



Using the Sand "Medium" Method

donated by Roger Smith

Carol,

Please put the sand method in your course or website. I am probably far from the first one to use it but here is what I did.....Roger Smith <drsoy@eclipse.net>

Protocol for using sand (in place of agar) as the support in tissue culture

1. Use washed play sand.
2. Put 1 ounce (volume) in a baby food jar. Close the jar with aluminium foil.
3. Put the jars on a cookie sheet with an oven thermometer.
4. Run the oven up to 350 F. Hold the jars at 350 F for 1 hour (longer will not hurt)
5. Cool the jar and aseptically add about 29 ml of sterilized medium. This is somewhat critical to the method. Add enough medium so the sand is totally saturated but not enough medium so that the explant is "swimming" in it. Use your judgement.
6. Aseptically close the jar with a sterile cover of your choice.
7. If the culture begins to dry out, it is easy to add more sterile medium. Also other ingredients may be added to modify the medium with time.
8. There are lots of advantages over using agar or other gel supports:

In my experience with African violets, virtually every explant formed shoots regardless if its orientation to the medium. Leaf surface up or down made no difference. I had lots of failures with explants on agar.

Uprooting the shoots for transplant is also no problem. Sand comes completely off the little roots with no carry-over.
9. The only disadvantage I found so far is that you can not see roots developing in the sand

ADDENDUM TO THIS PROCEDURE BY CAROL:

I wanted to use Magenta B-caps but did not want to see if they survived a dry oven (they might?) so I baked the sand in the baby food jars, then added media containing 1 ml PPM per quart, put on a B-cap, and microwaved per instructions in the KCK Manual.. The bad thing about this is that it gets messy: the sand "spatters" when it boils in the microwave and messes up the sides of the jars.