

# ROSES: HOME SOIL TESTING & FERTILIZERS

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## HOME SOIL TESTING

### WHY TEST YOUR SOIL?

It is wise to know your soil makeup before planting a rosebush. This is best accomplished by testing the soil to determine pH (acidity or alkalinity), as well as the nitrogen, phosphorus, and potassium content.

Soil testing takes the guesswork out of fertilization and is very cost effective. It not only prevents wasting money on unnecessary fertilizers, but also eliminates overuse of fertilizers, hence helping to protect the environment. Improper fertilization can lead to disease and weed problems in gardens, lawns, and ornamentals.

### WHEN TO TEST YOUR SOIL

For new sites, soil samples can be taken anytime when the soil is workable. For established sites samples can be taken in the spring or fall.

Fall soil testing will allow you ample time to apply amendments, which can work in your soil through the winter. A soil test every two to three years is usually adequate.

### PREPARATION:

1. Remove top debris or residue from the soil surface before taking the sample.
2. Gather samples from 6 to 8 inches below the surface. Soil acidity and nutrients vary across the surface of the soil and with the depth of the soil. Therefore samples should be taken from each corner of the plot and from the center.
3. Use a clean spoon, spade, or trowel and put the sample in a clean zip-lock bag, labeling the bag as to location of the soil.
4. The soil should not be wet when tested. Spread the soil on a sheet of plastic wrap and allow it to dry overnight at room temperature.
5. When the soil is dry, crumble the soil as finely as possible, removing solids and stones. Put the ready soil back in its bag with a spoon. You're now ready for testing.

Soil testing laboratories are available to perform a variety of tests for you. You may also perform simple soil tests yourself for pH and basic nutrients. Several brands of soil testing kit are available at nurseries for a reasonable price.



### WHAT YOU'LL NEED:

1. Distilled water
2. Soil testing kit (various brands can be purchased at most nurseries for a reasonable price).
3. A watch with a second hand.

### TESTING TIPS:

1. Follow the instructions carefully from the kit you select.
2. Always use the stopper for the test tube (and not your finger).
3. Wash tubes and stoppers each time you test.
4. Keep your soil testing kit out of direct sunlight.

**Perform tests** for pH, nitrogen, phosphorus, and potassium, carefully recording your results.

### ACIDITY/ALKALINITY (PH)

The Ph of soil is key to enabling plants to consume fertilizer and nutrients. It is a numerical measure of the acidity or alkalinity of the soil. The numerical scale ranges from 1.0 (highly acid) to 14.0 (highly alkaline) with 7.0 indicating a neutral condition.

When the pH is right for the plant, nutrients in the soil are available and allow the plant to produce and resist pests and diseases.



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If the pH is too high or too low, nutrients are not available, fertilizer applications are wasted and so is the money you have spent on them.

Roses prefer a well-drained soil with a pH near or slightly below the neutral value of 7.0. Gypsum neutralizes alkaline soil (increases the acidity) and agricultural lime neutralizes acidic soil (increases the alkalinity).

Using the results of your pH test, you may add either gypsum or lime to achieve the preferred pH.

**FERTILIZERS**

Fertilizers are labeled with a percentage of three major ingredients: nitrogen (N), phosphorus (P), and potassium (sometimes called potash) (K). The three numbers shown on most fertilizer packages, for example 18-6-12, a good blend for roses, represents 18% nitrogen, 6% phosphorus, and 12% potassium, by weight, in that order.

Nitrogen makes the foliage of your roses greener. A lack of nitrogen shows up in small, pale or yellow leaves and slow growth. Excess nitrogen shows in vigorous tender green growth that is attractive to pests and may be more susceptible to disease. It also results in minimal flower production.

Phosphorus promotes good seed germination, healthy seedlings, and general plant vigor. Plants need phosphorus in order to flower and develop healthy root systems.

Potassium is needed to strengthen plant tissue, develop chlorophyll, and make vegetation

NUTRIENT CONTENT OF SOME COMMON FERTILIZERS (AVERAGE % BY WEIGHT)							
MATERIAL	N	P	K	MATERIAL	N	P	K
Fish meal or powder	10-11	6	2	Chicken manure	2-3	1.5	1.5
Processed liquid fish residues	4	2	2	Feather meal	12	0	0
Seabird & bat quano	9-12	3-8	1-2	Alfalfa meal	4	1	1
Cottonseed meal	6	0.4	1.5	Soybean meal	7	2	1
Bone meal	2	5	0	Kelp	<1	0	4
Ammonium Sulfate	21	0	0	Single Super Phosphate	0	20	0

more disease resistant. It is also important to the root growth of plants. Potassium deficiency shows in small, underdeveloped, purplish leaves.

If your soil tested low for any of these three nutrients, then you should add an appropriate fertilizer at planting time. **Start slowly** and fertilize plants more often with small amounts to reach optimum levels of nitrogen, phosphorus, and potassium. Once your roses are established, an application twice yearly should suffice.

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**WARNING ON THE USE OF CHEMICALS**  
*Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.*  
*Confine chemicals to the property being treated. Avoid drift onto neighboring properties, especially gardens containing fruits and/or vegetables ready to be picked.*  
*Dispose of empty containers carefully. Follow label instructions for disposal. Never reuse containers. Make sure empty containers are not accessible to children or animals. Never dispose of containers where they may contaminate water supplies or natural waterways. Do not pour down sink or toilet.*  
*Consult your county agricultural commissioner for correct ways of disposing of excess pesticides. Never burn pesticide containers.*