



CITY OF  
**FOLSOM**  
DISTINCTIVE BY NATURE

# Irrigation Made Simple

(It's not rocket science)



# Coming Attractions

- **Ask the Sprinkler Guy**
  - April 7, 2018, City Park, 10:00 – 2:00
  - Hands on outdoor demonstrations and one on one Q & A
  - No RSVP needed, just show up
- **Garden Pests? Manage the why not the what**
  - April 25, 2018, Community Center, 6:30 – 8:30
  - Best, least toxic methods for dealing with garden pests
  - Registration opens April 2, 2018
- **Keep track of our events on Facebook**
  - Folsom Water Conservation



**Folsom Water Conservation**

# 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...
- The better question...



# Managing Your Sprinklers

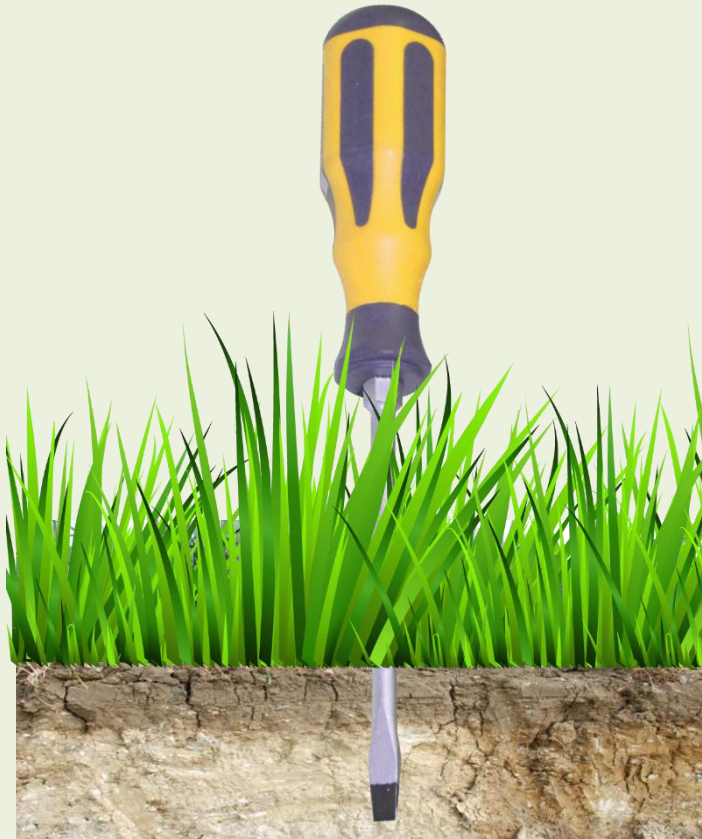
- When do you need to water?
- When should you not water?
- How can you tell?





# 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

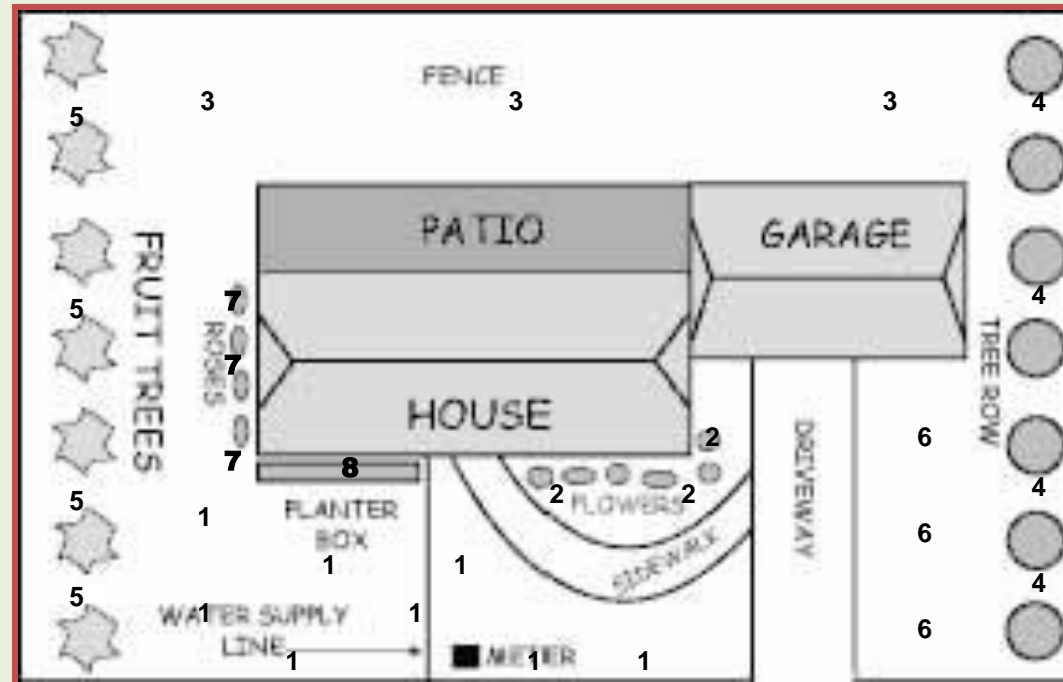
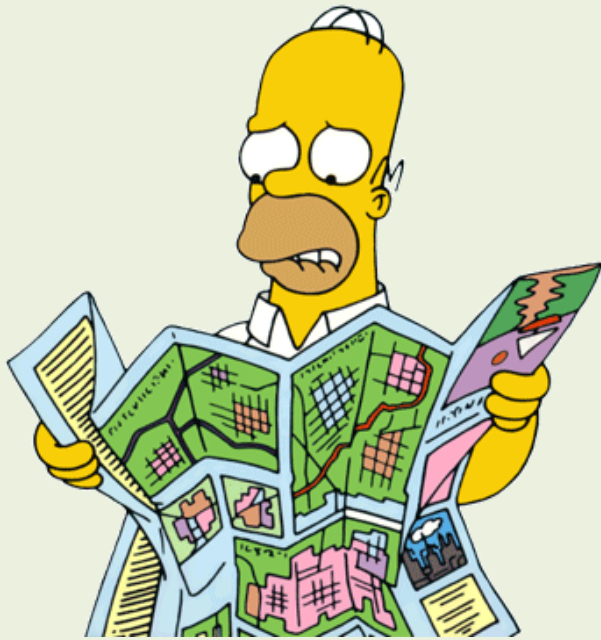
- Know your timer
  - Read the manual
  - Programs
  - Start times
  - Run times
  - Interval scheduling
  - Calendar scheduling
  - Seasonal (%) adjustment
  - SMART Timer?



