CO-EVOLUTION IN PLANT-MICROBE ASSOCIATIONS AND THE CONSEQUENCES OF GEOGRAPHIC DISPLACEMENT. Steven G. Hallett, Assistant Professor, Department of Botany & Plant Pathology, Purdue University, 915 West State Street, West Lafayette, IN 47907.

Some plant species behave in a very unusual way when they are introduced into a new geographic area. They form dense populations that are uncharacteristic in their native range, and they replace vegetation types that are similar to those with which they co-exist in their native range. Although numerous hypotheses have been posited to explain plant invasions, few are universally satisfactory. In order to develop a universal theory of plant invasions, a number of researchers have investigated the consequences of plant geographic displacement from the perspective of the dislocation of plants from co-evolved relationships. Such relationships include those with mutualists, parasites and competitors. The evolutionary and ecological consequences of the loss of these relationships may be different in each case. This approach to the study of plant invasions will permit the consideration of the evolutionary responses of invaded communities concurrently with investigations of the ecology of plant invaders. Adoption of this perspective will improve our understanding of the evolutionary ecology of plant communities and our ability to predict and manage plant invasions.

2004 North Central Weed Science Society Proceedings 59:129.