

# Starting Roses from Cuttings

By: Pamela A. Puryear & Margaret P. Sharpe

Edited by: John A. Sharpe

## WHEN TO TAKE CUTTINGS

Roses are considered woody shrubs and may be rooted like any woody shrub, from a small length of a stem or cane from a desirable parent rose. The cuttings should be made when:

1. The weather is warm, between 60 and 80 degrees F, or
2. Taken in the cold weather following the last frost of Spring when the cutting has been "hardened off" by the cold, or
3. Taken and wrapped in plastic (such as a zip-lock bag) and stored in the refrigerator below 28 degrees F but warmer than 23 degrees F. They may be held several months before putting in to make roots.

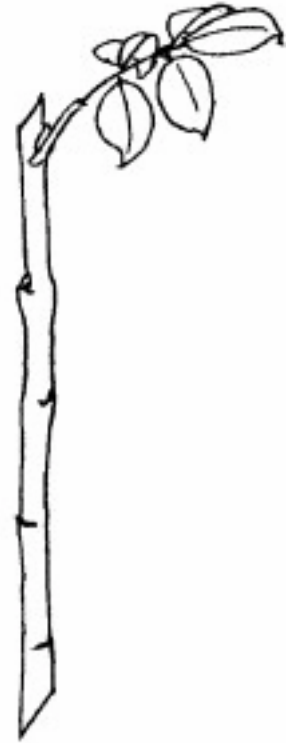
## WHEN TO PLANT CUTTINGS

In the late summer in cold climates roses go into a resting period, so it is not a good time to set out what we call "hardwood cuttings." If the weather is as warm as 40 F they may be put outside to grow roots in a location protected from the sun and wind.

Since roses begin growing roots when soil temperatures have pretty well stabilized to between 40 and 60 degrees F, we usually expect cuttings to make roots in the spring when soil and outside temperatures are in that range. However, sometimes we put softwood cuttings in out-of-doors in the fall before the first frost to make some roots ahead of the spring season. We know, for example, that in areas where first frost is expected in November that the best practice is to not put cuttings in until after November 15th, but later is better. When we do this we cover the cuttings well with mulch materials to protect the cuttings.

## HOW TO SELECT CUTTINGS

Cuttings should have at least three leaf joints and not be over five inches long. Hardwood cuttings taken in the late fall should be no larger than a pencil; be about 5 nodes (leaf joints) long; and from a cane grown during the past season. If possible include the heel, the hump on the main cane from which the stem emerges. Like other cuttings, be sure the stem has had a true bloom on it the season before. There is no percentage in propagating what we call "blind wood." Also, be sure the leaves on the cuttings all have 5 or more leaves per leaf stem (petiole) to show it is a normal rose cane. Remember that the first two leaves below the bloom are not true leaves (they are bracts) and will not produce good bloom growth even though they look like leaves. All buds for blooms or roots come from the bud that forms at the intersection of the stem and leaf. Often roots grow from the cut at the bottom of the stem from the cambium ring under the bark. Many rosarians cut a notch where the leaf scar is on the last 3 scars at the bottom of the cutting, because it is so active with meristem tissue that energizes grow cells.



## PREPARING THE CUTTING

Ideally, cuttings should be taken about the size and length of a pencil with a minimum of 5 leaf joints. Strip off all but the top leaves. These should be left intact as they have a direct relationship to the formation of roots. Only leave one set of leaves. They serve to let you know that all is growing well underground.