Don't fear the manual!

# Managing Your Sprinklers

- Make a zone map



Know what  
comes on  
and where

# Managing Your Sprinklers

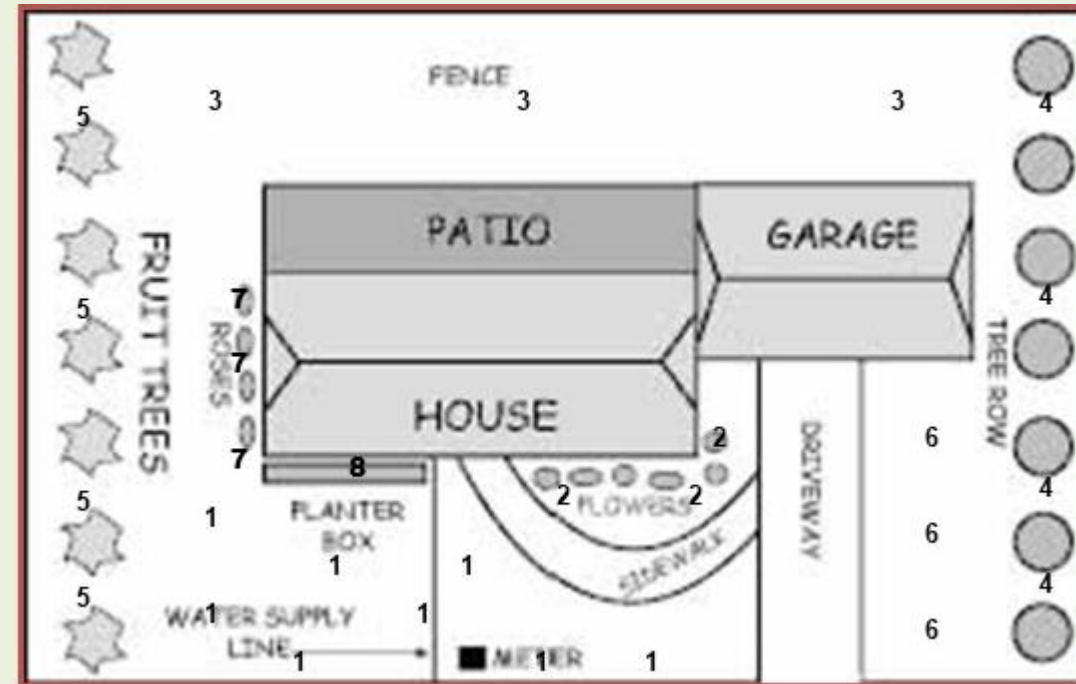
- Check ups – Watch them run
  - Head to head coverage
  - Broken risers
  - Leaking seals
  - Misdirected spray
  - Plugged/Broken nozzles
  - Low head drainage
  - Blocked spray
  - Tilted heads
  - Too deep/high
  - Mismatched equipment
  - High or low pressure
  - Hydrozones



# Managing Your Sprinklers

## Hydrozones

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





# 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](http://clca.org)

- Ecolandscape California

- [ecolandscape.org](http://ecolandscape.org)

- Rescape California

- [rescapeca.org](http://rescapeca.org)

# Scheduling

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

[illegible]

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					



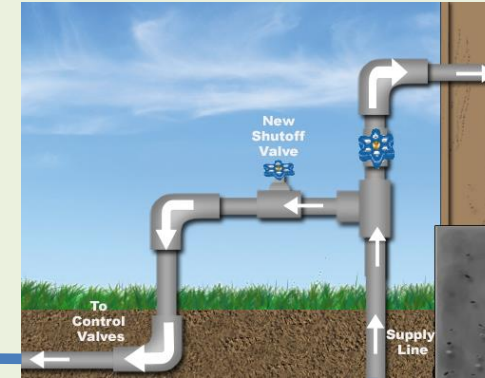
	Start Time 1	Start Time 2	Start Time 3	Start Time 4	Start Time 5	Start Time 6	Start Time 7	Start Time 8
PGM A	3 am	4 am	5 am					
PGM B	7 am							
PGM C	9 am							
PGM D	11 am							

