All About Irrigation

Tonight's Agenda

- Managing your sprinklers
  - How, Why, When
- Scheduling your Sprinklers
  - Taking full advantage of your timer
- Equipment
  - Upgrading from 1970's (or older) technology

Managing Your Sprinklers

- The most common question...

  How long should I water?

  Just long enough!

- The better question…

  How well do I water?

Managing Your Sprinklers

- When do you need to water?

  When the soil is dry

- When should you not water?

  When the soil is moist

- How can you tell?

Check – look and touch the soil!

Managing Your Sprinklers

Soil Probes

Managing Your Sprinklers

- When?
  - Avoid daytime hours with overhead sprinklers
  - Anytime for drip systems
- How long?
  - Less time than it takes to runoff
  - What's the infiltration rate?

Managing Your Sprinklers

- Cycle and Soak
  - Water short of runoff
  - Allow to soak in for 1 – 2 hours
  - Water again
  - Repeat as necessary

Managing Your Sprinklers

- Know your timer

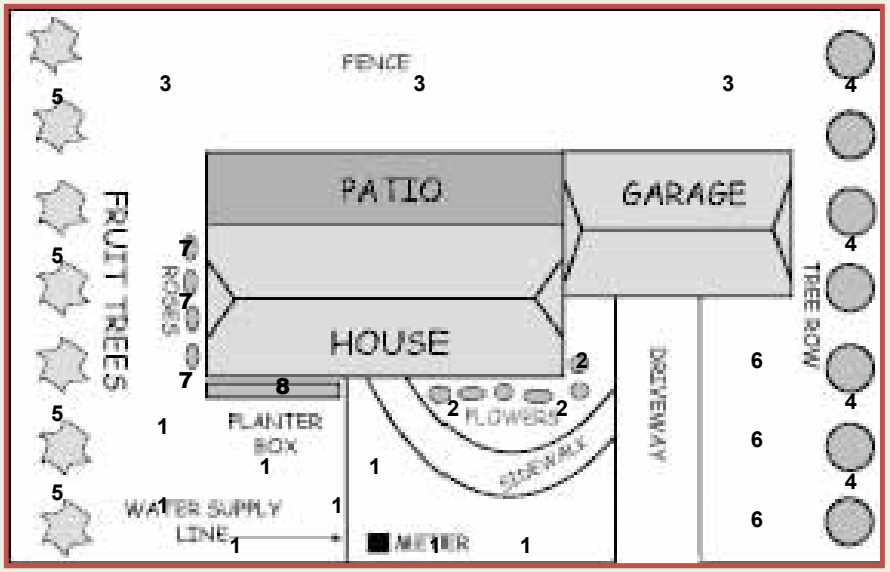
  READ THE MANUAL

  – Programs
  – Start times
  – Run times
  – Interval scheduling
  – Calendar scheduling
  – Seasonal (%) adjustment
  – SMART Timer?

Don’t fear the manual!

