

## TRANSCRIPT

# Troubleshooting During the Dye Process

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In this session, we are gonna look at the things that could go wrong when you're dyeing and the different things that we can do to fix or mitigate those problems. Here are the issues that we're gonna look at. Forgetting the fixer, using too much dye, the inherent difference in intensity between different dyes, and dye pots that just won't exhaust.

First, let's look at the possible problems you might have during the dye process. I've noticed that the most common mistake that we see with beginning dyers is forgetting one of the essential ingredients of the dye process, and that's the acid. It's easy to get excited about putting the colour on the yarn and then forgetting to add the vinegar or the citric acid. The problem there is that you'll keep trying to process the yarn and might just find that it just won't exhaust and that there's colour running everywhere. So in that case, if you were finding that your dyes won't exhaust, then maybe you might have forgotten the acid or need to add more acid to set the dyes.

The second most common mistake I've found about students is using too much dye relative to the weight of fibre. This is why I'm so adamant about doing, at the very least, some rough calculations of the maximum or the target dye volumes. If you use too much dye, it won't all bind to the fibre and then your dye pot won't exhaust. Even adding more acid to the process won't make it all bind.

In that case, the solution is to toss some more undyed yarn or fibre into the dye pot to bind or soak up all of the excess dye and make it all exhaust. Something to remember is that different dyes behave and bind differently. In some cases, you might be able to exhaust a dye pot that is three or 4% depth of shade, and with other dyes, you might start running into problems at 2% depth of shade.

This is where it's best to really get to know the dyes that you've chosen to work with and do an in-depth study of each. Maybe dye a depth of shade scale for each dye and record your observations. Like for instance, I dyed this depth of shade scale for this National Blue dye colour and another depth of shade scale for the Brilliant Blue dye. I had no trouble exhausting the dye baths for the Brilliant Blue, but working with the National Blue I had trouble exhausting at 2% already. I actually had to toss in a big bump of super wash wool fibre to make it all exhaust and you can see that at the 1% depth of shade, the National Blue is significantly darker than the Brilliant Blue. So when you're mixing and combining the two different dyes with other colours, you may not need as much of this dye as you would of that dye. This is where practicing with the dyes that you have is so essential. They each have their own quirks and personality.

If you have a dye pot where you haven't used too much dye, you've remembered to add the acid, and the dye pot still won't exhaust, there are a couple things you can try. Sometimes we add a bit more acid to the dye pot to see if that will help bind more dye. Perhaps use a pH tester and check the pH of your dye pot and add acid to lower the pH to improve the chemical reaction. You can also check the temperature and make sure that it's within the range needed for binding. It's possible that the temperature's too low.

And finally, make sure that you are letting it sit at the correct temperature for enough time. Sometimes fibres

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require us to cook the dye pot for significantly longer times, especially some non-super wash wools. We have often had trouble with merino or wensleydale or shetland wool fibres taking twice as much cooking time to exhaust. In terms of lengthening the time to improve binding, we will ideally try to let the yarn or fibre cool down in the pot along with the dye bath. Letting it all cool down slowly to room temperature can also help with the binding process, and sometimes a dye pot that looks like it still has a tiny bit of colour in it will be completely clear by the time it cools down.