ADDRESSING GENE FLOW ISSUES IN COWPEA FOR WEST AFRICA. Remy Pasquet, Barry Pittendrigh, Mohammad Ishiyaku, Ibrahim Baoua, Clementine DaBrie, Malik Ba, Joseph Huesing, and Larry Murdock, ICIPE, IRD, Nairobi, Kenya; Purdue University, West Lafayette, IN 47907; Ahmadu Bello University, Zaria, Nigeria; INRAN, Maradi, Niger; INERA Ouagadougou, Burkina Faso; INERA, Ouagadougou, Burkina Faso; IITA Cotonou, Benin; Purdue University, West Lafayette, IN 47907; and Monsanto Company, St. Louis, MO 63167.

Cowpea (*Vigna unguiculata*), known in the U.S. as "black-eyed pea," is a legume crop grown and consumed across West Africa. Native to East Africa, cowpeas are relatively drought resistant and the grain serves as an important source of quality protein. Like the grain, the leaves are rich in protein and are consumed in salads and used as animal fodder. Insects, particularly pod boring insects, can reduce yields as much as 90% or more. One of the primary limiting pests is the legume pod borer (*Maruca vitrata*), a lepidopteran insect closely related to the European corn borer, which has been successfully controlled by several different *Bacillus thuringiensis* (*Bt*) genes. An international group of scientists organized as the Network for the Genetic Improvement of Cowpea for Africa (NGICA) in cooperation with the African Agricultural Technology Foundation (AATF) is developing a transgenic cowpea variety engineered to express an insecticidal *Bacillus thuringiensis* (*Bt*) Cry1Ab protein to control this pest. Key issues to be addressed are gene flow potential and weediness particularly within areas of cultivation. To that end, assessments are under way to determine 1) outcrossing rates, 2) outcrossing distances, 3) the potential for insects to vector pollen, and 4) the consequences of gene flow as it relates to the fitness potential (insect resistance) of wild or weedy species. These data will be used in conjunction with cultivated cowpea production data to assess potential environmental effects of *Bt*-cowpea in West Africa.