by Lynne Vogel

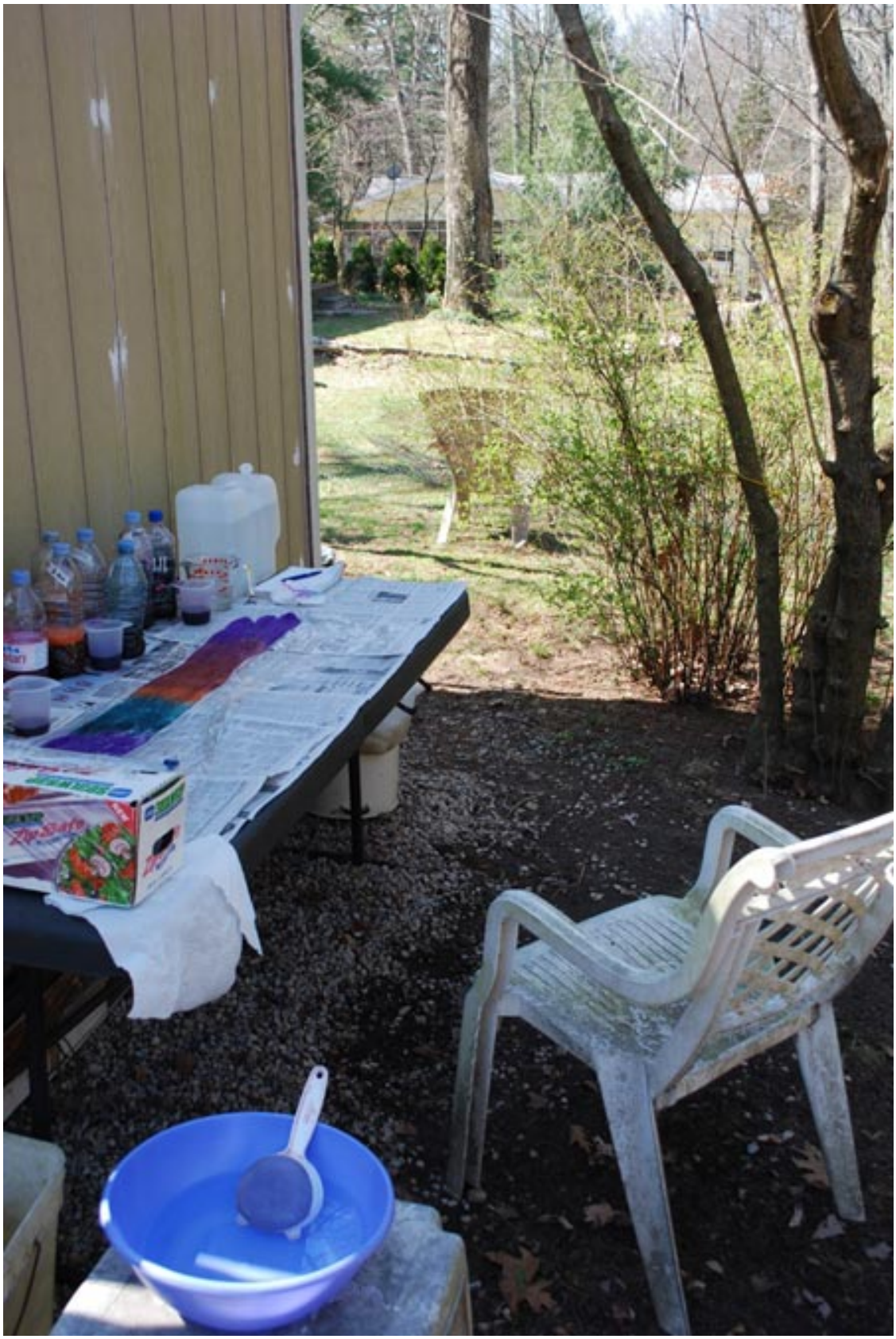
Someone once said to me that artists don't wait for the perfect situation to make art. They make do with what they have and make art anyway.

In the light of recent talk about consumer product safety, and with so many new dyers selling their wares online, the question of dye safety has become a frequent topic in my conversations. When I mention that I've had to quit production dyeing because I can't tolerate being around stock solutions for long, people immediately ask, "Why not use natural dyes?" It may seem counterintuitive that synthetic dyes could be safer than natural dyes, but I believe that sometimes natural dyeing can be risky. While many natural substances that create color are very safe to use, there are so many that pose a far greater risk to one's health than any synthetic dyes. Whether or not you use heavy metal mordants like copper and chrome or stick with alum, a much safer ingredient also used in pickles, you can still get into trouble if you try to dye with poisonous plants such as bloodroot, pokeweed, and wormwood. The concentrations required to make rich colors can produce some noxious brews. Natural dyeing is an art, one that takes time and effort to master, so most of us stick with the synthetic dyes because they are less irritating, more predictable, more environmentally manageable, easier to use, and offer an infinitely broader color range. So just how safe are the synthetic dyes we use for wool and silk?