	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 +/-



1950 +/-



2018



Electronics

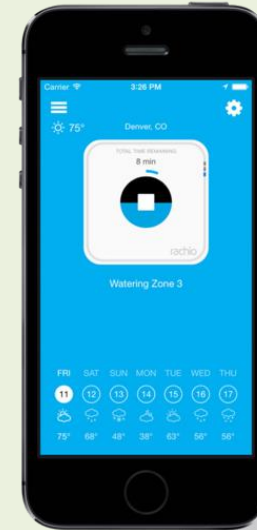
2018



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

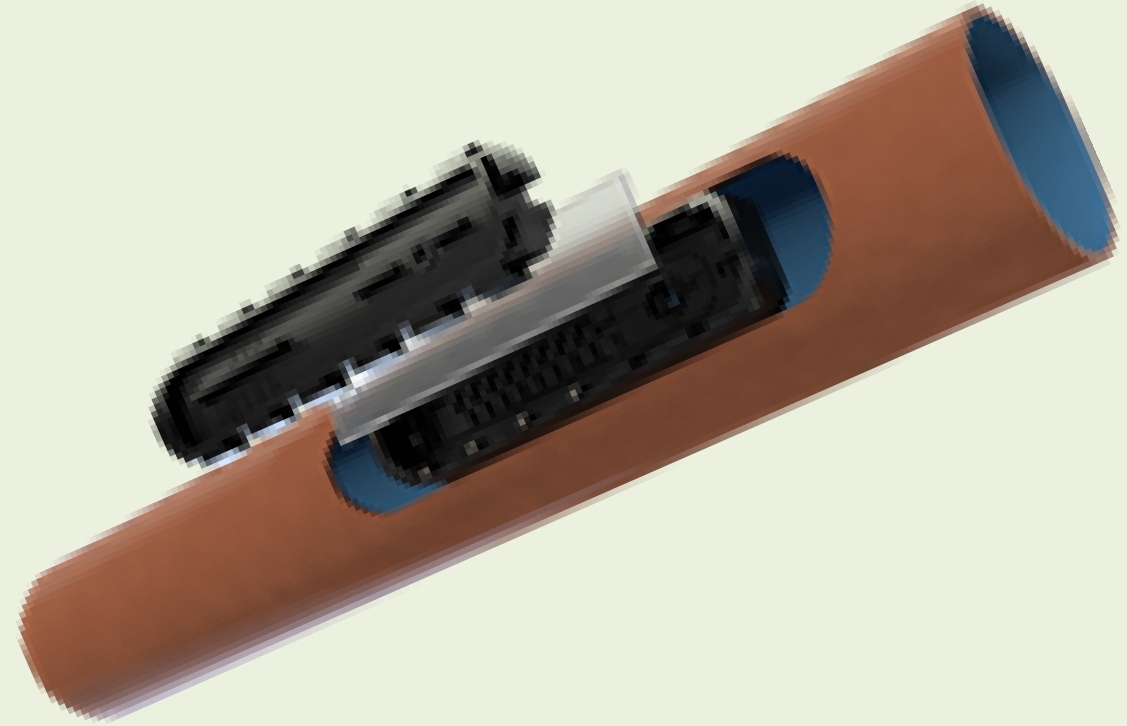




# Drip Systems

(Today's Technology)

In-line Drip Emitters







06/01/2012









06/02/2012





06/02/2012



# Second Growing Season



# Drip Tips

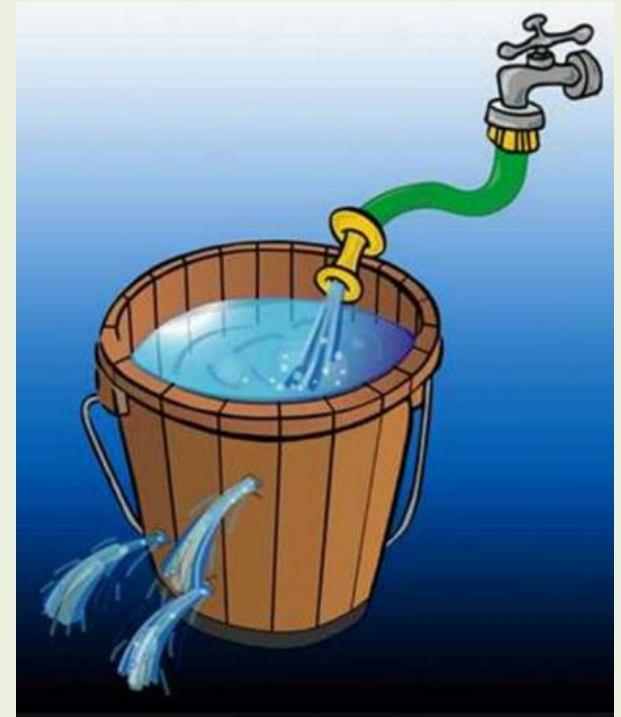
Don't Overload the system

## Flow rate calculation

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

Calculate gallons per hour (gph)

