

COLLEGE OF
ACES Office of
 International Programs
 INTERNATIONAL FOOD SECURITY INITIATIVE (IFSI)

RESEARCH BRIEF FOR AFFILIATES

Name	Erik Sacks	
Title	Assistant Professor	
Department/Group:	Crop Sciences	
Degrees	Degree, discipline	School
	PhD, Genetics	University of California, Davis
	MS, Horticulture	University of California, Davis
	BS, Plant Breeding	Cornell University
Emphasis	Food Systems	Food Security
	<input checked="" type="checkbox"/> Production <input type="checkbox"/> Post Farm <input type="checkbox"/> Consumer <input type="checkbox"/> Sustainability <input type="checkbox"/> Social/Economic <input type="checkbox"/> Legal/Policy	<input type="checkbox"/> Availability of food <input type="checkbox"/> Access to food <input type="checkbox"/> Utilization of Food <input type="checkbox"/> Nutrition <input type="checkbox"/> Stability of availability/access/utilization
<p>Rice is the staple food of more than half of the world's population and it is especially important in developing countries. Genes from wild relatives of domesticated rice can provide resistance to diseases and pests, improve tolerance stresses and even be sources of novel genes for increased yield.</p> <p>Annual crops require large inputs of labor, nutrients and water; they also leave the soil prone to erosion and nutrient leaching for much of the year. Perennial grain crops could reduce the need for most agricultural inputs while protecting soil and water resources. Most of our annual grain crops have perennial undomesticated relatives that can be used to develop perennial cultivars. For example, ratoon cropping of rice is a traditional practice that fell out of favor in most places with the development of the green revolution cultivars. However, in Texas and Louisiana, about 50% of the rice area is currently ratooned, providing increased yields, with greater water-use efficiency and reduced risk from late season hurricanes, relative to single-harvest systems. Genetic improvements of rice ratooning ability and ratoon yields will further increase relative efficiencies. Improved efficiency of production will facilitate low cost for consumers of this critically important staple grain.</p>		
Countries or regions of collaborations		
Asia		