Managing Your Sprinklers

- Make a zone map

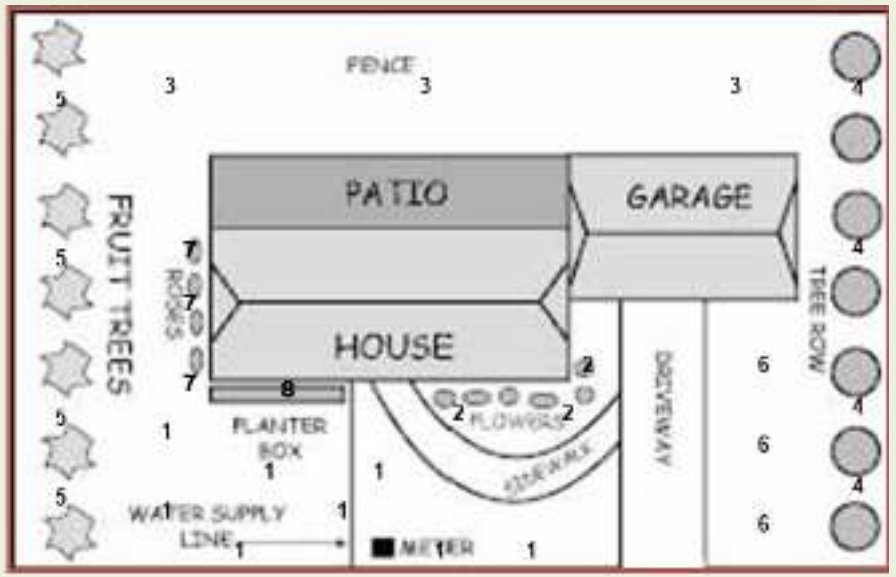


Know what comes on and where

Managing Your Sprinklers

Hydrozones

- Distinct zones within your landscape
- Plants with similar water needs
- Uniform/compatible irrigation equipment



Managing Your Sprinklers

- Check ups – Watch them run
  - Head to head coverage
  - Broken risers
  - Leaking seals
  - Misdirected spray
  - Plugged/Broken nozzles
  - Low head drainage
  - Blocked spray
  - Tilted heads
  - Too deep/high
  - Mismatched equipment
  - High or low pressure
  - Hydrozones

Managing Your Sprinklers

- Repairs
  - Repair quickly
  - Repair correctly
  - Avoid collateral damage
  - Avoid high water bills
  - Avoid wasted water
  - Get help if necessary

Getting Help

- **Get Competent Help!**
- CLCA contractor search
  - clca.org
- Ecolandscape California
  - ecolandscape.org
- Rescape California
  - rescapeca.org

Scheduling

- Identify zones
- Assign zones to programs
- Run times
- Start times
- Days on

Sprinkler Scheduling Worksheet

Station Run Times

Station No.	Location	Station Run Time			
		PGM A	PGM B	PGM C	PGM D
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Start Times

	Start Time 1	Start Time 2	Start Time 3	Start Time 4	Start Time 5	Start Time 6	Start Time 7	Start Time 8
PGM A								
PGM B								
PGM C								
PGM D								

Watering Days

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Skip Days
PGM A								
PGM B								
PGM C								
PGM D								

Station No.	Location	Station Run Time			
		PGM A	PGM B	PGM C	PGM D
1	Front yard turf, Pop-up	3 min	0	0	0
2	Back yard turf, Impact rotors	10 min	0	0	0
3	Back patio shrubs, Drip	0	45 min	0	0
4	Back fenceline shrubs, Drip	0	45 min	0	0
5	Front/side yard/driveway turf, Pop-up	3 min	0	0	0
6	Back yard trees, Drip	0	0	1.5 hrs	0
7	Vegetable garden, Drip	0	0	0	45 min
8					
9					
10					
11					
12					

	Start Time 1	Start Time 2	Start Time 3	Start Time 4	Start Time 5	Start Time 6	Start Time 7	Start Time 8
PGM A	3 am	4 am	5 am					
PGM B	7 am							
PGM C	9 am							
PGM D	11 am							

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Skip Days
PGM A			On		On		On	
PGM B								5
PGM C								7
PGM D								2

So what's a sprinkler system?

System Components

Technology Evolves ?

1980 +/-

2019

Electronics

1950 +/-

2019

Irrigation

Irrigation Controllers

Soil Moisture Sensors

Rain Shut-Offs

Wired

Wireless

Sprinkler Heads

Impact Driven Rotary Sprinklers

Upgrade to

Gear Driven Rotary Sprinklers

Sprinkler Heads

Upgrade your lawn sprinklers

From Misting Spray Nozzles

To Rotary Nozzles

Just change the nozzles

Drip Systems

Converting spray to drip

Must have a filter and pressure reducer

Drip Systems

(old school)

This will eventually become this

Drip Systems

(Todays Technology)

