Advancements in Irrigation Efficiency

Saving Water in the Landscape

Presented by:

Andy Smith, CIC, CID, CLIA
State & Affiliate Relations Director
Tel: 231.582.6023 Fax: 231.344.6444
Email: Andy@irrigation.org
www.irrigation.org
Internalizing the IA Best Management Practices

1. **ASSURE** Overall QUALITY of the irrigation system
2. **DESIGN** the irrigation system for the efficient and uniform distribution of water
3. **INSTALL** the irrigation system to meet the design criteria
4. **MAINTAIN** the irrigation system for optimum performance
5. **MANAGE** the irrigation system to respond to the changing requirement for water in the landscape
Visibility Creates Accountability

- Overspray onto hard surface
- Runoff
- Irrigation in the rain
- Leaks and breaks

Irrigation water wasted as it runs off into street.
Right Plant, Right Place = Right Application, Right Plant

Selection Factors:
- Physical site features
- Plant needs
- Growth habit
- Soil type
- Slope
- Root depth
- Cultural practice
- Wind
- Local Climate
- Microclimate
- Future use
- Available water supply
- Water window/ Water restrictions
Drip Irrigation

- Flexible output
- Pressure compensating
- Direct applied
- Efficient application
- Low volume
- Broader water window
- Limited contact with water
Sprinkler Advancements

- Check valves
  - Prevent lateral pipes from draining between cycles through the sprinklers
  - Prevent erosion of sloped or newly seeded areas by “low head drainage”
Sprinkler Advancements

- Nozzle performance
  - Enhancing matched precipitation
  - Improved distribution uniformity
  - Patterns for irregular shaped areas
Sprinkler Advancements

- Additional sprinkler enhancements
  - Pressure regulation
  - Flow stop-auto and manual
  - Patterns for irregular shaped areas
Valve Advancements

- Pressure regulation
- Battery actuation
- Wireless control
- Decoder Actuation
Pump Stations

- Pre-manufactured
- Skid mount
- Customized per application
- For main supply or booster
- VFD and Conventional
- Communication
Flow Measurement

- Water Meters
- Flow Meters
- Data Transfer/Monitoring
Sensors

- Rain
- Wind
- Moisture
- Temperature
- Flow
- Comprehensive weather
- ET-Climatic Data
- Sensory feedback
- Cycle and soak
- Solar/Battery
- Central control
  - Communication
  - Monitoring
  - Changes

Control

Toro Intelli-Sense

Weather Reach Receiver

Irritrol Smart Dial

Weathermatic SL Series

www.irrigation.org
The Cutting Edge

- Forecasting
- Membranes
- Expanded water re-use
- Installation methods
- Rainwater harvesting
Education is the Key

- Irrigation is rapidly advancing and requires continuous education
- We are being forced to produce the same results with less input
- The chemistry of water re-use requires special knowledge
- Efficiencies must increase as scrutiny increases
- Provisions must be made for ongoing management
- Installer qualifications are a huge factor in outcome
An Irrigation System Is Not An Appliance

- It is a systems integration process
- Knowledge of hydraulics, electricity, water resources, plants and soils are a must
- There is no substitute for experience
- Site visits are a must before, during and after construction
- “When the water is cut off, the green industry closes its doors.” - Ron Eberle, discussing 2002 Colorado drought.
- The people are more important than the products
U. S. EPA WaterSense

www.epa.gov/watersense

- Certification programs for irrigation professionals
  - Design
  - Installation
  - Auditing
- Labeling of irrigation products (coming soon)
  - Irrigation Controllers
  - Drip irrigation

www.irrigation.org
Thanks!

See You in San Antonio....

27th Annual International Irrigation Show
Henry B. Gonzalez Convention Center
San Antonio, Texas, USA
November 5-7, 2006
Education & Certification: November 2 - 7

www.irrigation.org