Guidelines for Developing Soil and Water Management Programs: Irrigated Pecans
SYNOPSIS

Existing pecan orchards in the Southwest were established on every soil imaginable, using all types of water. Soil and water management programs are a tool to make the best use of these resources for improved production. A typical step begins with tree performance evaluation, followed by a review of management records for identifying obvious management deficiencies. If these preliminary steps do not yield anything conclusive, it should be followed by soil and water testing and appraisal, and evaluation of soil improvement options. Finally, orchard management practices, such as soil and irrigation management, fertilization and weed control should be fine-tuned. The significance of each measure may be evaluated using the cost and return analyses presented.

CONTENTS

DEVELOPMENTAL STEPS ------------------------------------------ 1
  Tree Performance Evaluation ---------------------------------------- 1
  Preliminary Orchard Management Review ------------------------------- 2
  Water Testing and Appraisal ---------------------------------------- 3
  Soil Examination and Appraisal -------------------------------------- 3
  Soil and Drainage Improvement -------------------------------------- 4
  Irrigation System Selection or Modification -------------------------- 5
  Soil and Floor Maintenance ---------------------------------------- 7
  Irrigation Management --------------------------------------------- 8
  Nutrient Management and Water Conditioning ------------------------- 9

INTEGRATING AND BALANCING PROGRAMS -------------------------- 10

COST AND RETURN ANALYSES --------------------------------- 11

APPENDIX ------------------------------------------------------ 11

REFERENCES --------------------------------------------------- 12

ACKNOWLEDGMENT

Research and Publication of this document was financed in part by the Efficient Irrigation for Water Conservation in the Rio Grande Basin Initiative through the Cooperative State Research, Education, and Extension Service (CSREES), the Texas Agricultural Experiment Station, the El Paso Agricultural Research and Extension Center, and the Texas Water Resource Institute (TWRI).