In-line Drip Emitters


06/01/2012


06/01/2012


06/02/2012


06/02/2012

Second Growing Season

Drip Tips

Don't Overload the system

Flow rate calculation

Time how long to fill a bucket - 2 minutes for a 5 gallon bucket

Calculate gallons per hour (gph)

$$\frac{5 \text{ gal}}{2 \cancel{\text{min}}} \times \frac{60 \cancel{\text{min}}}{1 \text{ hr}} = 150 \text{ gph}$$

How many 1 gph emitters? 150

How many 1/2 gph emitters? 300

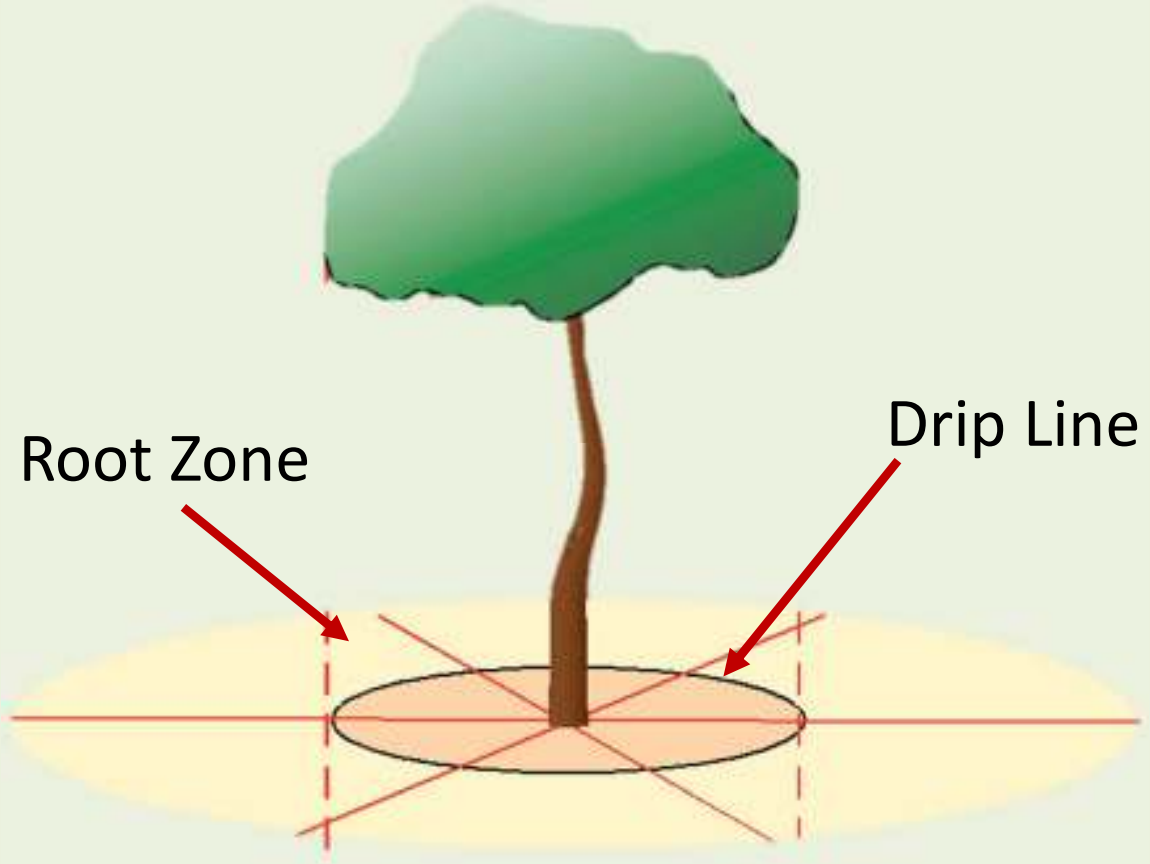
Drip Tips

Trees / Shrubs

