

AATCC California Chapter  
Color Perception Pillar Meeting  
5/9/2018 6:00 Start @ Levi's Headquarters

- Introductions by Eva Reale
  - Background on AATCC and services they provide for members/companies
  - Background on the California Chapter and their operations
    - Started 2 years ago
    - Sustainability Focus, Pillar Chairs, Holding a Conference in 2019
  - Introduction of Maria Thiry-Global Membership Director
  - Introduction of Lydia Wendt
- Lydia is not a chemist, but a designer
  - For the past four years, she has been focused on piece dyeing, garment dyeing, and printing with natural dyes
  - Many years of experience in Industry, worked in NYC in fast fashion and mass market, etc. She also taught at the Academy of Art in California where her students used indigo dyes (only conventional dyeing available at that time)
  - Started working with Fibershed (Rebecca) on the Backyard Hoodie project for The North Face
    - Converted brown cotton into hoodies
    - Used Cotton from the Central Valley, which made 7,000 hoodies
    - Later founded the California Cloth Foundry, which focused on local fibers
    - She had a passion to work locally and create textiles without toxic chemicals and finishes
  - Consumers are starting to question their clothing, just like their food
    - Farm to Fashion Concept
  - Slide of the Green Peace Dirty Laundry List
    - Petroleum Based Dyes, Heavy Metals, and Carcinogens
  - The Clean Water Act is helping to clean up cotton in Central California
  - The Goal is to create a non-toxic supply chain
    - Biodegradable products
    - Work directly with the mills, finishers, and spinners
  - All fibers could be made into modal, tencel, etc.
  - Our skin is our largest organ, which absorbs what's on our bodies
  - The textile industry is the 2<sup>nd</sup> largest polluter globally
  - Many Companies are starting to shift to use more natural processes and dyes
    - Patagonia
      - "Truth to Materials"
      - "Clean Color Collection"
    - Everlane
  - Examples of natural, sustainable color
    - Indigo, madder root, botanicals, plants, proteins, minerals
  - Mordants
    - Safe

- Aluminum, Iron Salts, Plant based sources
  - Unsafe
    - Chrome, Tin, Copper
- Tee Shirt Example
  - What does natural body chemistry look like when wearing this?
  - Natural highs and lows from sunscreen, rain, etc.
    - Use vinegar, sodium bi-carbonate to remove deodorant or sunscreen stains
- Question:
  - Can you share some of the suppliers of natural fibers and dyes?
    - Many suppliers in Europe, India, Stoney Creek colors in Tennessee
    - Will make a list later
- Fabrics used for natural dyeing
  - Wool, cotton, modal, baste fibers, tencel, silk
  - Applications for natural dyeing
  - Yarn, garment dyed, piece dyed, printing
- Example:
  - White tee shirt being dyed with pomegranate skins
- Printing with natural dyes
  - Water based, work in progress
  - Uses a semi-fast drying pigment/extender base into system
- Great results piece dyeing with natural dyes
  - Working with a mill in LA on this
  - It's easy to take natural dyes out of the water
    - Re-plumb the system 97-99% cleaner water back into boiler
- Scale/Innovate
  - Everyone benefits!
- Q&A Session
  - Printing, water based, what else is in natural printing?
    - Gum, thickening powder starch
  - Cost of Natural Dyes?
    - \$40 retail for a basic tee shirt
    - \$60 one color print
    - \$80 two color print
    - Estimating 10% more cost than regular dyes
  - What challenges are dyers facing and what does the future look like?
    - The first challenge is convincing the mills to contaminate their petroleum-based systems with new colors/chemistry.
    - Lots of begging and pleading with chemists, have to pay for everything due to the liabilities
    - Finding a gin that will gin cotton into a barrel
  - Can natural dyes color regenerative fibers?
    - Working on this, in the product development stage.

- What type of dye was used in the beige V-neck sample?
  - Cotton actually grows this color, not dyed.
  - Cotton used to be this color years ago, but now is bleached white.
- What is the range of color used for natural dyes?
  - Limited, but not too limited
  - Can hit almost any color of rainbow, but no neon
  - Example of color cards
  - Use silk for more vibrancy
  - Deep Black is hard
- How much water is usable after use of natural dyes/mordants?
  - 97-98% re-plumbed
- How is consumer perception starting a shift in process?
  - Example of denim, cashmere and sweaters, the more wear, the better they look!
  - Marketing and consumer trends will help influence, long and slow process
- Is there a difference in colorfastness performance?
  - Have tested on piece dyed wool, excellent crocking results
  - Never will be as strong as petroleum-based dyes
- Color Consistency in production?
  - Dyed lot to lot, no lot will be exactly the same
  - This is a selling point due to being so individualized
- Dyes from natural foods? Any food companies donating?
  - Coming soon! Working with a farm in Southern California on doing road shows. Each roadshow will feature one food product and a dye to go with it.
    - Patagonia
- End of Meeting 7:35 PM