ROOT-A-ROSE WORKSHOP

Presented by Gaye Hammond, Past President, Houston Rose Society
gayeh@LPM-triallaw.com

Any way that you use to root cuttings is correct if it is one that works. There are hundreds and hundreds of methods to root cuttings ranging from direct sticking into the garden; in plastic bags and in pots. Some work better than others. This is the way that has been most successful for me and is a combination of techniques that I learned from Mark Chamblee (Chamblee's Rose Nursery (a master propagator), the HRS and the Texas Rose Rustlers.

Almost all methods of own-root propagation (rooting from cuttings) involve similar processes. The same techniques for selecting and taking the cuttings as well as preparing and sticking the cuttings are the same for all types of processes. Methods usually differ when it comes to the environment where the cuttings are started.

Materials needed:

- Sharp by-pass pruning shears
- Gallon size zip lock freezer bags
- A permanent marker
- Pencil
- Drinking Straw
- Pie pan (or any shallow dish)
- A premium quality sterile potting mix designed for seedlings that are a mixture of sphagnum peat and perlite. I have successfully used Bacto, Sunshine Indoor Potting Mix and the Arbor Gate's Jungle Grow potting blends. The mix should be light.and fluffy. I have not had success rooting in top soil, compost, landscapers mix or any mix that has fertilizers in it.
- 2.25" square Jiffy Peat Pots
- A rooting hormone (powdered or gel)(I prefer the gel)
- Small bottle of SuperThrive®
- Disposable quart jar
- A fungicide labeled for the treatment of blackspot fungus. (I have used Safer's Fungicide Spray, Mancozeb and Consand Triple Action Fungicides).
- Plastic drinking cups or pint jars
- Large mixing bowl filled with water
- Small disposable paintbrush

Taking Cuttings:

1. Do not take cuttings in the heat of the day. Early morning is the best time of day to take cuttings because there is more moisture in the leaves and stems. The ideal temperature is between 60 – 80 degrees.
2. Take a container of water with you to the garden to hold the cuttings. Fall is the best time of year to root most roses. (The exceptions would be roses that bloom only in spring and some climbers). Cuttings taken in spring should be harvested after the first bloom has occurred.

3. Select a rose stem that has completed blooming (one that has dead petals or only a stamen at the end of the stem). "Just-bloomed" stems are more likely to successfully root than a stem that has not bloomed.
4. Do not take cuttings from stems that are infected with disease or have evidence of pest damage. These are not likely to root successfully.
5. Select stems that are not too young. (Gently try to bend the stems. If they bend too easily, they are too immature). Stems should be smaller than 1/4" in diameter. Try to get at least 4 sets of leaves or 4 "bud eyes" on each stem. Cut the stem right below the 4th set of leaves OR at the juncture where two stems join (See Diagram 1). Cut stems longer than you will need because they will be re-cut during the preparation process. You will need 3 stems from each rose variety being propagated.
6. Leave the dead blooms and/or stamens on the cutting. This will keep the bottom and top of the cutting from getting confused.
7. Immediately place the cut stems in water (cut side down).
8. Prepare cuttings from 1 variety at a time to keep from confusing the cuttings during preparation.
9. Small bushes and miniature roses yield smaller rooted cuttings with finer and thinner stems. Generally, miniature roses are very very easy to root as cuttings.

Getting Ready:

1. Pour water into the pie pan until the water level is half the depth of the pan. Set it aside.
2. Mix up 1 quart of fungicide according to label directions. (Do not mix the fungicide in advance because it does not have more than a few hours of shelf life once mixed with water). Pour the mixed fungicide into the quart jar and seal with the lid until you are ready to use it. (Skip this step if using a pre-mixed fungicide)
3. Mix up 1 pint of SuperThrive according to label directions. Pour about half of the prepared SuperThrive mix into 2 plastic drinking cups (or pint jars). Set aside.
4. Fill the Jiffy Peat Pots with soil all the way to the top of the pot. Tightly pack the soil into the pot. With the pencil, poke a hole down through the soil to within 1/4" of the bottom of the pot.
5. Using a permanent marker, write the name of the rose on the outside of a gallon zip lock bag and the date the cutting was prepared.
6. Fill the kitchen sink (or a very large bowl) with lukewarm water.

