

November 2, 2005

### **Agricultural Research Service Scientist Wins Award**

The Mid-Atlantic Region of the Federal Laboratory Consortium this year presented the Regional Excellence in Technology Transfer Award to Dr. Aref A. Abdul-Baki, Research Plant Physiologist, Sustainable Agricultural Systems Laboratory, Beltsville Area Research Center, Agricultural Research Service, United States Department of Agriculture for work on “Enhancing Growth, Yield and Fruit Quality of Date Palm Trees in Coachella Valley, CA.”

Tree vigor for date production had declined precipitously in the U.S in the last three decades in spite of timely applications of water and commercial fertilizers. To analyze and solve the problem, USDA scientist Dr. Aref A. Abdul-Baki, a plant physiologist with many years of experience on date orchard management and his collaborator, Mr. Sam Aslan, a soil conservationist, Natural Resources Conservation Service at Indio, California, learned that the primary cause for the tree vigor decline as well as reduction in the fruit yield and quality was a combination of (1) soil stratification by eroded material from neighboring hills and (2) soil compaction caused by excessive use of farm machinery. This combination negatively affected root growth and water/nutrient use efficiency. The two scientists together solved the problem by introducing a 2-step treatment. First, slip plowing the field to fracture the strata and mix the soil 5 feet wide and 6 feet deep, and second, seed the orchards with Lana vetch – a legume cover crop that fixes nitrogen and prevents the soil from re-compacting by allowing a robust root growth and a deep network of roots. This approach provided a practical and economical solution, and is now widely practiced, reducing production costs by \$100 per acre due to savings on cultivation, fertilization and most importantly decreased water usage.

One of the most coveted awards in the field of technology transfer, the FLC awards for Excellence in Technology Transfer recognize laboratory employees who have accomplished outstanding work in the process of transferring Federally-developed technology to the marketplace. The award was made on September 15 at the region’s annual meeting.

The Federal Laboratory Consortium is comprised of the technology transfer offices of all of the Federal laboratories throughout the country while its Mid-Atlantic Region focuses on the 70 Federal laboratories in DC, DE, MD, PA, VA and WV.