Six-month and One-year Economic Prediction Models for the Environmental Horticulture Industry in Florida

SHEAN T. STEED1*, WAEL ELWAKIL1, JAMES COLEE2, ALAN W. HODGES3, ZACHARY RAY4, AND NATHALIA TELLO5

1University of Florida, IFAS, Extension Hillsborough County, Seffner, FL
2Statistical Consulting, University of Florida, IFAS, Gainesville, FL
3Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL
4Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL
5Environmental Horticulture Department, University of Florida, IFAS, Gainesville, FL

Abstract

To assist woody ornamental producers in the Florida environmental horticulture (EH) industry with budgeting and planning, a statistical prediction or forecasting model was developed using leading economic indicators and other related data that potentially affects employment and sales in the industry. The model was created using monthly reported employment from Florida EH producers as the dependent variable, used as a proxy for sales demand, along with 31 monthly independent variables and their lagged values from 2005 until 2019. The independent variables were offset six months or one year to the dependent variable to estimate two forecasting models. To improve the simplicity and ease of use of the model, variable numbers were minimized. The six-month model’s predictors were reduced to four variables: S&P index from the previous quarter, Federal Funds Rate, vehicle sales, and new home sales. The reduced one-year model incorporated current employment numbers instead of the Federal Funds Rate. The simplified six-month and one-year predictor models had goodness of fit R^2 values of 0.915 and 0.946, respectively. These models can be useful for EH producers to predict trends in sales and employment in the near future for market planning purposes and managing economic risk.

The abstract was presented at the 2021 FSHS Annual Meeting.

*Corresponding author. Email: sspeed@ufl.edu