Eco Prints: Dyeing and Printing with Plants

*Sustainable Practices for Color Effects*

Sherry Haar, Ph.D.
Apparel, Textiles & Interior Design; Agricultural Experiment Station
Kansas State University
Purpose

• Solid color yarn dyeing information available
• Explore/document unique color effects on fabric
• Direct contact between plant & fabric
  – (Kadolph & Diadick-Casselman, 2004; Flint, 2008)
• Extraction through solar & decomposition
  – (Richards & Tyrl, 2005)
• Alternative, sustainable dye method

Methodology
Practice-based
• Experimentation to discover/revise methods with the end result being an artifact (Gray & Malins, 2004)
Fabric Preparation

• Scour & Mordant (Wipplinger, 2005)
  – Potassium aluminum sulfate
  – Aluminum acetate
  – Soda ash
  – Cream of tartar

• Bag & refrigerate or dry
  – Cellulose vs. protein

Plants

• Grow in landscaping; K-State student farm;
  source in the wild
  (sumac, ironweed, goldenrod, biden, oak gulls,
  osage orange bark, broom sedge)

• Fresh, frozen, dried
Dye Extraction

Electric or Gas
- Monitor temperature & time

Solar & Decomposition
- Natural resource
- Variables
  - Container size/amt of fabric/amt of water
  - Outdoor temperature/time
  - Plant hardiness

Monitor temperature & time
Single Plant Value Effects

Frozen black hollyhock; solar dye; bamboo/organic cotton/spandex jersey knit; inset is exhaust on silk crepe de chine.
Multi-Plant Variegated Flowers (cosmos, coleus, coreopsis, day lily, pansy, hollyhock) on hemp/silk faille. Rolled & covered in plastic; solar dye.
Ombre Effect

Lemon gem marigold, zinnia, cosmos, & coreopsis layered by color as t-shirt was scrunched in jar; solar dyed one day.
**Physical Resist.** Flowers were placed by color (cosmos orange, day lily/hibiscus/hollyhock, cosmos yellow, pansy/lobelia) in sections on one-half of damp, mordanted silk crepe de chine. Cover with remaining fabric; twist & secure sections; mist with water; cover; and solar dye.
Tri-fold Print

Accordion pleat and fold mordanted fabric into a stacked triangle while inserting fresh and frozen petals into corners. Wet bundle; place in plastic bag under weights; solar dye.

Flowers: tickseed, hollyhock & cosmos
Fabric: cotton/silk satin
**Flower & Leaf Imprints**
New Guinea impatiens on mercerized cotton print cloth. Folded damp fabric over impatiens, covered with plastic and weighed down with wood shelving; solar dye.
Imprinting with Dahlia
Placed dahlia’s on half of damp organic cotton sueded muslin, covered with remaining fabric. Encased in plastic, added weight and solar dyed.
Imprinting Layers

Color permeates through fabric layers (stack, fold, roll) creating shadow imprints.

Hibiscus on cotton/silk; accordion folded; solar.
Imprint Samples

weld

coleus

hollyhock

coreopsis

black pearl pepper
Prints by Hammering

• Sandwich fresh plants between mordanted fabric; fabric or paper as a base
• Hammer the fabric using a hammer with a rounded rubber face. (Use scrap fabric under the hammer head to prevent smudging).
• Remove plant, dry, press, hand wash to remove remaining plant pieces and excess color; machine wash.
So...what do you do with these fabrics???
From the Garden Garments
Selected References