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

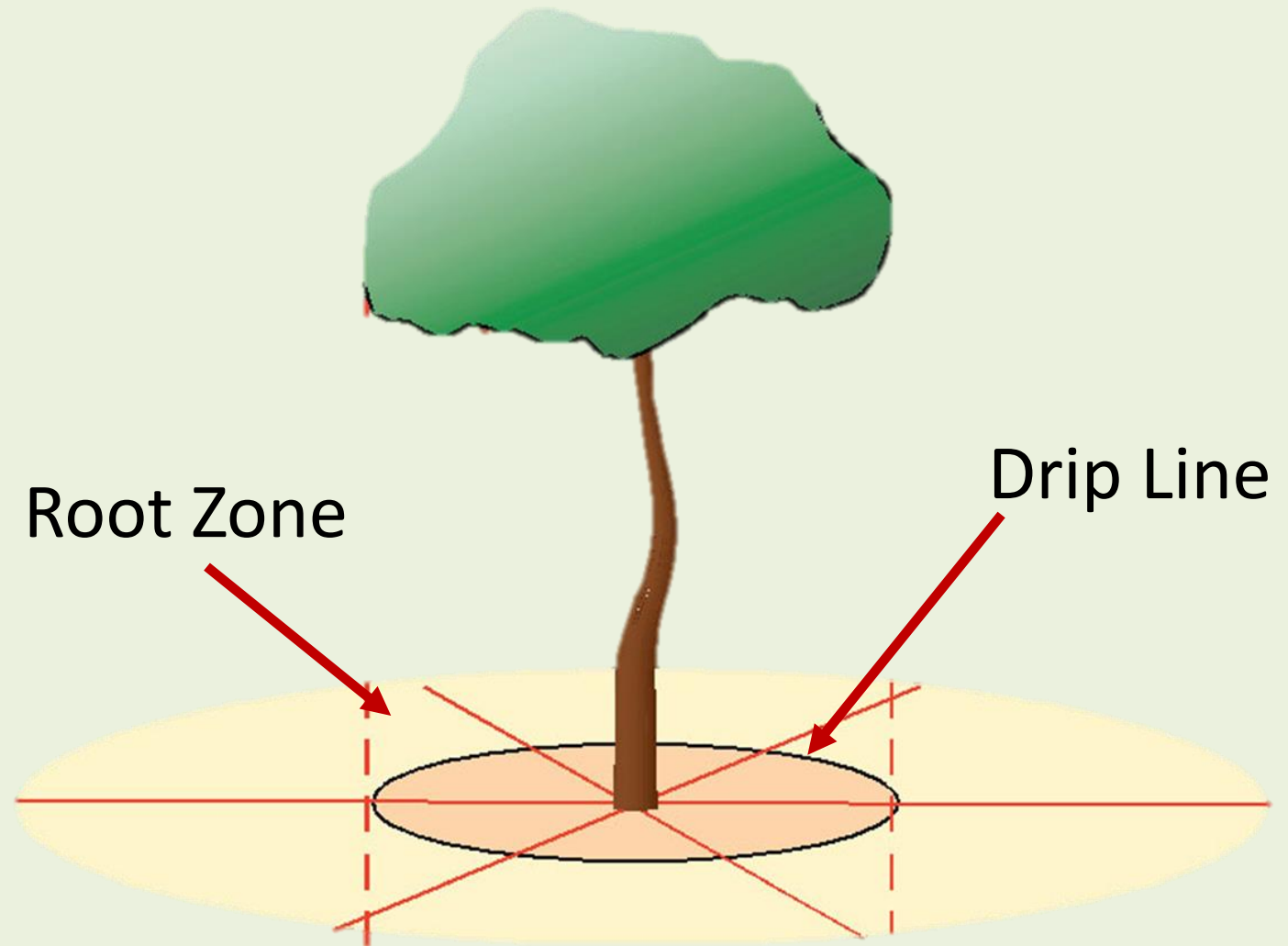




# Drip Tips

Trees / Shrubs

Water the roots  
