

CWSF 2008 - Ottawa, Ontario



Sarah Dalziel

The Woad to a Sustainable Blue Colourant, Phase Two

Division: Biotechnology / Environmental Innovation

Category: Intermediate

Region: West Kootenay & Boundary

City: Greenwood, BC

School: Christian Home Education in the Kootenays and Across BC

Abstract: Natural indigo, unlike synthetic indigo, is renewable and eco-friendly. 4 landrace strains of *Isatis tinctoria* (woad) were grown organically, in marginal conditions in Canada. Each strain and a control were compared for biomass production and indigo pigment. Results compare favorably to European studies on prime agricultural land. Agricultural scale yield predictions were made. The indigo pigment from each strain was compared for quality and hue.

Biography

I am a grade 9 home school student living on a fiber farm in B.C.'s southern interior. Our farm is surrounded by mountains and has deep snow for 5 months of the year. We often have frost in the summer so it's hard to grow a garden here. The wool, mohair and angora we grow make very warm clothing. I spin, dye, knit, weave, and felt. I'm the youngest member of the Boundary Spinner and Weaver Guild. I sell some of my fiberart at Christmas craft fairs and the farmer's market. Some of my fiberart is dyed with natural dyes. I also play the piano, mandolin, fiddle, and recorder and take voice lessons. This is the second year I have done a science fair project, and the second year I have gone to the CWSF as a finalist. I am very interested in natural dyes. I like to collect plants, weeds, and lichens and test them to see what colours they will dye. I am amazed at all the colours that are hidden in the plants on my farm. I want to farm when I am older and raise fiber animals and dye plants.

Awards

Value

The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Biotechnology & Pharmaceutical Sciences Intermediate Sponsor: Rx&D Health Research Foundation	\$300
Silver Medal - Environmental Innovation - Intermediate Sponsor: EnviroExpo, Presented by VIA Rail Canada	\$700
Total	\$3 500