The Texas Rose Rustlers learned and use a tea solution of willow. Any species of the genus *Salix* is fine. Willow, common name for *Salix*, is a softwood tree or shrub related to poplars. Those growing along the coast are *Salix interior*, those on inland rivers are *Salix niger*, black willow. One rosarian used the weeping willow in his backyard! It is made by boiling about a quart of water on the stove for about 15 minutes, then adding at least one heaping measuring cup of soft willow branches. The branches are prepared by stripping the leaves and cutting them into about one-inch lengths. The point is to get the branches from the current years' growth that has a thin bark. Also, recommended is to cut the stems lengthwise or smash them with a hammer. The willow branch clippings are dumped into the boiling water; the heat turned off; stirring occasionally; and left covered to cool overnight. **DO NOT BOIL THE WILLOW ITSELF.** This steeps out the chemicals that are beneath the bark. When cool (overnight or longer) the woody clippings may be strained off. The solution put into a clean quart jar and capped. It is best if it is used up within three days. This solution is then used for soaking the cuttings in overnight.

Re-cut the stem ends on the bottom by holding them under the willow water and dropping them in. **DO NOT LIFT TO EXPOSE TO THE AIR** as the air will "plug up" the sieve cells

that take water up into the plant. Then, put the cuttings into a clean rooting medium to establish roots.

Sometimes the top leaf of the cutting drops off. You may suspect soil fungus, if the cutting stem at ground level becomes black. It is probably from fungus disease called "canker", and the cutting is no good. Willow helps to prevent this because it is a disinfectant. The American Indians put it in wounds to disinfect and drank willow for pain. Alternately, you could dip the cuttings in a solution of "Rootone", a brand of rooting hormone (disinfectant). Let the cuttings stand in this for about 15 minutes, no longer. Use fresh Rootone that has not been contaminated with non-sterile fingers or tools; even air exposure contaminates all the Rootone in a new container if left open too long.

To avoid bacteria contamination, it is recommended to dip clippers in a solution of one Tablespoon of bleach in a quart water.

The biggest secret to rooting cuttings is to keep everything clean! The other is to refrain from digging around the cutting to see if it has roots. New roots from cuttings are fine as hair, and few at first. Not only does your dirty old finger contaminate the soil, but it also breaks the hair-like roots of the cutting. Trust a clean stem area at ground level and the leaves you left on the cutting being still mostly intact to tell you what you want to know.

## HOW TO GROW CUTTINGS

### **SUPPLIES NEEDED:**

- **SOIL**

A good potting soil, such as Peters a brand containing compost, perlite, sand and a weak dab of fertilizer. This is sterile. The reason I recommend purchasing a reputable commercial potting soil is:

1. Most of us want to grow our roses outside in open ground. We need to grow cuttings in clean and healthful soil particles. Read the ingredients. I caution about being sold some kind of a growing medium called a "Pro-Mix", which is mostly an organic mulch-type material for use in a professional situation where it is used regularly. These mixes nearly always have a weak amount of fertilizer that new roots cannot use until after the first or second week of growth. At the proper moisture, the "baby roots" may handle this "formula" or they may be burned up as fast as they appear, and cuttings will promptly die. If the cutting had strength to make new roots it can manage for about 10 days until the natural foods in the soil "kick in." Also, be cautious of mixes that rely too much on perlite. Read the ingredients and/or call an ARS Consulting Rosarian for advice.

2. Many soil mixes are for growing cuttings under a forcing program and the ingredients are designed to react accordingly.

Alternately, you may mix your own using your well-rotted compost and other ingredients you prefer, along with about a Tablespoon of Osmocote per I gallon of soil. This should be enough for about the first season. . Many successful rose growers use some kind of growing mulch very successfully and have learned to watch for any irregularities. Some of their mixes rely on vermiculite to supply moisture and this material holds water for an unbelievably long time. It is a great soil additive once one learns how to use it, but it cannot be removed from the soil and takes a few years to stabilize. The same can be said for perlite, white particles, which allows air to enter the soil. This is fine except the first big rainfall you see it floating on top of the cutting bed and flowing into the gutters. If you want to mix your own rose starter soil you should mix it with about 1/2 part clean garden loam, through which you have poured about the equal volume of boiling water and allowed it to cool over-night. Add 1/4 part well decomposed compost (in which the ingredients are no longer identifiable), and 1/4th part fresh water river sand, sold as "mortar sand". The sand should be rather coarse but not gravel size, or very fine. Clay is fine-fine-fine sand and many people defeat themselves by creating a cement-like mess by using too much fine sand in a soil already full of sand.