Preparing the Cutting:

1. While holding the bottom of the rose stem underwater, cut off the very end (bottom) of the stem (Diagram 2) and immediately place the cutting in a prepared cup of SuperThrive and allow it to hydrate (soak up the solution) for about an hour.
2. After the cuttings are hydrated, put on a pair of rubber gloves and open the jar of fungicide mix. Grasp a cutting by the bottom, turn it upside down and dip the top two sets of leaves in the fungicide mix. Do not dry the mixture off the leaves. (You can also put the fungicide mix into a small Windex bottle and spritz the cuttings while they are hydrating or use a pre-mixed fungicide in a spray bottle). With either method, allow the fungicide to dry on the stems before proceeding).
3. Pull off the bottom two sets of leaves from each stem. Where the leaves attach to the stem are "bud eyes". These are small bumps where the "growth points" of the stem are located. This is where new stems – or in this case roots will emerge from. (See Diagram 3)
4. Cut off any blooms or stamens. Cut off any leaves that look unhealthy.
5. Gently make a vertical, shallow cut through the bottom two nodes with a small utility knife or single edged razor blade. I also gently scrape the back side of the stem (opposite the bud eye) with my fingernail. This will help ease the way for new roots to sprout.

6. Wipe the excess water off the stem with a paper towel.
7. Using a cheap disposable paintbrush, "paint" a small amount of Rooting Hormone onto the nodes of the cutting and the bottom of the stem. Tap off any excess Rooting Hormone. (Too much Rooting Hormone can initiate root rot – less is better).

.

"Sticking" the Cutting:

1. Carefully insert the cutting into the prepared Peat Pot and lightly cover the bottom two bud eyes with soil. Pack the soil around the cutting lightly. Too much pressure can strip the Rooting Hormone off the stem.
2. On large-leafed stems it may be necessary to cut the leaves in half (See Diagram 4) so that they do not touch the sides of the bag.
3. Stand the filled Peat Pot in the pie pan of water and allow the pots to stand in the water until the Peat Pot has soaked up water to at least 1/2 the depth of the pot. Remove the Peat Pot from water and let it drain on a paper towel.
4. After the Peat Pots have drained for a few minutes, place 3 Peat Pots inside 1 gallon bag... Seal the bag almost completely shut – leaving about 1/4" on one corner unsealed. Try to put 3 pots of the same rose variety in 1 bag. If you have multiple varieties, be sure you label each pot by writing the name of the rose on a plant tag or popsicle stick and inserting the marker down the side of the Peat Pot.
5. Stick a drinking straw down into the bag through the small opening and blow air into the bag. Blow as much air into the bag as you can. Quickly pull out the drinking straw and seal the bag completely.
6. I have had the best luck putting my bags into a Northern-facing window. Cuttings need bright **INDIRECT** sunlight to root and a moderate temperate climate. I have had a lot better luck rooting cuttings in the house rather than outside. If you choose to place your cuttings outside, try hanging bags from a tree limb or under a patio cover. The trick is to choose a place where you can readily watch the plant's progress.

Watching Your Babies Hatch:

1. Every few days check the bag to see if standing water has formed in the bottom of the bag. (I let the corner of my bag hang off the window seal a little bit so that the corner is lower than the rest of the bag. This causes any free-standing water inside the bag to flow down into the corner and keeps the pots from standing in water.)
2. If more than a teaspoon of water collects in the bottom of the bag, open the bag, remove the pots, pour out the water, re-fill the bags with air and reseal.
3. If a cutting starts to turn black from the soil up it is dying (probably from root rot). Open the bag and throw just that cutting away.
4. If any of the leaves turn yellow, open the bag and cut those yellow leaves off as they appear. Re-fill the bags with air and reseal.
5. In a few weeks you should see new growth starting to emerge. This does not mean that you have roots forming yet. Leave the pots in the bag until you start seeing tiny white roots (they will look like worms) poking out the sides of the pots. This usually takes between 3 to 6 weeks (or on harder-to-root varieties up to 3 months). As long as the cutting is healthy and green – leave it alone until you see the roots.
6. When the cutting has rooted and leaving the cutting in the Peat Pot, remove the cutting/pot from the bag and transplant the entire cutting with its Peat Pot into a one or two gallon plastic pot. At that point, I use Nature's Way Rose Soil Blend formulated by the Houston Rose Society as the planting medium for rose transplants. This soil blend contains all of the nutrients that the cutting will need for the first year of life and eliminates the need for additional fertilizer.

7. Place the transplanted rose in a semi-shady environment (like the east side of the house, under the edge of a patio, etc. until they become established. Do not plant them in the garden until they have hardened off and can withstand being in full-sun (about 3 months).

Holding Over Cuttings (for those Rose Rustlers)

Sometimes you simply can't root the cuttings right when they are made. Rose Rustlers keep a cutting kit in their car that includes, zip lock bags, a roll of paper towel, a bottle of water, a marker, by-pass shears, plastic shopping bags and rubber bands.

To hold over cuttings, dampen a length of paper towel that is 4 standard squares long. Wring out the excess water. Fold the towel in half so that it is then 2 squares long. Lay the cuttings along the short edge of the towel leaving about 1" of towel below the bottom of the cuttings. Tightly roll the towel around the bunch of cuttings. Place the rolled bunch of cuttings inside a gallon bag. Label the bag with the name of the rose and the date the cuttings were taken.