Water the roots

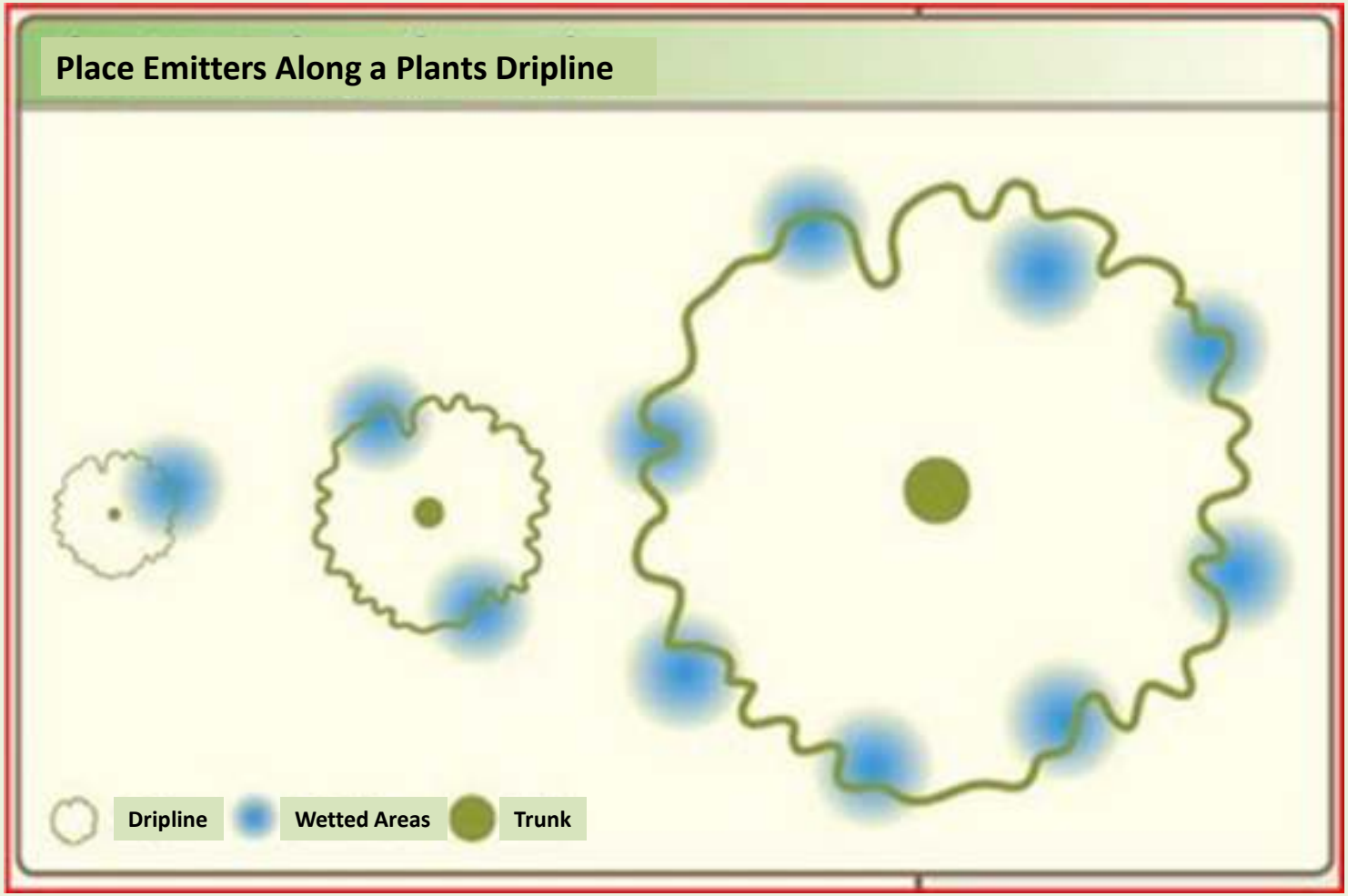
<u>NOT</u>

the trunk



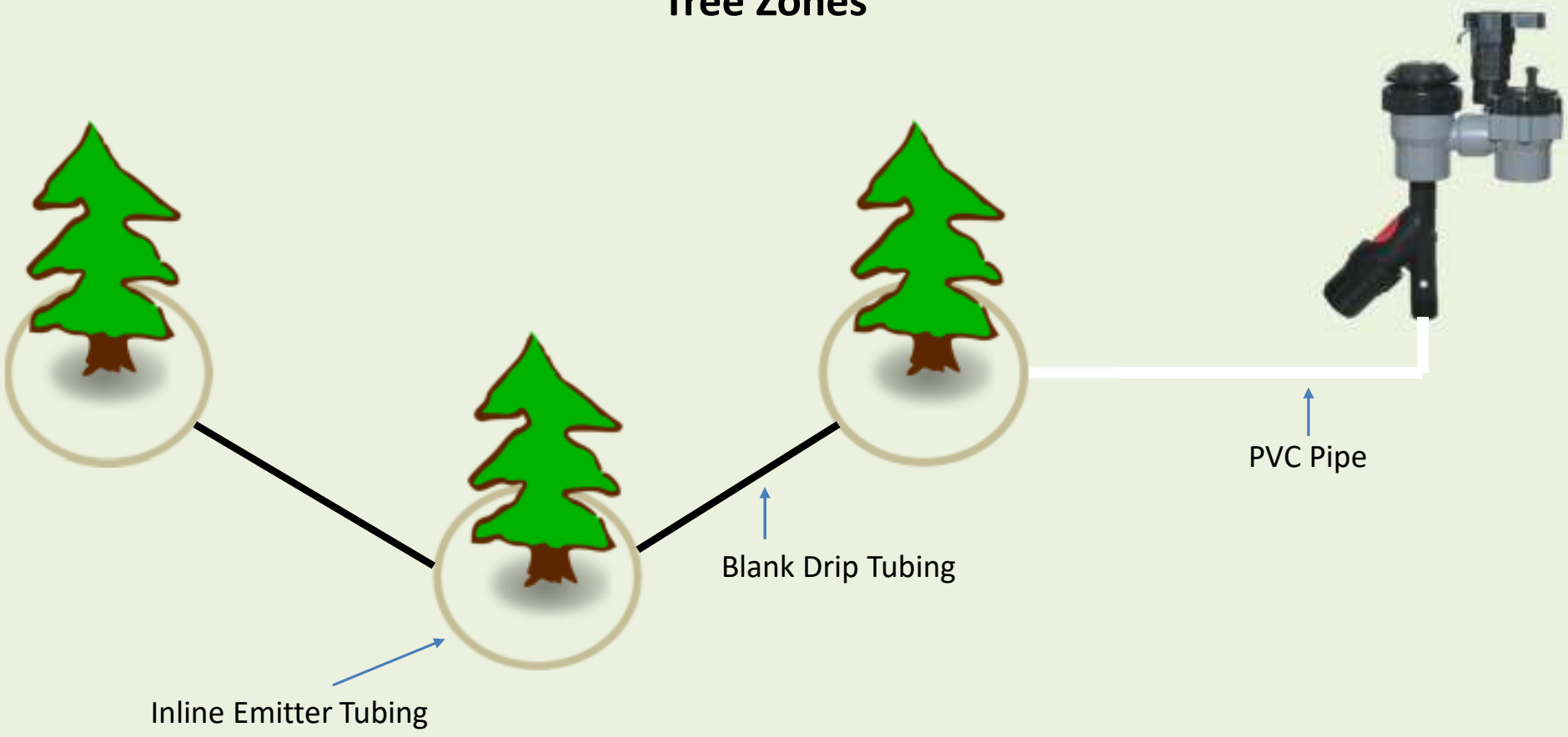
Drip Tips

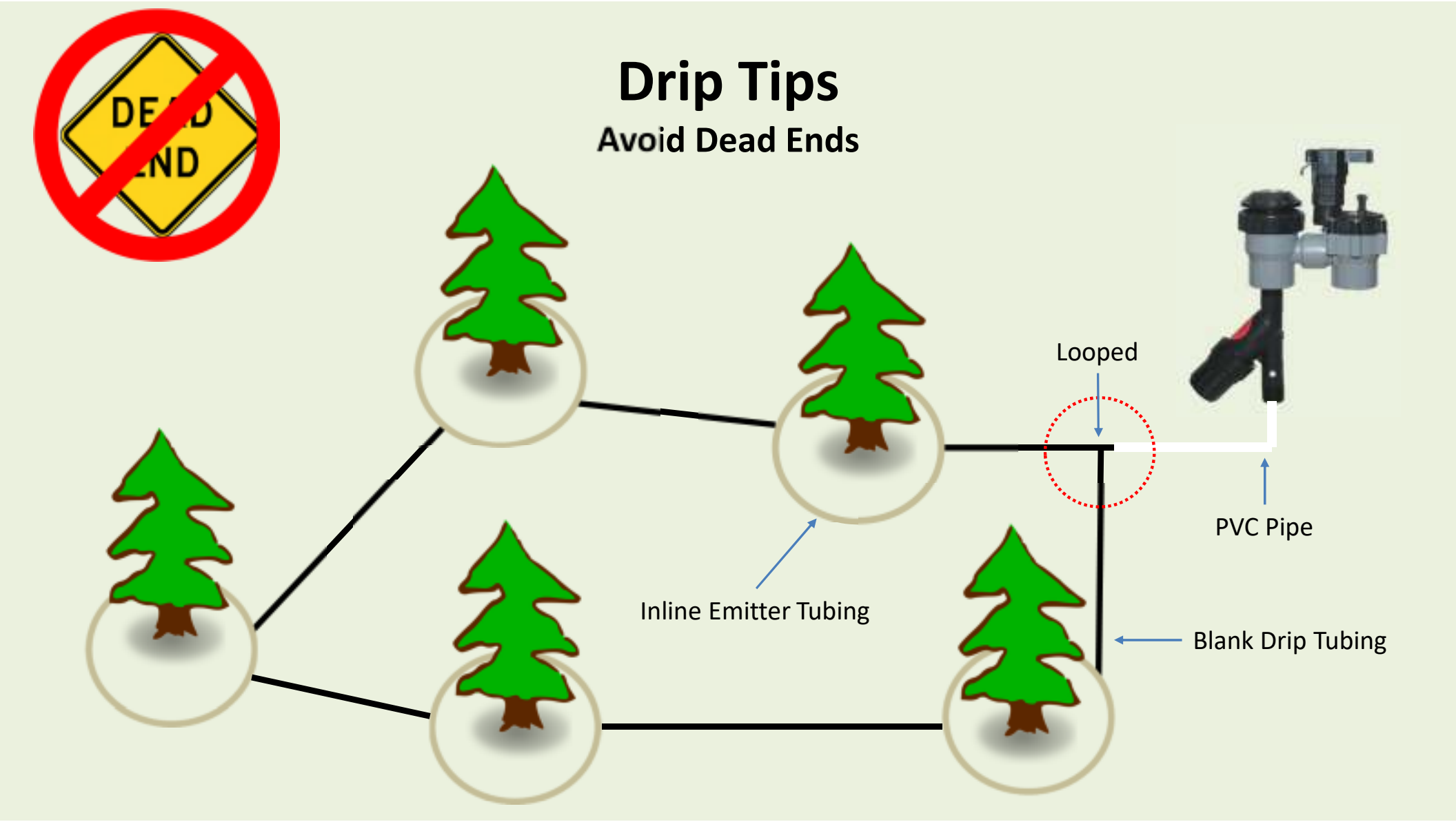