Sand-Mortar sand, washed river sand, builders sand or "playbox sand" (as much as I lb. of sugar). Roses seem to root better in this clean washed sand than any other medium, and a little goes a long way! The diagram will illustrate how it is used.

- **BOTTLES OR JARS -**

Collect I & 2 liter clear plastic soft drink bottles, or gather up quart or larger glass jars to place over your cuttings. Cut the bottoms off the plastic bottles with a hot knife and save the caps. The cap of the dome may be removed during hot weather and replaced in severe cold or wet weather. The use of plastic soft drink bottles or quart glass jars over cuttings have the great advantage of holding mulch in place as well as protecting the cuttings so that mulches may be piled high over the cutting to keep it warm and to still allow light to reach the cutting. You may notice that moisture form inside these "domes". The moisture forms droplets that flow down the sides and help to keep the cutting moist. If too much heat builds it is easy enough to remove the cap from the plastic bottle to let the heat out, or prop one side of the glass jar up to allow air circulation during the day. Sometimes wind will try to blow away both glass or plastic domes. This can be handled by putting a long stick angled down through the neck of the bottle and into the ground, or by placing a weight, like a rock or brick, on top of the bottle, or put sticks all around them to prevent movement.

- **"FLOWER POTS " -**

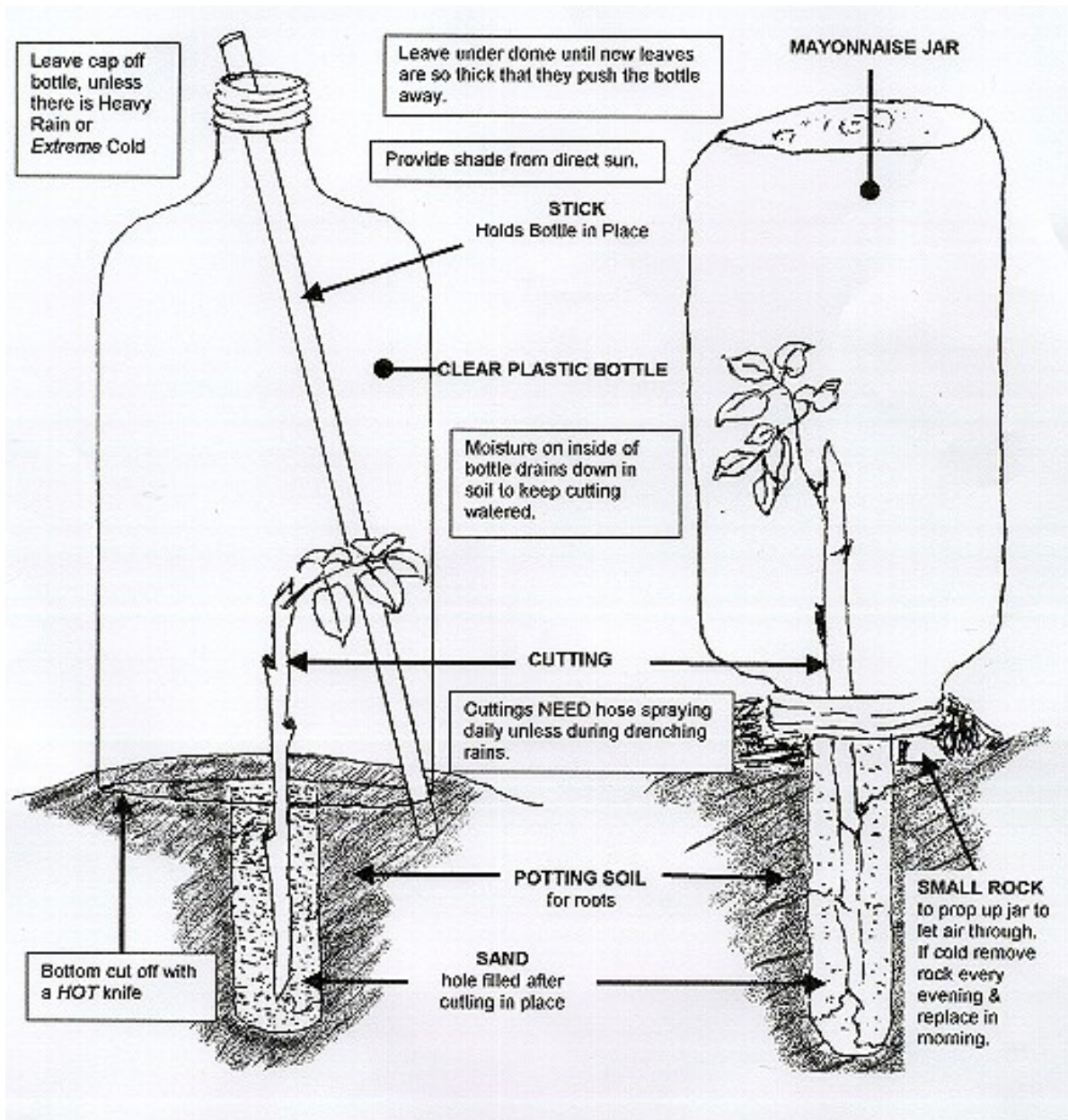
For containerized growing is an option I like to use. A good container is the black plastic pots used by nurseries that we often discard. Plastic containers are best for cuttings as they hold moisture best for roses, drain well, do not overheat, and can be moved into other locations.

