

Mexican Petunia: new sterile cultivars and management of invasive populations in natural areas

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Mexican Petunia, *Ruellia simplex* (also known as *R. brittoniana*, *R. coerulea*, *R. tweediana*) was introduced to Florida sometime before 1940 from Mexico and it has become a staple landscape plant in the Southern U.S. It has very high flowering, attracts butterflies and bees, has low maintenance requirements, and is adaptable to both dry and wet environments (Wilson et al. 2004). However, this species has naturalized in disturbed uplands and wetlands of seven continental U.S. states plus the Virgin Islands, Puerto Rico and Hawaii. In 2001, the Florida Exotic Pest Plant Council upgraded *R. simplex* from a Category II (potential problem) to Category I, and its status has not changed since (FLEPPC, 2013).

There are tall and dwarf cultivars available of *R. simplex* in purple, pink and white flower colors. All of them set fruits and are potentially invasive. Until 2012, the only exception was the sterile *Ruellia* 'Purple Showers'. This cultivar has large purple flowers, but tends to get very tall and has problems of lodging.

In 2007, Rosanna Freyre developed the first focused *Ruellia* breeding program at UF-IFAS in Gainesville aiming to create new sterile cultivars for the landscape plant industry. Breeding methods involve polyploidization and interspecific hybridizations. Selected plants are trialed in three different locations in Florida. In 2012, the sterile 'Mayan Purple' and 'Mayan White' cultivars were released (Freyre et al., 2012 and 2013) which have profuse flowering and medium-tall height. These were followed by 'Mayan Pink' in 2013, which has medium height (Freyre et al., in press). These cultivars are grown at Riverview Flower Farms, and are available at Home Depot stores in south and central Florida. They will be on display at the FNGLA demonstration gardens at EPCOT this year.

Our research project also involved management of invasive *R. simplex* populations in natural areas, conducted by Carrie Reinhardt-Adams. Results indicate that a 2% foliar glyphosate application sufficiently controlled *R. simplex* in the short-term (1 year). Multiple (2 or 3) applications of glyphosate applied at 3-month intervals did not produce a greater reduction in *R. simplex* cover than a single application in the short-term. Additionally, resulting *R. simplex* aboveground cover did not

differ with season of glyphosate application. This research suggests that land managers could achieve acceptable levels of control of *R. simplex* with a single application of glyphosate and that season of glyphosate application is not crucial to level of control (Adams et al. 2014). Long-term monitoring is in progress to determine how glyphosate applications will affect the long-term control of *R. simplex* and the reemergence of native vegetation.

Literature Sources:

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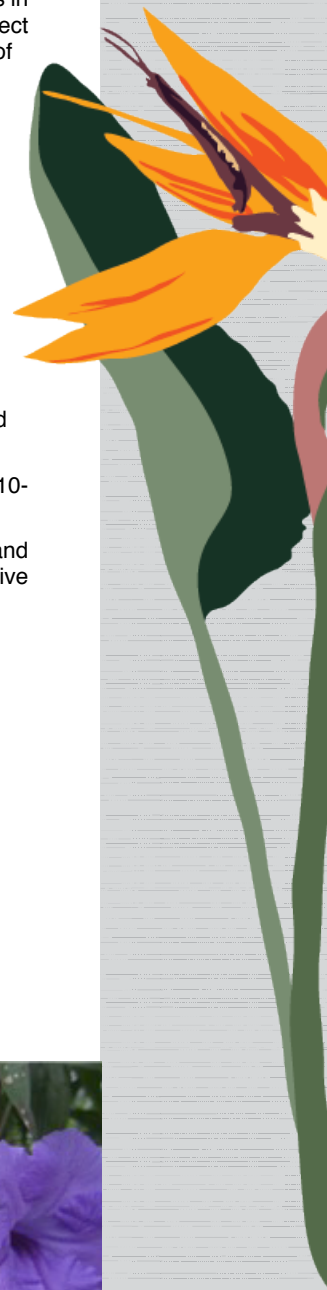


Fig 1: *Ruellia simplex*
Fig 2: Mayan Pink
Fig 3: Mayan White
Fig 4: Mayan Purple