**NOT**  
the trunk

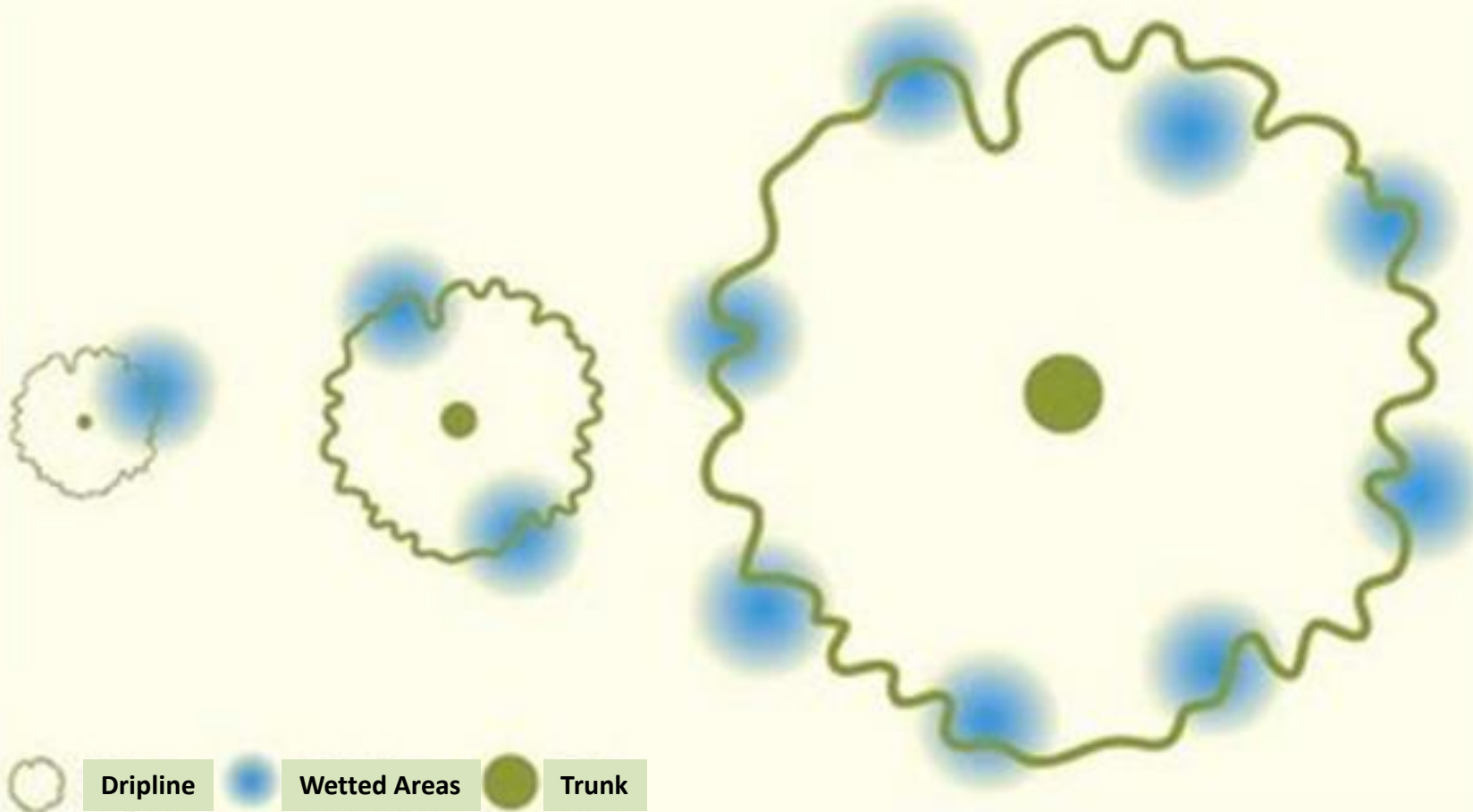




# Drip Tips

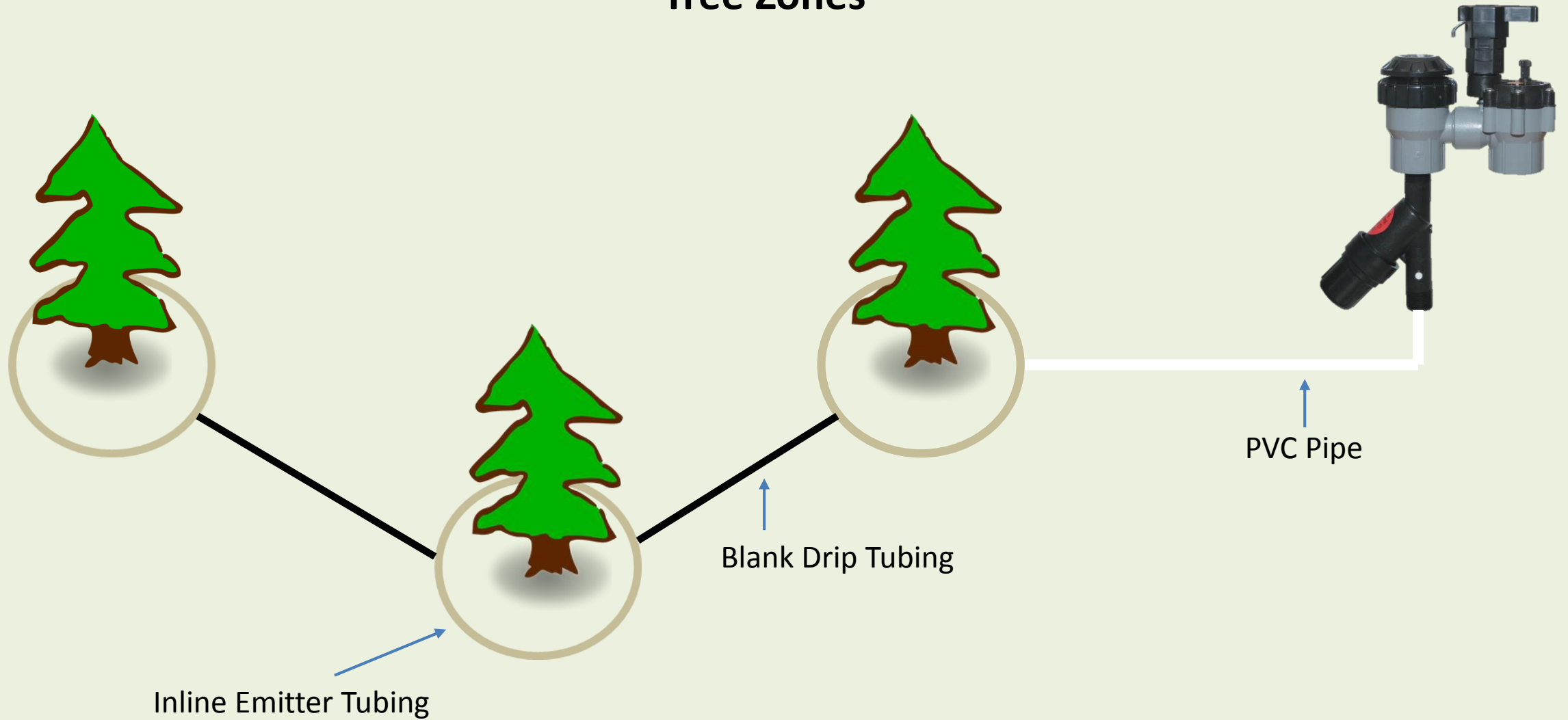
## Emitter Placement

