DYE AND MORDANT RECIPES FOR HISTORICAL RECONSTRUCTION

Adapted from Jo Kirby et al, *Natural Colorants for Dyeing and Lake Pigments: Practical Recipes and their Historical Sources* (Archetype, London, 2014)

In *Natural Colorants*, the authors surveyed hundreds of historical recipes from the early modern period. Looking at the great variety of ingredient amounts and ratios provided in those historical sources, they also considered the chemistry of natural dyes. They then created standardized protocols for a number of different mordants and dyes so that you can make comparisons across the dyes you produce.

In this handout, each recipe from *Natural Colorants* has been normalized to 1g of textile so that each ingredient of the mordant bath and dye baths can be calculated by the weight of the textiles you will dye.

To use this worksheet to calculate the amounts needed for a mordant or dye bath:

1. Weigh textiles in grams and enter in the outlined cell
2. Enter in Column C: multiply the weight of the textile by the number in Column A (the normalized recipe)
3. For example, if dyeing with madder and weight of textile is 2g:
    a. Textile amount is 2 x 1 = 2g
    b. Madder amount is 2 x 2 = 4g
    c. Water amount is 2 x 100 = 300g

MORDANT RECIPES

Alum	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
alum	0.2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	50		

Iron sulfate	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
iron sulfate	0.1	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	50		

Copper sulfate	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
copper sulfate	0.2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	50		

Tin	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
tin(II) chloride	0.025	*Multiply weight of textile by number in Column A (normalized recipe)*	
Oxalic acid	0.025		
water	50		

Gall nuts - mordant	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
gall nuts	0.1	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	50		

DYE RECIPES

Madder	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
madder	2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Sappanwood (Brazilwood)	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
sappanwood	10	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Logwood	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
logwood	10	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Cochineal	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
cochineal	0.125	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	62.5		

Kermes	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
kermes	0.5	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	62.5		

Dyer's Broom	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
dyer's broom	0.125	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	62.5		

Weld	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
weld	1	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Sawwort	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
sawwort	1	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Fustic	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
fustic	10	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Buckthorn berries	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
buckthorn berries	2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Gall nuts - dye	**Normalized amount (g)**	**Weigh textile (g)**	**Amount (g)**
	Column A	Column B	Column C
textile	1		
gall nuts	2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Annatto seeds	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
annatto	2	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

Turmeric	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
annatto	3.75	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	100		

ADDITIVE TO DYE BATHS (OPTIONAL)

Some dye recipes add potash (potassium carbonate) as a way to adjust the acidity/alkalinity of the bath to alter the resulting color.

Potash	Normalized amount (g)	Weigh textile (g)	Amount (g)
	Column A	Column B	Column C
textile	1		
potash	0.0625	*Multiply weight of textile by number in Column A (normalized recipe)*	
water	62.5		