Emitter Placement



Drip Tips

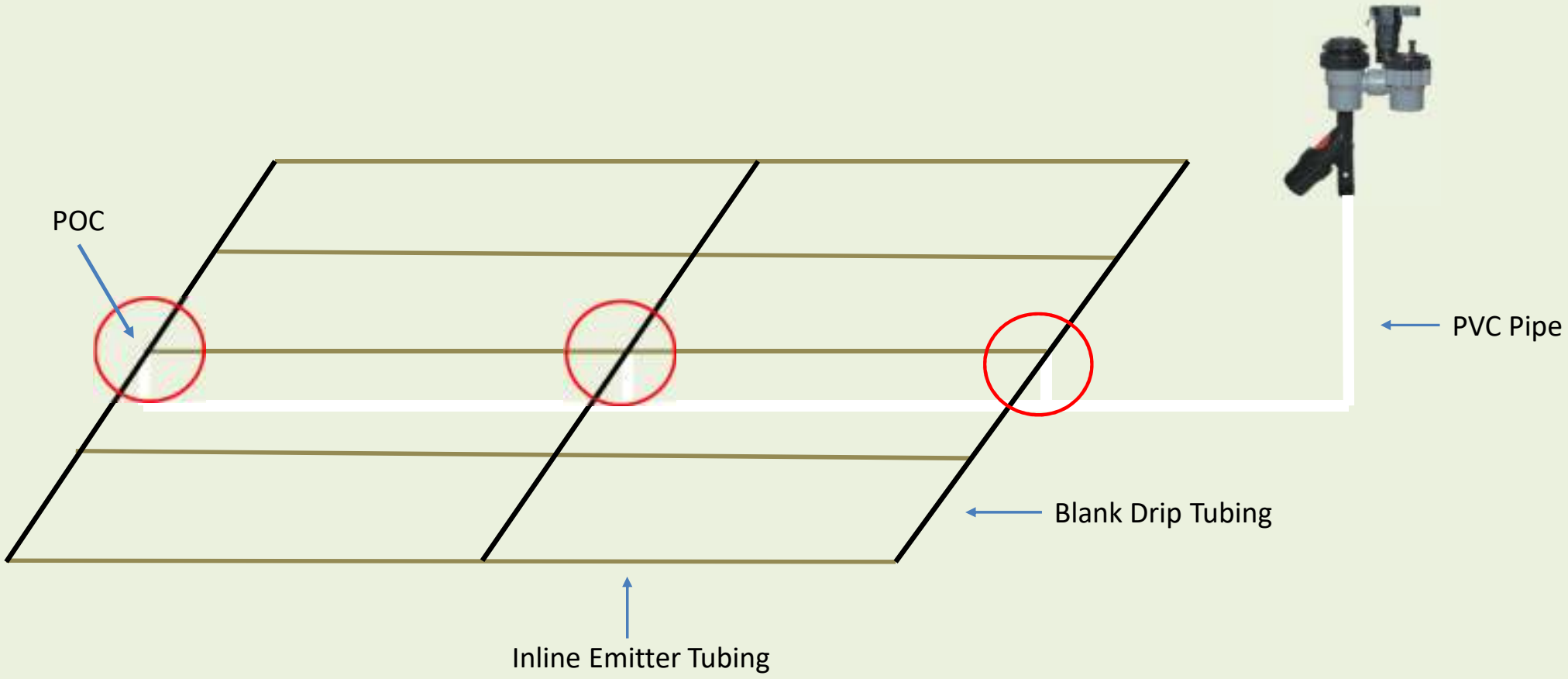
Tree Zones




Drip Tips
Avoid Dead Ends
Looped
PVC Pipe
Inline Emitter Tubing
Blank Drip Tubing

