

## ETgage Checklist:

**\*To Fill the Gage (Use ONLY Distilled Water and all bottled water is not distilled!):**

- 1-Remove the rubber stopper from the ceramic plate. (NOTE: if you have a new ETgage, you also need to remove the foam wrap located inside the ceramic plate.)
- 2-Pour distilled water into the ceramic plate until full.
- 3-Pour distilled water into the body of the ETgage until the sight tube in front reads between the 0 and 1" mark.
- 4-Place the tube attached to the rubber stopper into the body of the ETgage and submerge the whole piece under the water.
- 5-Place your finger or thumb over the hole in the rubber stopper and lift the piece out of the water making sure to cover the other end of the tube as well. (NOTE: you want the tube to be full of water with no air bubbles).
- 6-Carefully and quickly place the rubber stopper into the ceramic plate, push down to ensure a good seal while removing your finger from the end of the plastic tube.
- 7-Carefully check for air bubbles in the plastic tube. If you see air bubbles, repeat steps 4-7 until no air bubbles are observed.
- 8-Place a finger over the end of the tube and place the tube (now attached to the ceramic plate) into the body of the gage. Release your finger once the tube is under water.
- 9-Make sure the metal clips are fastened on gray piece below the ceramic plate.
- 10-Place the bird spikes in the holes located on the gray piece.
- 11-Set one red ring on the sight tube to where the water is located in the tube right now. The second ring should be set when you plan on irrigating. Make sure there are no air bubbles in the sight tube. If there are, you can remove them by carefully pulling down on the sight tube (rubber area at base) until sight tube top is released. Remove a little water until air bubbles are removed then replace the sight tube top.
- 12-Do not let the water in the sight tube get below 9". You will need to refill the ETgage at least once during season. To refill, detach the metal clips and slide the ceramic plate to the side without removing the tube from the water. Refill with distilled water to desired level and reattach the metal clips. (This allows you to avoid steps 4-7!)
- \*13-REMOVE the ETgage before a frost as it will crack the ceramic plate!!!!**

## IF ETgage is not working properly:

- √ Make sure foam wrap is removed from ceramic plate.
- √ Did you put water in the ceramic plate to ensure a good seal? You may wish to repeat this again.
- √ Make sure there are no air bubbles in the plastic tube or sight tube.
- √ Are there cracks in the ceramic plate or anywhere else in the gage?
- √ Does the rubber portion below the sight tube leak?

# Other ETgage Information:

- \*Start reading ETgage by May 15.
- \*Make sure the ETgage is above the crop canopy and at least 40" above ground. It should be located in an area with good air movement.
- \*If the ETgage and rain gage are located on the same post, the ETgage should be ½-1 inch higher than the rain gage.

# Watermark Sensor Checklist:

For pre-assembled sensors already attached to PVC pipe:

- 1-Read the sensors while dry to ensure they read 199 kPa.
- 2-Place the sensors in a bucket of water and allow to soak for 24 hours. Read the sensors and make sure they are between 0-10 kPa.
- 3-Remove sensors from water, allow to completely dry, then repeat steps 1 and 2.
- 4-Prior to installing, allow the sensors to soak for 24 hours and keep them in water until they are installed.
- 5-Determine location in field to place sensors. The location should be similar in soil type/topography to remainder of the field.
- 6-Place a 7/8" soil probe in between two plants at the location. (NOTE: You want the sensors installed between the plants so they can read soil moisture depletion. **Do Not** remove the plants!)
- 7-Use the soil probe to create the desired depth (1', 2', or 3')-try to make the hole as straight as possible. Firmly push the PVC pipe (sensor down) into the hole. (NOTE: **Do Not** make a slurry!)
- 8-Slightly twist the PVC pipe to ensure good soil contact. Tamp the soil around the PVC pipe at the soil surface. Read the sensors again (0-10 kPa).
- 9-Mark the location of the sensors with flags, flagging tape, counting paces, etc.
- 10-Sensors can be removed prior to harvest. Make sure to follow the instructions in the Watermark Circular regarding cleaning and storage of sensors.

## If sensors are not working properly:

- √ Did you check the sensor readings prior to installation?
- √ Are the sensors in a low area or clayey area of the field where they would remain wet longer?
- √ Did you use a 7/8" or 1" soil probe to install the sensors? A 1" will not provide as good of contact as a 7/8" and if the soil was not tamped well at the soil surface, water could be running down along the side of the sensor creating poor readings.
- √ Did you make a slurry when you installed the sensors? This is discouraged as it will hinder good soil to sensor contact.