Place Emitters Along a Plants Dripline



# Drip Tips

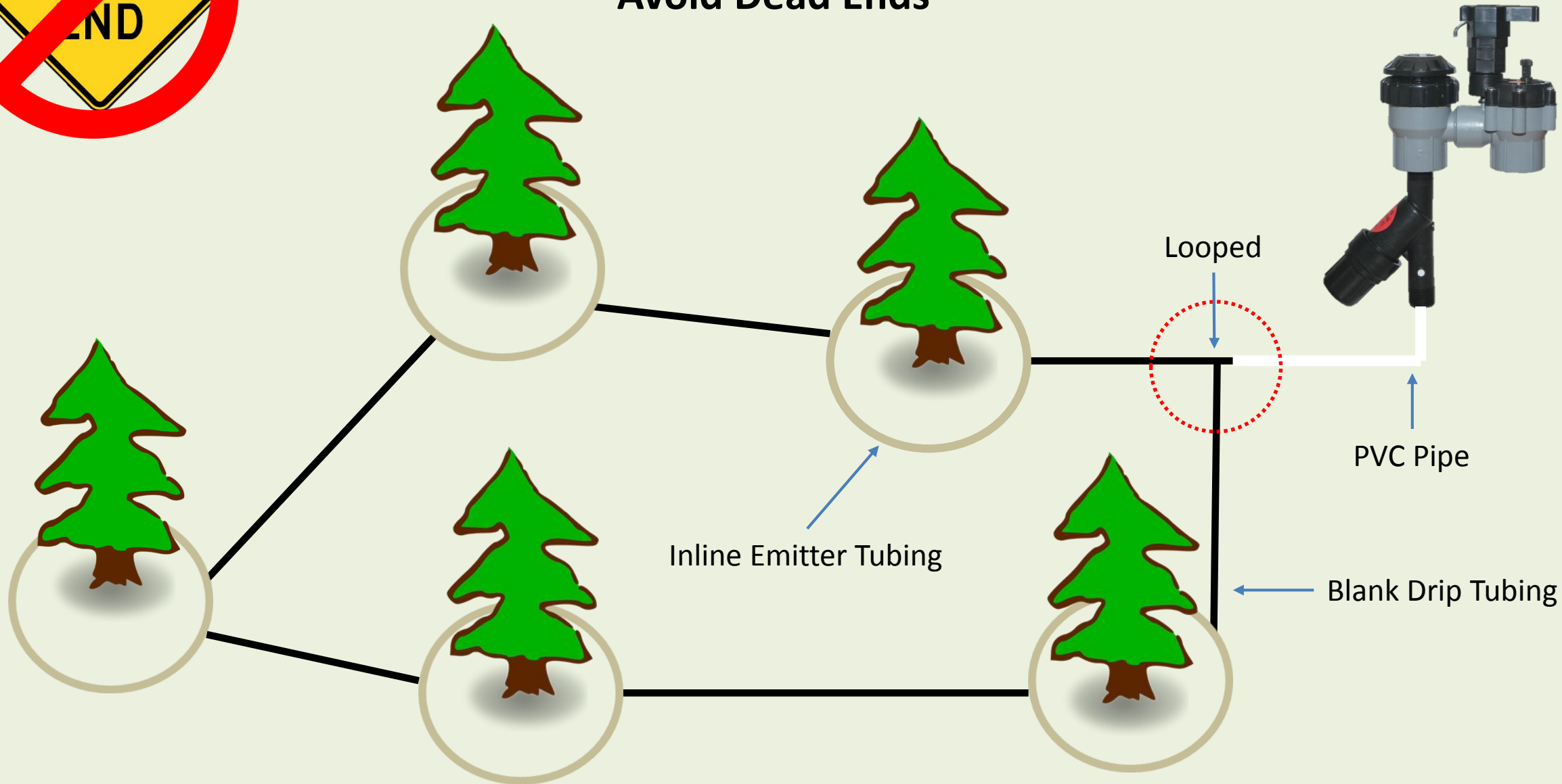
## Tree Zones





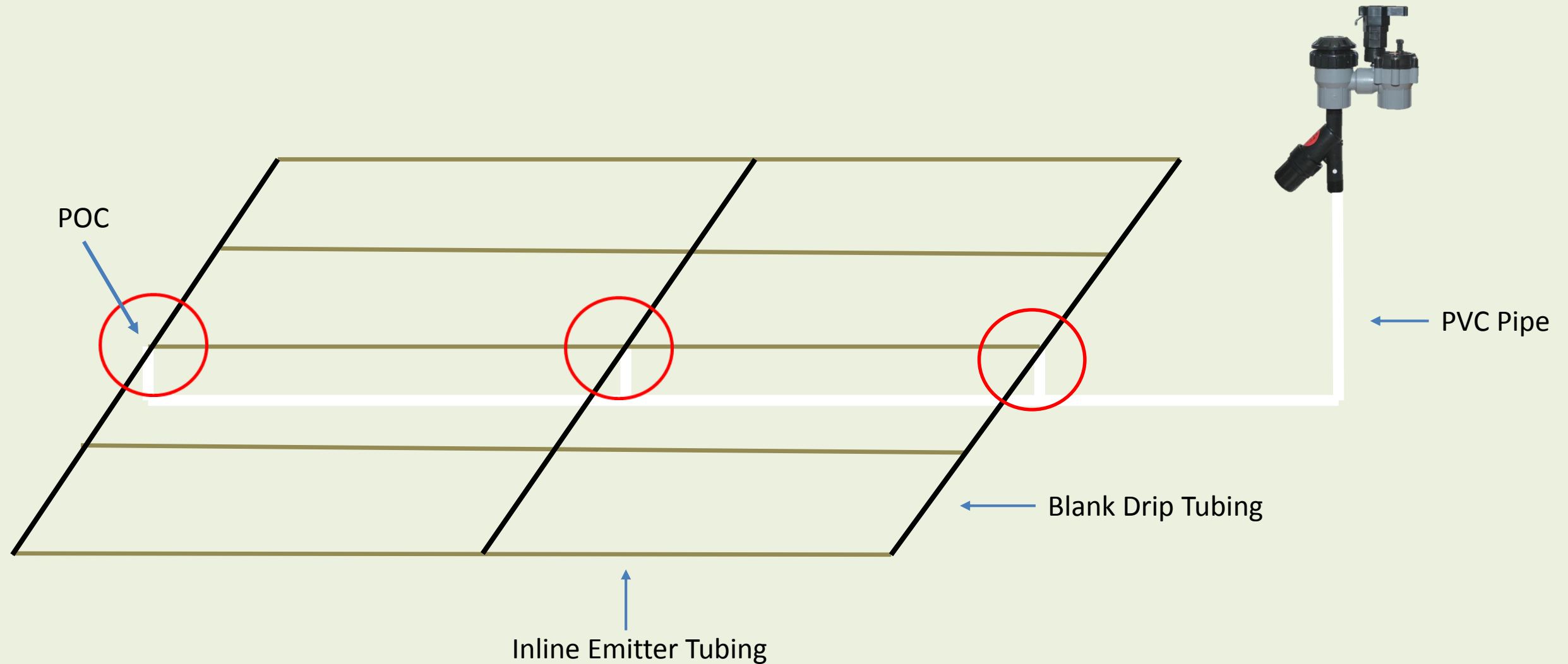
