With winter just around the corner, now would be a good time to perform some preventive maintenance on your center pivot irrigation system(s) and also get your system winterized. Irrigation system maintenance during the winter months is very important because it can ensure the system's longevity and regular maintenance can also potentially reduce the risk of experiencing downtime at critical crop stages during next year's growing season. Here are some things to check when performing winter maintenance on your center pivots:

- **Conduct a pivot uniformity/"catch can" test**
  - Prior to shutting the system down for the year, perform a "catch-can" uniformity test to verify that the system is applying water uniformly (see UGA Extension Circular 911, "Evaluating and Interpreting Application Uniformity of Center Pivot Irrigation Systems"). Some important things to check for when doing a uniformity test include: leaks, missing or malfunctioning sprinklers, damaged pipes, etc. If your system has poor uniformity, it would be wise to apply for cost share assistance through the NRCS program EQIP for a new sprinkler package. If you need assistance with performing a catch can test, contact your local University of Georgia county extension agent.

Figure 1 Pivot uniformity test being conducted

  - When performing a catch can test, it is also important to check your end gun settings. A drop or excessive amounts of water application on the end gun area is a sure sign of incorrect settings, worn or sticking end gun brake kits, worn booster pump or a blown out end gun orifice. If correct end gun arc settings are not available from the installation package, feel free to contact your dealer on the correct setting. All pivots are not the same on the end and many require special settings. If all else fails, start with a basic 65-degree reverse stop and a 95-100 degree forward stop (or a 10-3 o'clock setting). Then, perform another uniformity test on the end gun arc area and adjust accordingly if needed.

- **Drain the irrigation system**

- Once you have conducted a uniformity test and are certain you will not be using your irrigation system until the next growing season, the next step will be to drain the system of any remaining water within it. Remove the plugs to drain pipes, valves, pumps, sprinklers, booster pumps, and anything else on the above ground portion of the irrigation system that can hold water. Clean out the sand trap on the end of the pivot. Also, make sure you have drained any condensed water from wheel gearboxes and gear motors.

- **Check panel boxes**
  - Make sure there are no loose or damaged connections. Seal up any openings to help avoid damage from rodents. Apply rodent bait as needed. Check the ground rod and grounding connection.

- **Service required parts**
  - Check all of the wheel gearboxes and gear motors and make sure they have an adequate amount of gear oil and that there are no leaking seals. Make sure to check the U-joints between the gear box and gear motor. If there is more than ¼" of movement, they should be replaced. In addition, perform normal greasing of parts. Steel moving on steel without proper lubrication can lead to unnecessary wear and tear on irrigation equipment. Be sure to grease all moving parts, including the pivot point bearing, towable hubs, corner legs and rollers.
  - If you are using a diesel powered motor, make sure to change the engine oil, oil filters, and fuel filters.

- **Restore the ground around pivot tracks**
  - Repair any rutted pivot wheel tracks. Repairing tracks at the end of the season will help reduce erosion during the winter and spring.

- **Test the metering equipment**
  - Make sure the flow meter on your withdrawal point (usually at your pump) is functioning properly. A properly functioning meter can be used as a means to determine proper operation of the pumping unit. Note the end reading so that, in conjunction with a starting reading, you will have a record of water used over the growing season. If you have an improperly functioning flow meter, contact the Georgia EPD for further assistance.

- **Sanitation**
  - Clean up excess vegetation around the pivot point and at the well. This will help make the space less inviting to rodents and other pests.

- **Protection from Livestock**
  - If you are grazing cattle or other livestock on a winter crop, make sure to protect the system and pumping plant from the livestock.

References

- Winterizing Your Irrigation System
- Checklist for Winterizing Your Center Pivot
- How to Winterize Your Center Pivot: 9 Things Every Grower Should Remember For Long Pivot Life
- AgFax - Irrigation: 6 Steps to Winterizing Center Pivots
- Evaluating and Interpreting Application Uniformity of Center Pivot Irrigation Systems