FLORIDA OLIVE COUNCIL, LAA

Research Update – 08 August 2018

Michael O'Hara Garcia, President michael@floridaolive.org

Low-Chill Florida Olive Cultivar

Florida Olive Research Team: Florida Olive Council, Hardee County Economic Development Authority, UF-IFAS Dept. of Horticulture, USDA Germ Plasm University of California (Davis)

Location: Hardee County Economic Development Authority agricultural research farm near Wauchula, Florida (27° 32' 06" N / 81° 48' 52" W) – Myles Albritton, Research Farm Manager.

Research Purpose: Discover or develop an Olive (Olea europaea) cultivar that will reliably flower and fruit south of Florida's I-4 corridor (27° 57" 54' N).

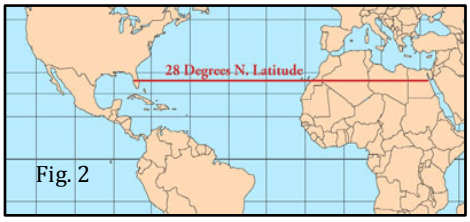

Fig. 2

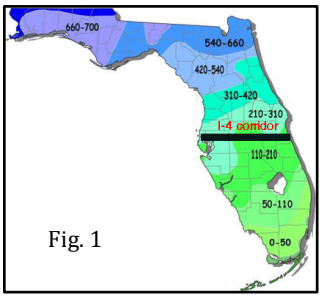

Fig. 1

Hypothesis: Olives cultivated in the U.S. are drawn from European stocks (Spain, Greece, Italy, etc.) acclimated to vernalize (enable fruiting) using 200-300+ chill hours*. South central Florida receives only 110-210 annual chill hours. (Fig 1.) Since olives adapt to environments, it is postulated that olive cultivars from latitudes similar to Florida's might vernalize using fewer chill hours. (Fig 2.) Some research suggests certain cultivars bloom using <80 chill hrs.

*Chill Hour = 1 hr. between 32 °and 45° F.

Research Design: Select cultivars from Middle East, North Africa and South America from USDA Germ Plasm: a. graft candidate cultivars onto existing mature cv. Arbequina anticipating early flowering (2-3 yrs.); b. root same cultivars to provide mother trees for successful grafts.


Fig. 3

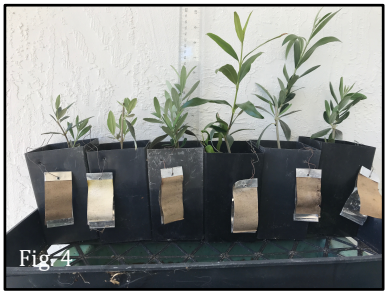
Fig. 4

Observations: 2017 – Twenty-seven varieties rooted and grafted. Hurricane Irma damage: Of 200+ grafts, seven (7) survived (Fig 3.) and of 150 cuttings, six (6) survived (Fig 4.) Survivors included varieties from Albania, Cyprus, Tunisia, and Chile. The same varieties are also included in the 2018 series of trials.

2018 – 40 varieties secured from the USDA Germ Plasm were grafted and rooted. Thicker stock was used for grafting and a more secure rooting house was installed at FOC research facility at La Crosse, FL. Only three (3) of the 391 new grafts failed. Over 75% of the cuttings appear to have taken root.


Grafts Taking Aug 2018


New FOC Root House

New Growth July 2018