# Drip Tips

Avoid Dead Ends



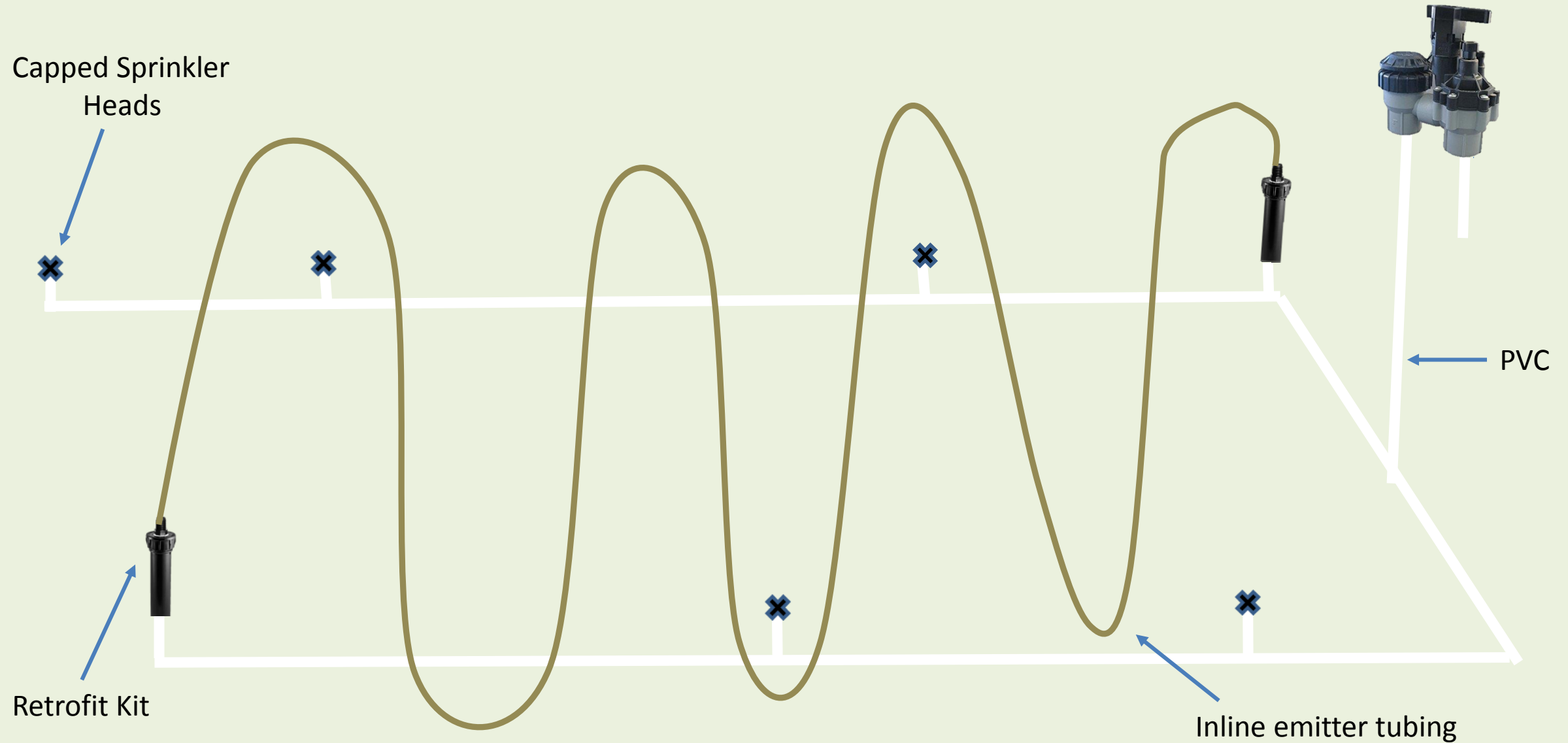
# Drip Tips

## Densely Planted Areas



# Drip Tips

## Retrofitting