The synthetic dyes most of us use on protein fibers are acid dyes such as Prochems' Washfast Acid, Cushings, Deka, Jacquard, and Aljo acid dyes. Just as effective but more expensive are food colorings such as Culinary Dyes, Kool aid, and Wilton's. All these dyes are classified as non-toxic, sometimes even food grade, but at the concentrations required to give intense color, they can still

cause some unpleasant reactions if used improperly, such as lung, skin and eye irritation and brain fog. In fact, Prochem offers online safety sheets that list ingredients in all their dyes for those who wonder just what's in there. All of us who have ever done any dyeing have read and followed long lists of safety precautions. Regardless, some of us have had to give up dyeing because of sensitivities to the dyes themselves. Sensitivities aren't life threatening, but they are uncomfortable at best, and usually come from overexposure to substances; artists in many mediums can develop them over time. Even bakers can develop health problems from constant exposure to flour. A substance doesn't have to be toxic to cause sensitivities in those constantly in contact.

After working with acid dyes for 20 years, my affinity for deep colors and my slight tendency towards chemical sensitivity have now caught up with me. Although I have used the safest dyes available to the home dyer, although I am neat and careful, I find it harder and harder to be around them, even food coloring. So I thought I would share a little about how I have coped with my own sensitivities, focusing on the points that I find most critical to my own wellbeing in hopes this will be helpful to other individuals who have experienced similar problems.



Adequate Ventilation

It would be great to have a nice, climate controlled, insect-free area in which to ply our craft but even if I poured tons of money into a state of the art studio (and who has tons of money?) I would still be hard pressed to provide myself with adequate ventilation in an enclosed area. If one bottle of cold stock solution is sitting open in a room, I can sense it. Adequate ventilation, for me, is outside in the shade. Of course this means I have to dye weather permitting, so this brings me to point number two.

Frequency

Because I have to wait to dye for decent weather, this limits the time I can spend dyeing. Having to set up and take down takes extra time and this also makes me think twice before I get geared up for a dye day. Anything that even marginally deters me from dyeing reduces the frequency of my contact with dyes and this is all in my favor. I really didn't get into too much trouble with dyes until I started teaching. Dyeing for my own use didn't take very long and the only side effects I experienced were a slight brain fog followed by an irresistible craving for chocolate chip cookies. But dyeing enough fiber for spinning classes and then teaching the actual dye classes themselves in venues not designed for that purpose and wowwy, zowwy -- overkill, especially when I started taking concentrated stock solutions to class because I could transport them more easily, and we began using stronger concentrations of dye for our pours, say 1 ½ to 2 percent solutions. Colors? Gorgeous! Brain fog? Color me cross-eyed.

Avoid Contact And Inhalation Of Powdered Dye And Dye Fumes

Using liquid stock solutions minimizes the individual's contact with dye in its powdered and most irritating form. Most dyers recommend mixing a one percent solution (one gram of dye powder to one hundred milliliters of water). I always mix dyes in a still environment to keep particles from becoming airborne and I wear gloves and a respirator with cartridges that filter both particulate and volatile substances (such as paint thinners, etc) so I can stand being in close quarters with the dyes. Particulates aren't the only problem when hydrating. Fumes matter too. Paper masks don't filter out fumes, only particulates. I also use the respirator if I want to stand over an immersion pot to watch the colors take up, or if I need to be near the microwave or steaming pot when I'm heat-setting colors. I don't wear a respirator when I teach class, though, because I can't talk through it. So this year I'll teach my last dye class.

One Percent Solution

I know I can get some beautiful colors by mixing a two percent stock solution for cold pour methods, but I end up doubling my contact with the dye when I do so. If I work with these intense colors, I need to be doubly mindful of safety precautions. The more concentrated the stock solution, the less surface area of that solution needs to be exposed to evaporation to cause the irritating fumes. Even cold stock solutions have fumes. They just aren't as apparent to most people as the heated fumes, but they are there, believe me.

Keep it Clean

Stock solutions evaporated become powder once more. I'm finicky about wiping up spills immediately and avoid leaving solutions to evaporate in uncovered containers any longer than necessary. I go one step further and try to keep the tops on all my bottles of dye when I'm not pouring dye from them. This helps to minimize the danger of spilling and cuts down on the surface area of exposed stock solution.

In Conclusion

Treat your dyes and your body with respect. Carelessness that may not seem to matter for a day of dyeing can add up when you dye every day. Find the right environment and methods for your continuing safety and well being.

Happy dyeing.

Lynne Vogel is a handspinner and a fiber educator with a distinguished resume of teaching and publishing, author of The Twisted Sister's Sock Workbook, and The Twisted Sisters Knit Sweaters: A Knit-to-Fit Workshop. Find her etsy shop here and her blog at handspun central.