

CWSF 2009 - Winnipeg, Manitoba



Sarah Dalziel

The Woad to a sustainable blue. Phase 3

Division: Biotechnology / Environmental Innovation

Category: Intermediate

Region: West Kootenay & Boundary

City: Greenwood, BC

School: Christian Home Education in the Kootenays and Across BC

Abstract: A comparison of the effects of genetics and growing conditions on indigo yields in strains of *Isatis tinctoria* (woad) was undertaken. Woad was grown in marginal conditions. Indigo was extracted using an innovative extraction method, which maximized precursor contribution to the yield. Results were analyzed and compared to published data. Art was used to test the purity of the pigment and demonstrate its aesthetic value.

Biography

I am a grade 10, home school student, living on a fibre farm in B.C.'s southern interior. 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, active member of the Boundary Spinner and Weaver Guild, and the guild librarian. I sell my fibre art at a local gallery and at the farmer's market. I sing 2nd soprano and am a soloist in the community youth choir. I play the piano, mandolin, fiddle, recorder and take voice lessons. This is the third year I have done a science fair project, and the third year I have gone to the CWSF as a finalist. The second phase of my project in 2008 won a silver and a bronze medal at the CWSF in Ottawa. 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. My career plans include studies in natural dyes and textiles.

Awards

Value

The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
Silver Medal - Biotechnology & Pharmaceutical Sciences Intermediate Sponsor: Youth Science Canada	\$700
Silver Medal - Environmental Innovation - Intermediate Sponsor: EnviroExpo, Presented by VIA Rail Canada	\$700
Total	\$2 900