

How Often Should I Water My Roses?

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According to most articles, books, and consultants the quick and simple answer is..... 5 gallons a week, 10 gallons a week, 1.5 inches every three days, 3 inches every 8 days, 4 gallons twice a week, etc., etc., etc., Confused? Don't be, these recommendations are averages given as a place to begin, and should be fine-tuned to meet the seasonal and unique conditions of your rose garden.

Soil Type

It begins with your soil; this is the reservoir from where your roses draw water. Each soil type has its own unique water holding capacity. One way to identify your soil type is to fill a Mason jar two thirds full with soil, and fill the rest of the way with water, seal and shake vigorously until the soil is in suspension. Wait for the soil to settle, first sand, followed by silt, and then clay, the relative percentages of each component will reveal your soil type. For example, loam soil has equal parts sand, silt and clay (for complete soil textural classification chart see reference).

Field Capacity equals How Much Water Your Soil Will Retain

If all other factors were equal roses growing in loam soil need to be watered more often than roses growing in clay, yet less often than roses growing in sandy soil, this is due to field capacity. Field capacity is the amount of water your soil retains immediately following irrigation once gravitational water passes through the root zone (for sand it's 7%, loam 15 to 25% and clay 35%). At field capacity only half of the water is available to your plants, the rest is tightly held by soil particles. Roses should be irrigated when half of the available moisture is depleted or when your soil dries to 75% of field capacity.

Infiltration Rate equals How Fast Your Soil Will Accept Water

We know water penetrates faster and deeper in sandy soil than in clay soils. For example, if one inch of water is applied without runoff to sandy soil it will penetrate to a depth of 12 inches, loam soil 6 to 10 inches and clay soil only 4 to 6 inches. Because water penetrates clay so slowly, it may require multiple irrigation cycles to reach the target depth depending on your method of irrigation.

How Much to Water equals Soil Type plus Rooting Depth

Remember; think of your soil as a reservoir with a fixed water holding capacity. To apply more water than it is capable of holding is wasteful and less water doesn't take full advantage of its potential.

If you have sandy soil and wanted to water your roses to a rooted depth of 18 inches in theory you would need to apply 1.5 inches of water. Clay soil will hold more water than sand so in order to reach the same depth it could require up to 3 inches of water.

Exceptions like poor water quality or accumulation of salts may dictate the use of more water per irrigation cycle in order to leach those unwanted minerals below the root zone.

How Often To Water equals Soil Type plus Rooted Depth minus Season, Weather & Exposure plus Plant Size, Type & Use

The unique environmental and cultural conditions of your garden may lead to vastly different watering regimens. Imagine a rose growing in sandy soil, with windy conditions, during the heat of the summer in a hot desert climate, it could require water every day. Just think if the same rose were growing in clay soil during cool coastal spring conditions, it may not need water for a month.

Season, Weather & Exposure

A combination of factors influence how fast the soil in your rose garden will dry out and they are, season, weather, exposure, plant size and type, particular use and growth stage. On a week to week or even day to day basis environmental factors such as wind, rain, cold, heat, fog, full sun, partial shade, reflected heat or reflected light also influence how much water your roses will use and therefore how often their supply will need to be replenished.

Plant Size, Plant Type & Use

A miniature rose uses less water than a bush rose, which needs less than a large climber does. Plants lose water through their leaves; bigger plants with more foliage use more water. Even the type of foliage waxy or dull, leaf size small or large contributes to varying water loss.

Roses are grown for a variety of uses, many of which have different irrigation requirements. Hardy landscape roses have different needs than say a traditional rose garden and therefore different water requirements. The same can be said for a rose covered pergola vs. roses grown for show, or roses grown in containers vs. roses grown in raised beds.

How To Determine When Your Roses Need Water

The most common methods used to schedule your irrigation cycles are sight, touch and technology.

The least reliable is sight but with time and experience the difference between fully hydrated foliage and plants that are ready for water are visually recognizable. The most obvious symptom of a dry plant is wilting. Plants will recover from wilt if they are watered before the permanent wilting point but for quality roses this is not a recommended strategy. Wilt is an indication of stress and a stressed plant will not produce the best possible flower. Before wilt occurs, look for, and learn to recognize subtle pre-wilt color changes in your plants. Expect individual differences but in general the foliage may be bluish or have a duller than normal leaf color.

A more reliable way to determine if your roses need to be watered is to check soil moisture content by looking at and feeling soil samples.

As discussed earlier soil can be divided into distinct types, some of which are sand and sandy loam, loam, silt loam, clay loam and clay. These soil types will change color and tactile characteristics with different amounts of available water (see reference for detailed description). This method also requires practice but with experience you can become very proficient at determining your soils available moisture content by touch.

The easiest way to pull a soil sample is with an Oakfield Soil Sampler; this tool allows the user to extract a soil sample with minimal effort and little soil disruption. It is also the best tool for determining if your irrigation run time is long enough to reach the target depth.

Another way to determine when to water is with a moisture-sensing device. Tensiometers eliminate guesswork and the need for practical experience. A tensiometer is a self-contained water-sensing device with a ceramic tip on one end and a pressure gauge on the other. The ceramic tip is permanently buried in the major root zone of the soil while the above ground pressure gauge gives you a constant visual reading of your soils water content. Moisture is measured in centibars, when the gauge falls to about 40 centibars (average for most roses) it's time to water. Irrrometer® is a high quality, inexpensive brand of tensiometer.

Final Thoughts

Professional rose growers rely on their experience, technical expertise and the best equipment available in pursuit of creating the perfect rose growing environment. That being said, your roses are pretty forgiving plants. They are grown successfully in almost every climate and soil type with a multitude of different environmental conditions. So if you chose any of the standard recommendations regardless of where you live, you'd still more often than not be reasonably successful. The factors and methods outlined in this article is only a guide for better, more efficient irrigation practices. After all, the closer you come to perfect growing conditions, the closer you'll come to producing the perfect rose.

Reference

Western Fertilizer Handbook 8th Edition 1995. California Fertilizer Association, 1700 I Street, Suite 130, Sacramento CA. pages 7, 26, 27

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