

## INCREASING KNOWLEDGE & TECHNOLOGY

An emerging irrigation technology being tested in Westlands has shown promising potential to increase yields in high-value vegetable crops and help farmers manage lands impacted by salinity.

The Center for Irrigation Technology (CIT) at CSU Fresno, in partnership with Mazzei Injector Corporation of Bakersfield, has been exploring the benefits of injecting air into vegetable crop root zones through subsurface drip irrigation systems. Initial results of the research suggest that by injecting air into the subsurface drip lines, growers can substantially increase yields and income, adding value to the investment in subsurface irrigation.

Air injected through subsurface drip lines into crop root zones increases the plants' root respiration and aerobic microbial activity, thereby increasing crop growth. Commercial grade, fresh-market tomato, melon, and bell pepper crops were studied at Stamoules Produce Company near Mendota and at Sun Pacific Farms near Firebaugh.

**INITIAL RESULTS SUGGEST GROWERS CAN  
SUBSTANTIALLY INCREASE YIELDS AND  
INCOME, ADDING VALUE TO THE INVESTMENT  
IN SUBSURFACE IRRIGATION.**

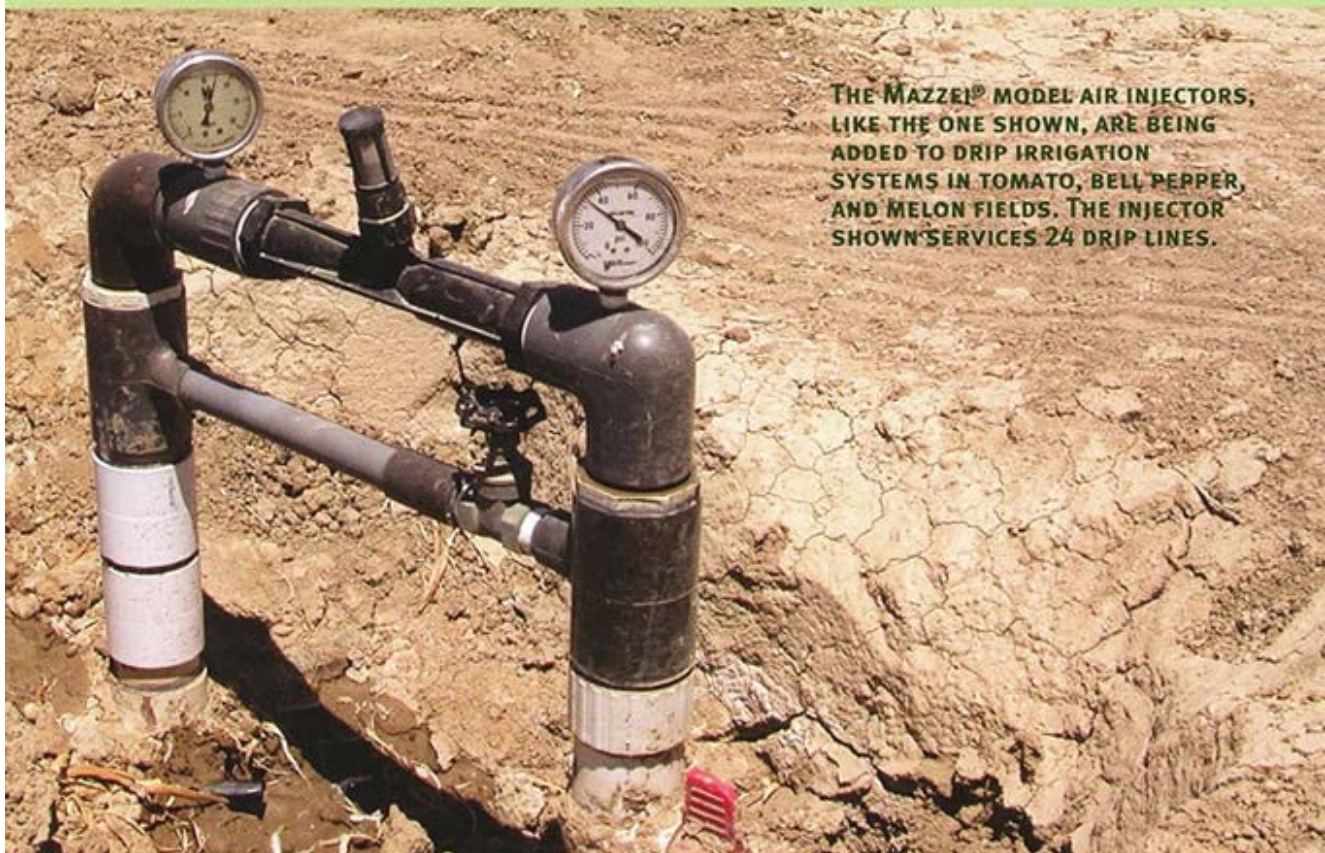


Dr. Goorahoo reported that the research data on the tomato and pepper studies is still being processed, however, earlier tests on a small bell pepper crop found increased yields of 33 percent and increased crop weight of 39 percent.

An optimistic Dr. Goorahoo said the new technology is being looked at throughout the world, with additional research being conducted in Australia, Japan and Germany.

Air injection may also help farmers manage salinity problems on drainage-impacted lands. Dr Goorahoo said researchers in Australia are working on a study on saline impacted lands to determine if air injection can improve yield and performance of cotton grown on saline heavy clay soils.

Although the study will not be completed for a few more years, Dr. Goorahoo noted that he has been hearing from farmers throughout the Valley asking about the air injection system.



**THE MAZZEI® MODEL AIR INJECTORS, LIKE THE ONE SHOWN, ARE BEING ADDED TO DRIP IRRIGATION SYSTEMS IN TOMATO, BELL PEPPER, AND MELON FIELDS. THE INJECTOR SHOWN SERVICES 24 DRIP LINES.**