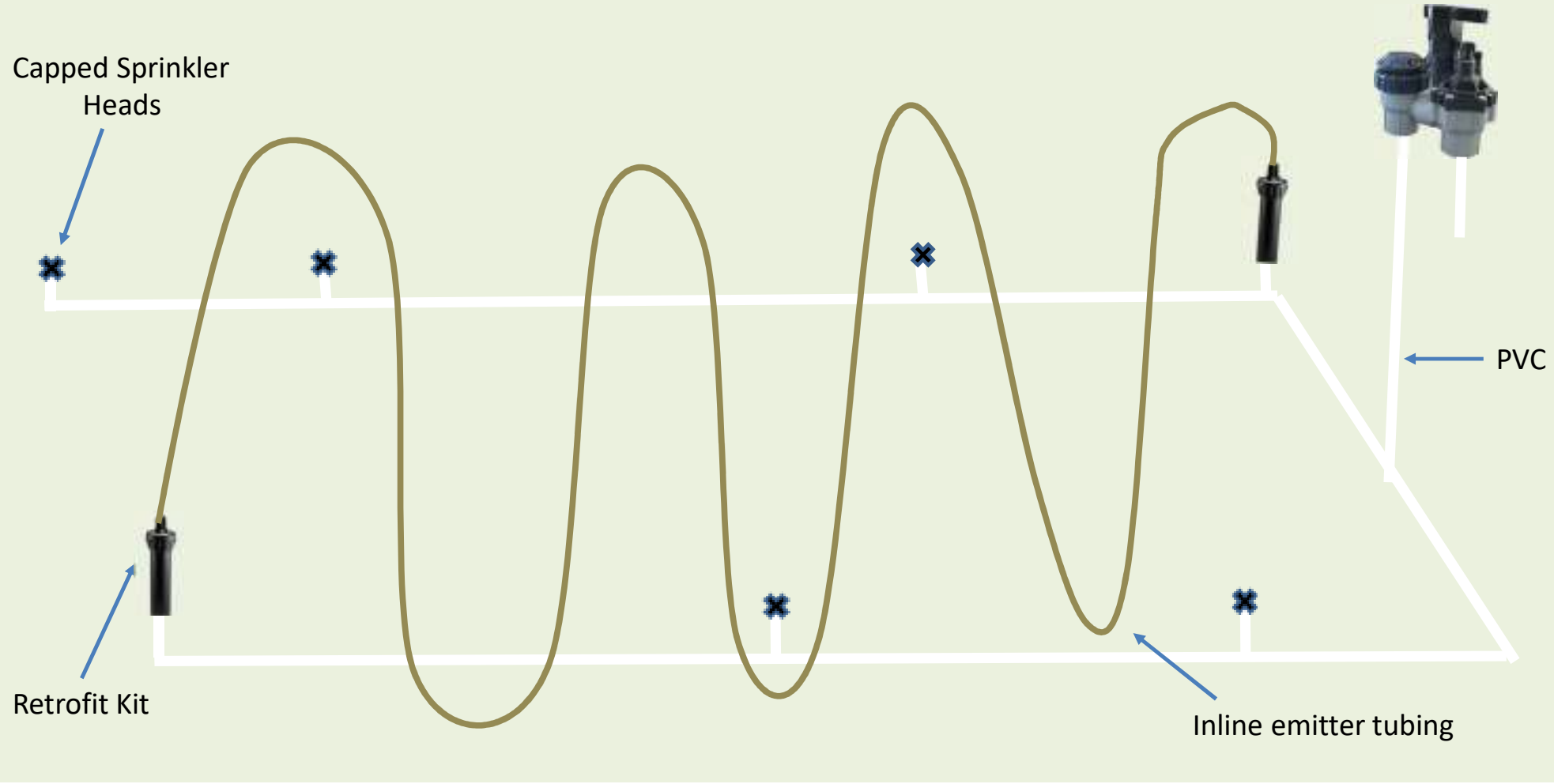
Drip Tips

Densely Planted Areas



Drip Tips

Retrofitting an existing spray system



Drip Tips

Don’t be afraid to try something new

- There’s no absolute one right way to do drip
- Ask 3 experts - get 5 opinions
- Don’t be afraid of trial and error
  - Plastic’s cheap!

Summing It All Up

- It’s not how long, it’s how well you water
- Don’t water moist soil
- Run-off = too much water
- Know your system
- Periodically check your system
- Find and use newer, better, and more efficient equipment
- AND… never be afraid to try!

It will never be this bad


That's all Folks!