- **BROOM HANDLE –**

You will need the rounded end of a broom handle for making the hole to plant the cutting in.

## **PLANTING**

- Prepare the soil as described previously or use Peters in a well-drained area.
- Make a hole with a piece of broom handle a little deeper than you are going to set the cutting.
- Place the prepared cutting in the hole with the top set of leaves above ground.
- Pour the sand around the cutting. Sand is the best media to root rose cuttings in. When roots form they grow through the sand and into the soil.
- Moisten the sand and soil.  
Place the bottle over the cutting and anchor if required.
- Mulch around the dome and protect from direct sunlight.  
Watch it grow.



The first leaves that grow are from strength in the stem or cane, not from any roots. The appearance of the second set of leaves is from new roots. It is very important that the cutting not be jostled or moved as these roots will very easily break and kill the cutting. It may take roots two weeks or as long as two months to form and the second leaves to appear, but as long as the cutting does not darken or blacken at or above the soil line the cutting has not died from soil fungus. As the weather permits, after the leaves are growing well, the glass or plastic dome over the cutting filled may be tilted to one side during good weather and a small rock or block of wood put under the rim to allow fresh air to reach the plant. If a cool night is expected it is best to not tilt the cover. Gradually "harden off" the new plant over the period of 7 to 10 days and watch it closely before leaving the protection



off permanently. In the wintertime we often leave cuttings covered for longer periods as the roots formed are actively storing starches to prepare for vigorous spring growth. Roses are seldom harmed until the temperature at ground level is below 26 degrees F. Continue growing uncovered in the same location for 8 or 9 months before transplanting in another location, gradually introducing to sunshine. Be aware of the following climate conditions and make adjustments as necessary.

### **Climate Conditions**

If the sequence of temperature and light and moisture is not maintained properly the cuttings die.

### **Temperature**

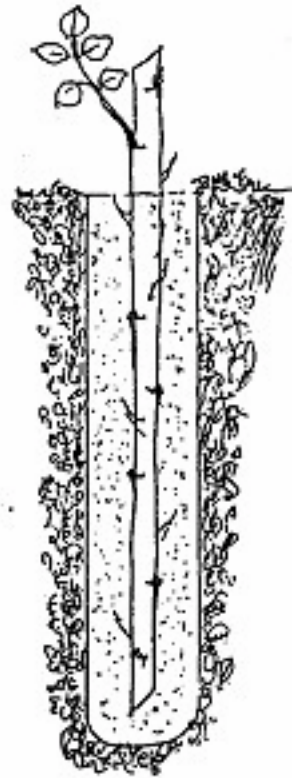
Cold weather is not likely to damage roses. But, not insulating them with mulches to prevent sudden shocks of temperature changes is often devastating, whether it is heat or cold.

