Spray to Drip Conversion

Materials needed
- Teflon tape
- Pipe cutter
- Flush caps
- Small valve box
- Emitter insertion tool
- Pressure regulator and filter
- Pinch clamps and crimp tool
- 6-inch landscape fabric pins
- Solid drip pipe, 1/2-inch, 3/4-inch or 1 inch diameter
- Adapters and insert fittings to connect solid drip pipe
- 1/2-inch inline drip pipe with check valves (for inline drip)
- One half, one and two gallon per hour emitters (for point source drip)
- 1/4-inch micro tubing, also called spaghetti line (for point source drip)

1. Locate zone to be converted
   - Run the irrigation zone to identify which heads will be converted. All heads that are on this zone will be eliminated and converted to drip irrigation. After all heads are located and flagged, turn off the zone.
   - Locate the existing the underground line to be connected to by carefully digging near the head closest to the supply valve.
   - Making sure that there are no other tees or heads between where the drip system will start and the supply valve, cut into the existing buried pipe. This is where the pressure regulator and filter assembly will be installed.

   **TIP:** You may remove (or abandon in place) the existing pipe and heads from this zone, as they are now nonfunctional.

2. Install pressure regulator, filter assembly and valve box
   - Attach the pressure regulator and filter assembly to the existing line and the drip pipe using adapters and pinch clamps.
   - Make sure the pressure regulator is installed in the proper direction as indicated by the flow arrow on the regulator. If installed backwards, water will not be released into the drip pipe.
   - Place the new valve box over the pressure regulator and filter assembly to allow for periodic cleaning.
   - Replace soil around valve box, allowing for the drip pipe to gradually become shallower until it surfaces, making sure it does not kink.

   **TIP:** Use Teflon tape for all threaded connections to prevent leaks.

More xeriscape tips and ideas are online at csu.org.
There are two types of drip irrigation.

1. **Point Source Drip Irrigation** is best for areas that are less densely planted. This requires emitters to be inserted into the drip pipe where water is needed, and may require additional micro tubing extensions.

2. **Inline Drip Irrigation** is used for densely planted areas that would otherwise require too many emitters. Emitters are built into the pipe at specified intervals, and can be installed in a grid, or closely wound around the planting bed.

**POINT SOURCE INSTALLATION**

- Uncoil the roll of drip pipe and wind throughout the planting area, laying it within 3 feet of plants.
- Secure the drip pipe to the soil surface with 6-inch landscape fabric pins.
- To help maintain uniform flow and pressure in large areas, connect the drip pipe into itself with a tee.
- Using the emitter insertion tool, insert the emitter into the drip pipe. Give it a tug to make sure it’s well-seated. If the drip pipe is not situated over the edge of the root ball, a 1/4-inch micro tubing extension is needed. Keep micro tubing extensions to less than 3 feet. It’s better to position the drip pipe closer to the plant during layout.

**TIPS:** Insert the barbed end of the emitter and not the blunt end where the water exits. The best placement for the emitter is near the inside edge of the root ball in order to encourage outward root growth.

**INLINE DRIP INSTALLATION**

- To help maintain uniform flow and pressure in large areas, install solid black drip pipe as a “supply header” that runs perpendicular to the inline drip pipe in the step below.
- Attach the inline drip pipe to the solid drip pipe with the appropriate barbed couplers and pinch clamps.
- Wind the inline drip pipe around the planting bed and place the pipe close to plants. Spacing between pipes should be around 12 inches for sandy soils, and about 18 inches for clay soils.
- Secure the drip pipe to the soil surface with 6-inch landscape fabric pins.

**Cleaning, testing & scheduling**

- When all the drip emitters have been installed, add flush caps at the ends of the lines. This will allow you to clean the system and drain it before winter.
- Turn on the zone with the caps removed to let the water flush out any debris that may have entered the system during installation. Replace the caps and turn the system on to test. Fix leaks or problems.
- After you test the system, apply 3 to 4 inches of mulch. Leave some soil uncovered around the base of each plant to avoid smothering the plant’s crown.
- Program your controller to run the converted drip zone according to the Watering Guide for Drip Irrigation.

**TIP:** Some supplemental hand watering may be required to help newly planted plants survive during establishment.