If the cuttings are longer than the bag is deep that is OK. Simply slip a rubber band up the bottom of the bag until it is right above the level of the paper towel. This will keep the moisture around the stems and keep them from drying out.

Put the bags of cuttings in a cool place (I keep a 6-pack size styrofoam cooler in my car with my "rose rustling" supplies). You can even keep cuttings in the refrigerator until you are ready to propagate. If you keep them in the refrigerator, place the bags of cuttings inside a white plastic garbage bag (this traps any critters that might be in the cuttings) and also keeps the "frost-free" feature on most refrigerators from drying out the foliage and stems. Cuttings will keep in the refrigerator for about a month.

Diagram 1
Cut stems longer than than needed

Diagram 2
Recut stems under water just below a bud eye

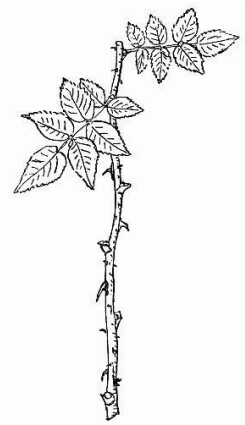

Diagram 3
Cutting ready to stick

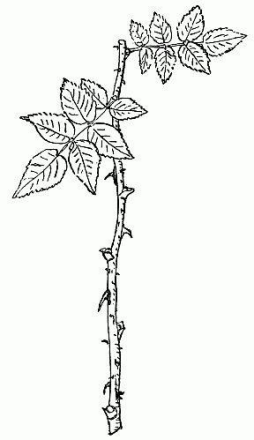

Diagram 4
Trim off the tip ends of leaves that touch the inside of the plastic bag

Some Roses Root Easier Than Others:

- Old Garden Roses, Chinas, Polyanthas, Climbers and Miniature roses are some of the easiest to root from cuttings.
- Some Hybrid Teas are very hard to root from cuttings (e.g. Queen Elizabeth). Some Hybrid Teas take longer to establish roots than other varieties and it is not uncommon to see top growth long before any actual roots appear. With Hybrid Tea roses, it is a good idea to root more cuttings that you think you need. This increases the chance of a successfully rooted seedling.

- These roses root very very easily:

Mrs. Dudley Cross	Gruss an Aachen
Paul Neyron	Renae
Carefree Beauty	Thomas Affleck
Cornelia	Alberic Barbier
Lafter	Mrs. B. R. Cant
Madame Cochet	Monsieur Tillier
Duchesse de Brabant	Isabella Sprunt
Safrano	Cramoisi Superior
Mutabilis	Archduke Charles
Martha Gonzalez	Louis Philippe
Buff Beauty	Blush Noisette
Red Cascade	Maggie
Rosette Delizy	Cecile Brunner
Quietness	

This method of propagation also works well for tomatoes, stevia, salvia, thymes and verbena.

Where Things Go Wrong

- There is a host of things (all environmental) that can impact the success of the rooting process. If you know these things and can control (or minimize them) you are more likely to succeed.
- The most common reasons for cutting failure fall into 2 categories; (1) too wet and (2) too dry.
- "Too wet" includes (1) a planting mix that was too wet at the onset, (2) too much water being held inside the plastic bag, (3) fungal diseases caused by too much humidity inside the bag, (4) root rot forms because the planting mix is too wet.
- "Too dry" includes (1) planting mix started off dry, (2) cut stem wilted or dehydrated at time of sticking, (3) cut stem had wilted foliage at time of sticking, (4) bagged cutting placed in a location that gets too much sunlight or heat and the planting mix dries out.
- Some other reasons for cutting failure are:
    - Cutting "cooks" inside the bag because it was placed in direct sunlight
    - Bagged cutting placed in a location that gets insufficient sunlight to generate new growth
    - Cuttings taken from diseased / damaged stems
    - Once rooted, the cutting is not allowed to gradually adjust to the outdoor environment before planting in direct sunlight
    - Bacterial infection from contaminated rooting hormone, dull pruning shears and anvil-type pruners being used
    - Not treating the cutting with fungicide before sticking

- Allowing leaves from the cutting to touch the sides of the plastic bag (this causes the leaves to stay wet all the time – ensuring that fungal disease will develop)
- Taking cuttings when it was too hot or allowing them to dry out before sticking
- Storing cuttings in a frost-free refrigerator without putting the entire cutting in a plastic bag. (This causes foliage and stems to dry out)
- Cutting not conducive to rooting (stem too big, stem too small, stem did not have enough bud eyes, stem used had not bloomed)
- Using too much rooting hormone (less is better)
- Knocking the rooting hormone off the stem because the stem was forced through the soil as opposed to making a planting hole in the mix

NOTES: _____