BALLTECH ON DEMAND™

INJECTOR MAINTENANCE

Injectors are the backbone of some of our most critical growing tasks. From fertilizer applications and correcting deficiencies with amendments to applying insecticides and fungicides, injectors are daily workhorses that shouldn't be neglected. If you haven't given your injector some TLC in recent months, check your calibration and perform routine maintenance.

Over time and with frequent use, "drift" in your injector's calibration occurs. This means you may be over or underfeeding your crops, or not applying insecticide or fungicide drenches at the correct rate. A calibration check is the easiest way to make sure your injector is hitting its mark. To do this, you'll need the injector (of course), an EC meter, your favorite fertilizer and a cup or beaker for sample collection.

- First, run your clear water for a couple of minutes and collect a sample in a clean cup. Test your raw water's EC and write the value down (ex. raw water EC is 0.41 mS/cm).
- Next, find the label on your fertilizer bag, select your desired feed rate and injection ratio (ex. 200 ppm N at 1:100), and find the corresponding EC value that you should be getting at the end of your hose (ex. label says at 200 ppm N 1:100, EC should be 1.29 mS/cm).
- Add the raw water and fertilizer target EC values (ex. 1.29 + 0.41 = 1.70 mS/cm).

Next, set your injector ratio to the prescribed setting. In this case, adjust to 1:100. Run your injector for a minute or two, allowing fertilizer stock solution to fully enter the injection stream. Collect a sample from your hose and test the solution's EC.

- If the EC value is close to what your math says it should be, your injector is good to go. Repeat this quick check several times throughout the season and adjust as follows:
- If the EC value is too low, reduce the denominator of your injector ratio. (ex. if your target EC is 1.70 mS/cm at 1:100 but the test reads 1.50 mS/cm, change the ratio to about 1:90, run the injector for about one minute, collect a fresh sample and retest.

- If the EC value coming out of your injector is too high, do the opposite and increase the denominator (ex. 1.90 mS/cm when it should be 1.70 mS/cm).
- Retest and readjust until the EC of the solution coming out of your hose is close to what it should be, per the fertilizer label and your quick math.

If calibration adjustments to your injector are large (ex. need to set it to 1:75 to achieve the target EC that your fertilizer bag says you should achieve at 1:100), it's time to service your injector. For many piston-driven injectors, manufacturers sell rebuild kits that include new O-rings, diaphragms and other parts that wear out over time and need to be replaced. Always follow manufacturer recommendations for self-service repairs and rebuilds, and make sure that you do not void any warranties that may be active for your injectors.

NOTE: For computerized and other digitally-driven injector systems, contact the manufacturer and schedule a service appointment ASAP. Parts and labor availability are still in short supply across the industry, so don't wait until the week before major planting starts in your operation to get your system tuned up.