

AREA-WIDE MANAGEMENT OF *COPTOTERMES FORMOSANUS* SHIRAKI (ISOPTERA: RHINOTERMITIDAE) IN LOUIS ARMSTRONG PARK, NEW ORLEANS, LOUISIANA

¹MATTHEW T. MESSENGER, ²NAN-YAO SU AND ²AARON J. MULLINS

¹Dow AgroSciences LLC, 6650 Fleur de Lis #9, New Orleans, LA 70124 USA (e-mail: mmessenger@dow.com)

²Department of Entomology & Nematology, Fort Lauderdale Research & Education Center,
3205 College Ave., Fort Lauderdale, FL 33314 USA

Abstract The Formosan subterranean termite, *Coptotermes formosanus* Shiraki (Isoptera: Rhinotermitidae), is the most economically important structural pest in the New Orleans metro area, Louisiana, U.S.A.. In 1998, two significant projects were initiated to determine the effectiveness of area-wide subterranean termite management: A 50-block area of the French Quarter and the 12.75 ha area known as Louis Armstrong Park, which is adjacent to the French Quarter. The goal of the original 50-block treatment area was strictly single treatments for every structure to reduce overall termite pressure, and variables such as number of colonies, interactions among these colonies, and the potential for reinvasion was not evaluated. In Louis Armstrong Park, individual Formosan and native subterranean termite colonies were identified using mark-recapture and DNA fingerprinting techniques and intercolony interactions was evaluated, including aggressive behavior. In 2002, elimination of every subterranean termite colony inside the park using the Sentricon[®] Termite Colony Elimination System was started and the potential for area-wide control with an emphasis on monitoring for reinvasion by alates, colonies near the borders of the park, and/or small, hidden colonies was evaluated. As a result, 23 Formosan and 10 native subterranean termite, *Reticulitermes flavipes* (Kollar) (Isoptera: Rhinotermitidae), colonies were eliminated. At the same time, there were many occurrences where the territories of eliminated colonies were reinvaded by alate pairs, neighboring colonies, and hidden colonies throughout the park. These reinvading colonies were removed and eliminated to maintain the area-wide control approach. Overall termite activity inside trees, structures, Sentricon stations, and independent monitoring stations located throughout the park was drastically reduced after two years of baiting. These results have shown that area-wide management of subterranean termites, especially Formosan subterranean termites, is possible. However, it is important to consider factors such as reinvading colonies via the air and/or ground when evaluating area-wide termite management programs.