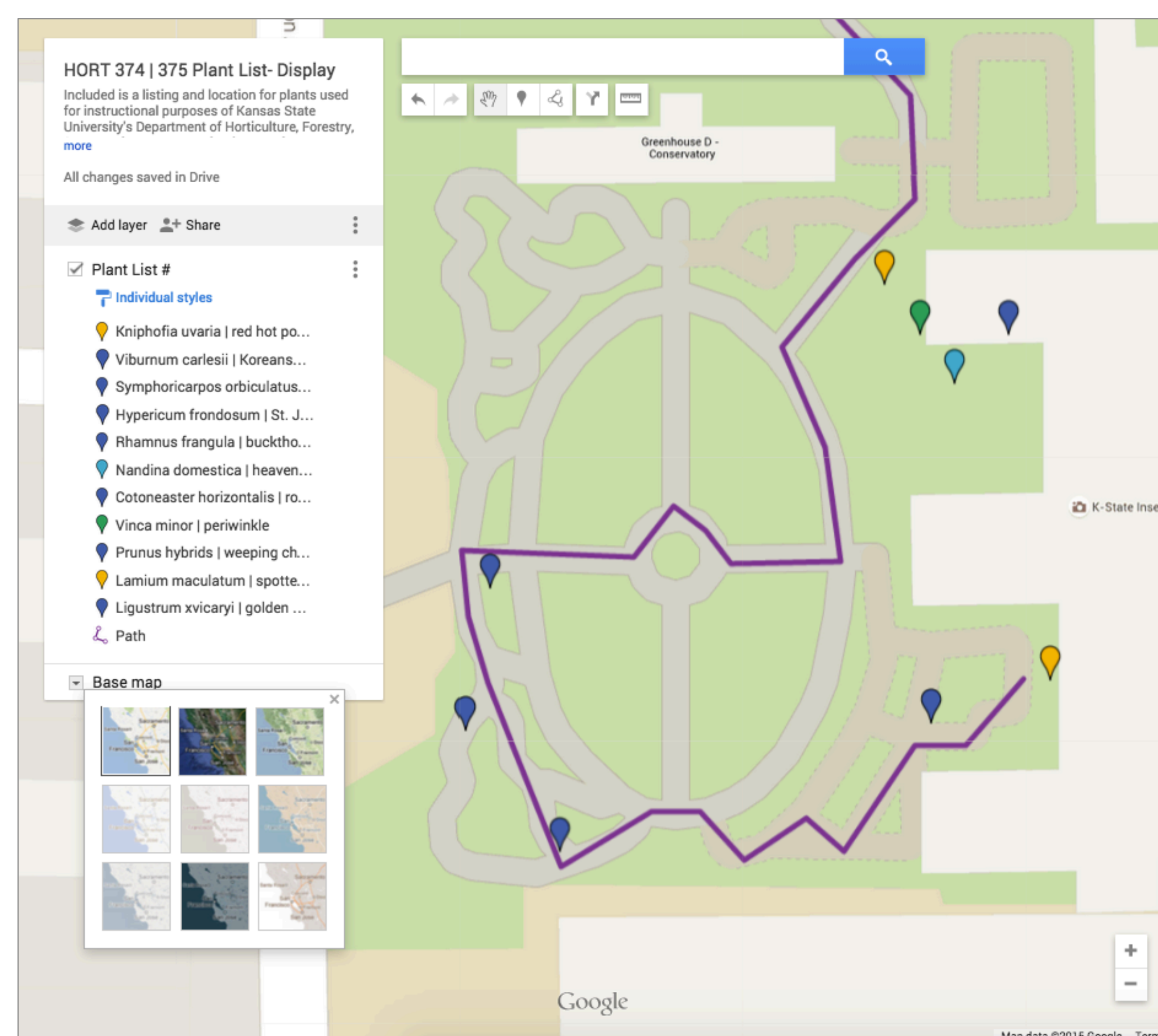
**KANSAS STATE UNIVERSITY**

Matthew S. Wilson & Chad T. Miller  
Department of Horticulture, Forestry,  
& Recreation Resources