an existing spray system

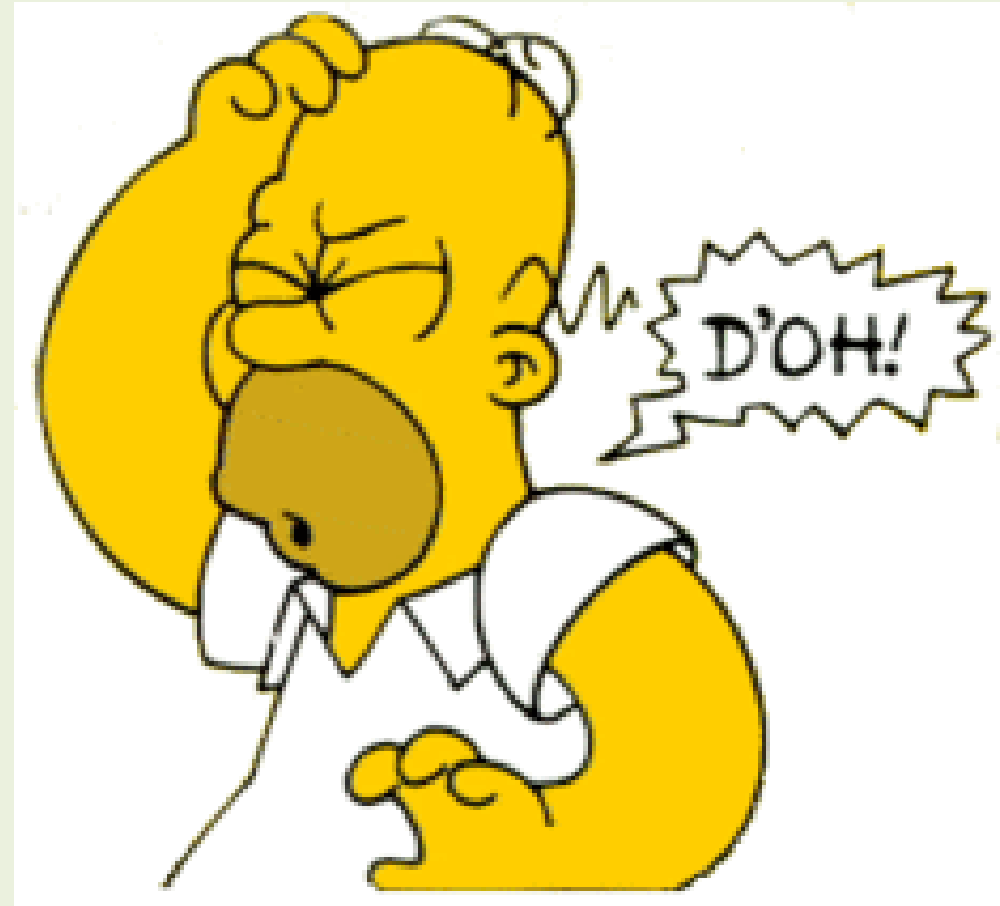




# Drip Tips

**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!*