

Rooting Rose Cuttings for a School/Scout Project

Materials

opaque cups, darker colored is best - 1 per child
clear, plastic, 12-16 oz cups that fit inside the
opaque cups, with holes for drainage
rose cuttings - three per child
fungicide in a spray bottle
seaweed extract or Medina Plus
scissors – 1 for every 2 or 3 children
coco coir - bagged or reconstituted from a “brick”
fine point paint pens or white grease pens



Preparation

1. Try to choose cuttings that have at least four buds, located along the stalk. The buds look like pimples and can be found where the sets of leaves meet the stalk. As you cut, drop the ends of the cuttings in a bucket of water to which you have added about two tablespoons of Medina Plus or seaweed extract. It should be enough water to cover at least the ends of the cuttings, though I like to have most, if not all, of the cuttings submerged.
2. Place three cuttings on a paper towel and spritz with a fungicide such as Consan Triple Action 20. (This is a good one for using around kids. It's just a strong surfactant.) Roll up the three cuttings, burrito-style, and place in a large zip lock bag. Repeat, until the bag is full of “burritos”, keeping them moist with more of the water+Medina/seaweed extract. Each child will get one “burrito”. Be sure to label the bags with the names of the roses!! Store the bags in the refrigerator until the project day arrives, but try to do it soon, within the week, at least.

If you are going to take cuttings from different rose bushes, change out the bucket water before dropping in the new cuttings. The old water can be thrown out at the base of the rose from which you have just taken the cuttings. Clean your pruners with the Consan or alcohol before going to the next bush.

Project day

1. In the classroom, loosen up the coco coir and remove any large, stringy bits. The finer the coir is, the better. If you put it in a large wash bucket, the kids can have a good time culling out the larger pieces. Save them for later. You can explain that we use coco coir because it has a natural rooting hormone (like the seaweed) and antiseptic properties. This is to increase the chances of the coconut, which is a seed, growing into a coconut palm tree.



This project is actually a method of cloning roses, and since cloning is not a very efficient method of reproducing, the children need to know that we only expect about half of the cuttings to root. So children who have more than one cutting make it will be expected to share the extra(s) with a pal whose cuttings died.

2. Have the children label a clear cup and an opaque cup with their name and the name of the rose they've chosen. Then fill the clear plastic cup with coco coir and gently pack down to remove any large air pockets. Don't pack too hard or you will have a hard time later on.



3. Give each child one "burrito" of rose cuttings, reminding him to watch out for the thorns as he unrolls it. With a pencil, he will make a hole in the coco coir to make it easier to insert the cutting, though he will still need to do a bit of shoving. Make sure he gets at least two of the buds (the little "pimples") below the coir and that each cutting is completely surrounded by coir. Each cup should have three cuttings in it.

4. Next cut off all but the two top sets of leaves, then cut those remaining leaves in half. If the cutting is devoid of leaves, that is ok. Some rosarians routinely cut off all leaves.



6. Carefully use tap water to wet the coir, then set the clear cup into the opaque cup, and slowly fill to the top with more tap water. Let sit for awhile so the water can thoroughly saturate the coir, checking to make sure there are no large air pockets at the sides. When the coir is completely saturated, cut little slices out of the bottom rim of the opaque cup and let the water drain out.

7. Put the cups outside in the bright shade or in a bright window (not too much direct sun) and water them regularly. The coir should only stay moist, not sitting in water. Do not let them dry out.



8. Occasionally let the children lift the clear cup out of the opaque one to see if any little roots have appeared. They will look like white worms. The roots need to reach all the way to the bottom of the cup before transplanting, since they are very fragile and children can be a bit rough on them.

9. Transplant into a pot with regular potting soil. You can use the larger coir bits as a top dressing, if you'd like. Allow to sit for awhile ("harden off") before taking home – about a week, if possible.

At St. Thomas' Episcopal,
we make cards and
decorate the pots for
Mother's Day!



Note: This project can be made into an academic project by preceding it with a lesson appropriate to the age group. In 7th grade, for example, before beginning the project we continue the earlier lessons of DNA and include the triggers for gene expression. We find the answer to the question: why does the bud grow into roots below the coir but into leaves above the coir if it's the same DNA? Vocabulary includes:

basal end
bud
DNA
genetic trigger
hormone
meristem

node
nucleus
proteins
quiescence
replicate

If you would like to see a PowerPoint presentation, classroom handout, and quiz to modify for your own use, please send the request to mcmurray.audrey@stes.org.