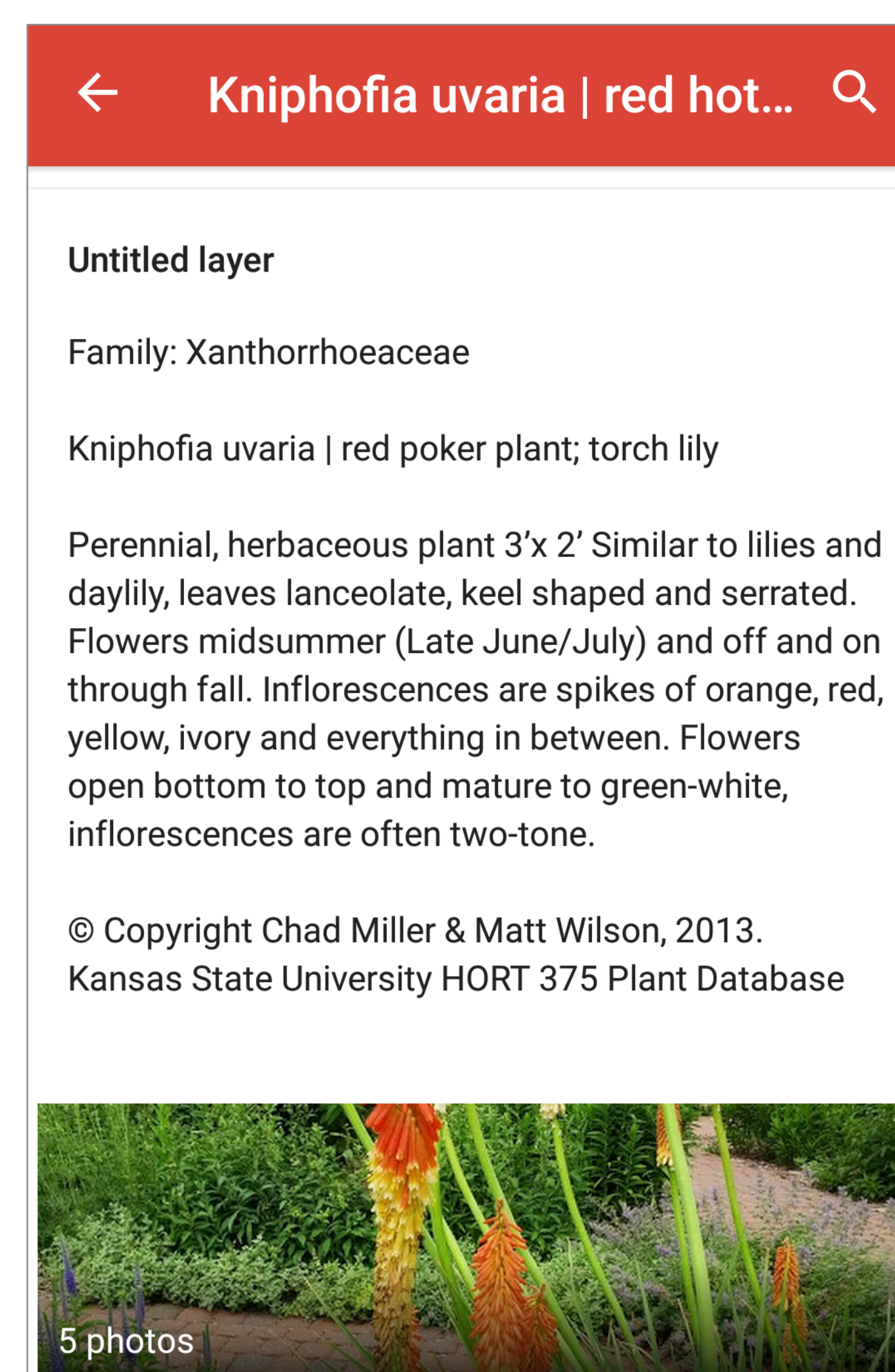
## Introduction

Horticulture plant identification (ID) courses introduce students to many plant species. Many students rely on other resources to supplement notes and textbooks in preparing for plant ID quizzes. We detailed the creation of virtual plant walks as an additional study resource for plant ID courses using the Google Maps™ web-application (Google Inc., Mountain View, CA) (Wilson and Miller, 2015). Previous descriptions of virtual map creation for plant ID courses (Sabota et al., 1995; Wilson and Danielson, 2005) did not provide insight into student use and adoption of the study tool. We surveyed students at the ends of three semesters to evaluate their use of the maps as a plant ID course resource.