### **Lighting**

Never place rose cuttings in a direct sun location but always in a bright light spot. This means in "dappled light", but never in complete shade. There is a relationship between the amount of light the cutting receives and the speed with which the roots grow. As for sunlight, be aware that all flowering plants need some light, not necessarily sunshine but roses need some. Light reflected from a white house serves quite well to stimulate blooms. True, all roses do not like the same amount of light so just start out assuming they want all the light they can get and watch how they respond. It is well to keep some kind of sunshade ready to protect young cuttings from burning. Cuttings in pots may be moved as necessary. It takes a while for a young cutting to grow enough leaves to protect themselves. Like all of us, they require certain amounts of sunblock. They are, after all, just babies and need to be treated as such until strong enough to handle it.

### **Moisture**

To make roots roses need constantly moist soil, they have to have freely draining soil, and if containerized they must be watched daily, so rain does not fill the container and it does not drain. I usually place all of mine in pot dishes to assure moisture in dry times and remove them during heavy rain times so they can drain. There are people who seem to think roses need soil that is wet rather than damp all the time and lose their cuttings. Water fills the spaces between soil particles so air (oxygen) cannot reach the nodes that would sprout new top or root growth if the cutting was not being drowned. Cuttings cannot survive long in water and also cannot be allowed to dry out. Once a cutting has been allowed to dry, it is too late to expect recovery. The same as when it has been smothered from air (oxygen). It is not staying in this fine balance that cuttings are lost. Soil fungus that makes the cutting get



black spots on the stem is due to excess water or dryness. Failure to control moisture is the primary reason most cuttings "fail."

### **Mulching**

Leaves mixed with pine needles is popular for mulching as they are usually readily available and serve to keep the cuttings warm as well as moist. The pine needles do not adversely acidify the soil, but unless mixed with leaves will form a thatch that sheds water off. Therefore, be sure that pine needles are mixed well with leaves so that water is allowed to strain through to the soil. It is not good to push the mulch closely around the cutting for it could keep the base of the cutting so moist that it might rot off at the soil level. This is true for applying any mulch at any time around roses - apply it over the area where roots are to be growing, 3 to 4 inches back from the understock bud union.

### **Growing Indoors**

There is not much future of growing roses indoors at any stage. They may survive for a while but they do not thrive very well. They will quickly harbor spider mites. It is possible to get them to grow and bloom indoors, but in mild climates they survive most winters quite easily outdoors. Indoor light can be provided with fluorescent light placed about four inches above them and left on about sixteen hours daily. They like the fluorescent lights because they do not create heat like regular incandescent light bulbs. The indoor growing of roses is both labor and financially intensive.

## **A FINAL WORD**

Almost all roses are susceptible to Blackspot and mildew. Be aware that mildew is a climate problem that is with us all the time. It becomes evident when the temperature is right for it. There are products that can be used to control these conditions. We recommend them only if needed to prevent destruction of the plants. Never use an insecticide or fungicide unless you see the suspect actually doing damage to the rose, like really eating the foliage or bloom. In the case of insects, the best way is to mash'em. Stay away from products in the pantry on roses. The same is true when a "soil moisturizing" compound is offered. Call an ARS Consulting Rosarian. Roses will not root if the grower is not pure in heart!!

Carefully study the accompanying illustrations.

### **Recommended Rose Growing Reference:**

**ALL ABOUT ROSES - Ortho, paperback available most bookstores**

**Also available through - The American Rose Society.**

**P.O. 30000, Shreveport LA 71130-0030**