

# **DETERMINING THE YIELD OF A WELL**

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The maximum safe yield of a well represents its dependable and continuous output during a long drought. Homeowners should know their well yield to ensure it can sustain them in demanding times.

The well yield may be found in the well log created when the well was drilled and its pump installed. Many communities also require a yield test when a property is bought or sold.

## **What is a well yield test?**

Determining the yield of a well involves a test to see the balance between the maximum amount of water that can be pumped out of the well and the amount of water that recharges back into the well from the surrounding ground water source.

The test requires the continuous pumping of the well for an extended period of time. During the pumping period, measurements are made of 1) the rate at which water is being pumped out of the well and 2) the distance the water level is lowered in the well as a result of the pumping, known as the drawdown.

Balance, or equilibrium, is achieved when the water level within the well stops dropping for a given discharge rate. Once equilibrium is achieved, less pumping results in less drawdown. Well contractors rely on the yield pump test to set the well pump at the correct level.

It is common to maintain the water level in the well at least 25 feet above the top of the submersible pump. This depth of water over the pump provides a reasonable level of safety for dry conditions and provides for full cooling of the pump's electrical motor.

Don't be fooled by water pressure in the home. Pressure at the tap is not necessarily dependent on ample well yield. Proper sizing of the well pump, pressure tank, and distribution lines by a well contractor can increase pressure when yields are quite low.

Many states and localities set minimum levels. Contact your local health department or ask your well contractor for minimum well yield requirements in your area.

## **How to conduct a well yield test**

Determining the safe yield of a well is an involved process. In most cases, well owners should contact a well contractor, who will have the specialized equipment needed and can modify existing plumbing, if necessary.

For a new well, a yield test can be performed immediately after the drilling has been completed, but before the well is connected to the house. A yield estimate can be conducted by blowing compressed air into the well or a temporary pump can be used to measure yield.

For an existing well already in use, a well contractor can create an artificial water demand on the home's plumbing system so that the well pump runs continuously and water discharges from exterior faucets. Measurements can be taken during this constant pumping.

In either case, the yield test will generate lots of water that must be discharged to an appropriate location. Take care not to let the water flow towards or back into the well being pumped. Try to direct the water to a stream, pond or wetlands.

For new wells, piping can be used to direct water away from the well being tested. For testing of existing wells, lengths of garden hose can be connected to outside faucets to direct the water to an appropriate location.

For more information on managing well levels see our [wellcare®](#) information sheets on *Coping with Low Water Levels*, *Water Conservation*, and *What to Do If Your Well Runs Dry*.

## For More Information on Determining the Yield of a Well

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



## Information to help maintain and protect your water well system:

[wellcare®](#) is a program of the [Water Systems Council \(WSC\)](#). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at [www.watersystemscouncil.org](http://www.watersystemscouncil.org).

Well owners and others with questions about wells and well water can contact the [wellcare®](#) Hotline at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to fill out a contact form or chat with us live!

## JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to join!