## Approach



Computer view of Google Maps™ virtual plant walk.\*

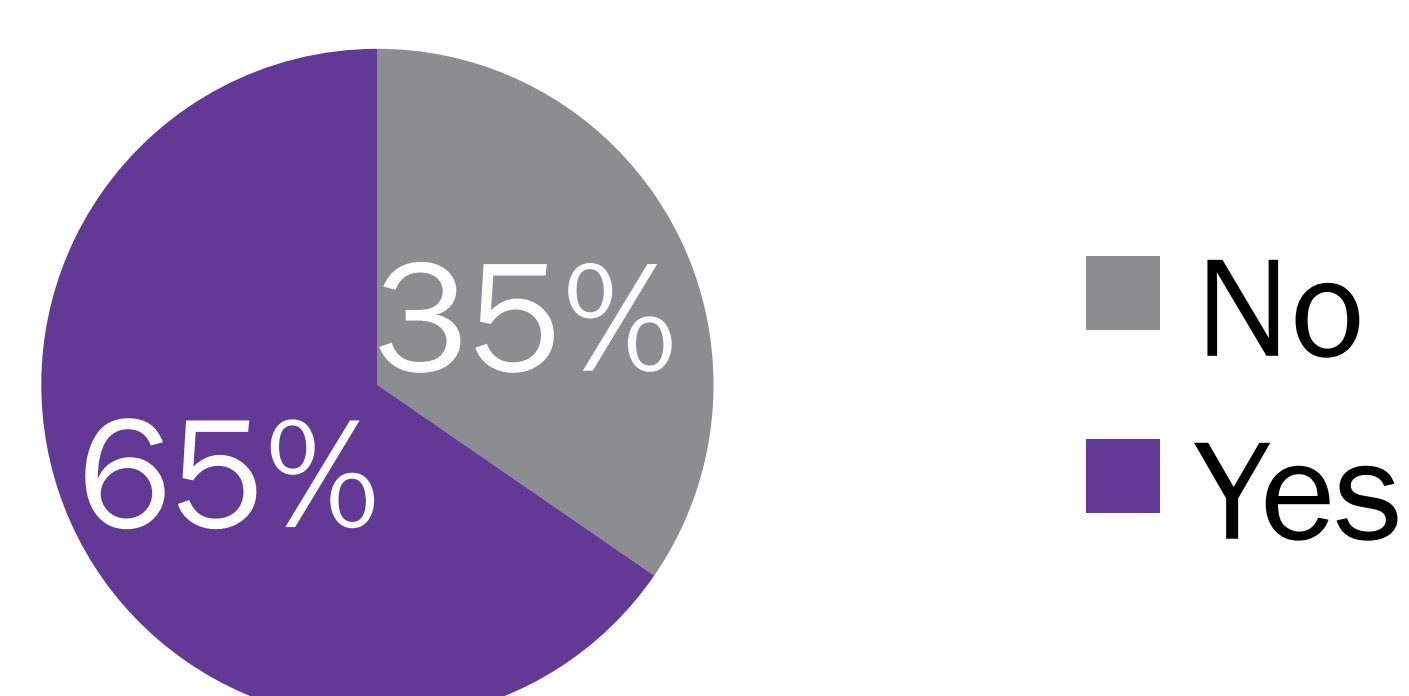


Mobile view of Google Maps™ plant description and media.\*

The objective of the maps was to provide students with the locations of plants from weekly plant lists, plant and family nomenclature, and visual media to serve as an additional study resource. A link for each plant list was provided to students using the course management website following lab each week. Students could re-trace lab plant walks using a computer or mobile device at their convenience. Previous work detailing virtual plant maps for plant ID courses did not report information about student adoption and use of the maps.

We obtained information about student use of the maps resource via end of the semester surveys for two fall semesters (2013 and 2014; n=87) and one spring semester (2014; n=20) of two plant ID courses (total students N=107).

Percent of Students Who Used the Virtual Plant Walk Maps as a Study Resource in Two Plant Identification Courses.



## Survey Results

### Survey Question: When did you use the maps?

(HORT 374-Fall semesters, n=55; HORT 375-Spring semester, n=15)

List Type	Fall Semesters Number (Percent)	Spring Semester Number (Percent)
Primarily to review OLD plant lists	3 (6%)	0 (0%)
Primarily for the CURRENT plant list	26 (47%)	5 (33%)
MIXED purposes, review CURRENT and OLD plant lists	26 (47%)	10 (67%)

### Survey Question: How did you use the maps?

HORT 374-Fall semesters, n=55; HORT 375-Spring semester, n=15)

Review Type	Fall Semesters Number (Percent)	Spring Semester Number (Percent)
Visual review only (online)	37 (67%)	13 (87%)
Physical re-walk of the lab route to observe live specimens only	6 (12%)	0 (0%)
Both visual online and physical re-walk lab route review	12 (21%)	2 (13%)

### Survey Question: Why did you not use the maps?

HORT 374-Fall semesters, n=32; HORT 375-Spring semester, n=5)

Reason for Not Using Maps	Fall Semesters Number (Percent)	Spring Semester Number (Percent)
Other study methods more useful to me	20 (63%)	4 (80%)
Forgot about the maps as a resource	11 (34%)	1 (20%)
Could not find or access the maps	1 (3%)	0 (0%)

## Conclusions

Many students adopted the virtual plant maps as a study resource to visually study current and previous plant lists using the web-application. Mobile technologies (e.g., wireless internet, smartphones, tablets, and applications) provide students with additional study resources for plant identification courses in addition to other study materials and methods.

\*Map imagery Copyright 2015 Google. Google and the Google logo are registered trademarks of Google Inc.

Sabota, C., C.A. Beyl, and G. Ghale. 1995. Developing an integrated location and information database for teaching plant identification and use. HortTechnology 5(2):178-182.

Wilson, M.S. and C.T. Miller. 2015. Using Google Maps web-application to create virtual plant maps for use as an online study tool in plant identification courses. HortTechnology 25(2):253-256.

Wilson, S.B. and H.E. Danielson. 2005. A new instrument for interactive virtual plant identification and use. HortTechnology 15(3):729-730.

