





YES Willmar Senior High

Community Greenhouse Project



Willmar High School students Liz Alvarado, left, Tessa Anderson and Maritza Ocampo check the soil at the vacated greenhouse on the former Willmar Treatment Center grounds. Tribune photo by Bill Zimmer

### Energy pioneers looking to soar

Competitive spirit at work as Youth Energy Summit teams develop clean energy projects

Willmar team plans to develop

to be gained from generating than from betting, officials say. We're making it a more able asset and a

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# Youth Energy Summit at PWELC

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- Prairie Woods Environmental Learning Center's inaugural Coopetition began in September 2007.
- <http://www.prairiewoodselc.org/YES.html>
- Students participated in team building, energy classes, brainstorming, planning sessions, and a resource fair.
- Each team began setting goals for a community based energy action plan



# Willmar's Goals

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- Grow produce throughout the year to:
  - Reduce Fossil fuel consumption
  - Reduce carbon dioxide emissions
  - Provide fresh, nutrient rich produce to food shelf and schools
  - Provide a model for individuals and businesses to copy



# 1st Major Success

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- November 2007: met with Steve Salzer, GM at Minnwest Technology Campus



# Memorandum of Understanding

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- We can use the greenhouse and solar collectors if:
  - We pay utility costs
  - We plant and maintain outdoor campus gardens



# Flower Gardens

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# How do you heat without sunshine?

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- **Collect and fill water containers**
  - **Thermal mass to lower heat cost**
- **Insulation donated by UBC Willmar on north wall**
- **Empire Plumbing radiant heating plan**



# Modifying the Heating Plan

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- **Bill Wright from Aquatherm- use us as testing site for biomass boiler**



# Agricultural Collaborations

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- Anez Consulting- complementary soil test
- Kandiyohi Food Systems meetings
- Garden Goddess greenhouse production conference
- Spring Garden Resource Fair with Will Allen of Growing Power
- Began planting broccoli and Mesclun in February for Willmar Public School's Farm to School Program



# Community Collaboration is Critical

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- High school students developed and taught 6<sup>th</sup> grade science lesson
- Eagle Scout project
- WSHS Community Service class
- Prairie Lakes Youth Program science class
- Vinje Lutheran Youth insulated
- 4H and Kandiyohi Master Gardeners
- Coffee grounds collections
- WCG group on Minnesota Energy Challenge website  
<http://www.mnenergychallenge.org>



# Eagle Scout Project



# League of Women Voters and Becker Market

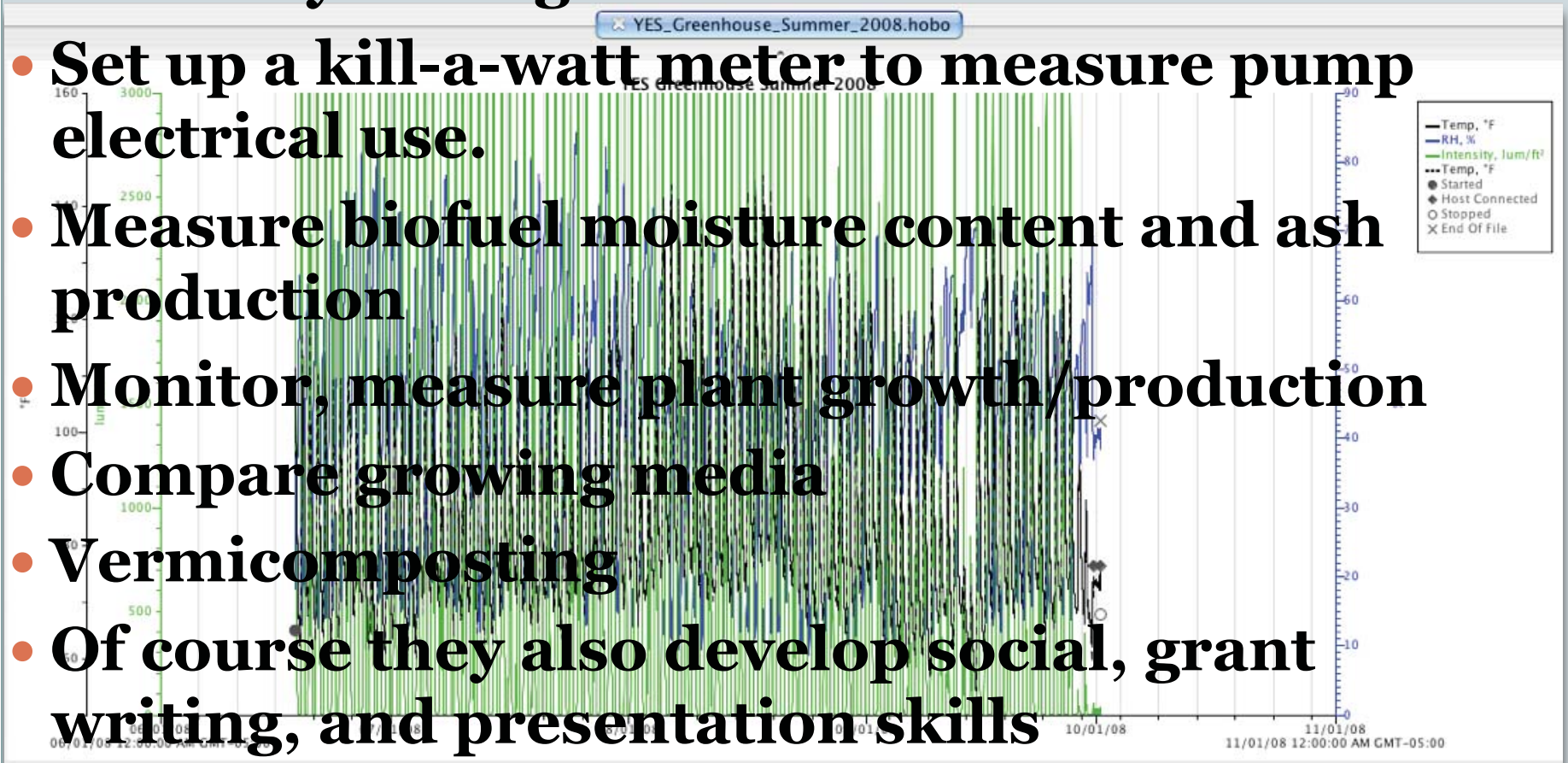
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# Other Science Curriculum Connections

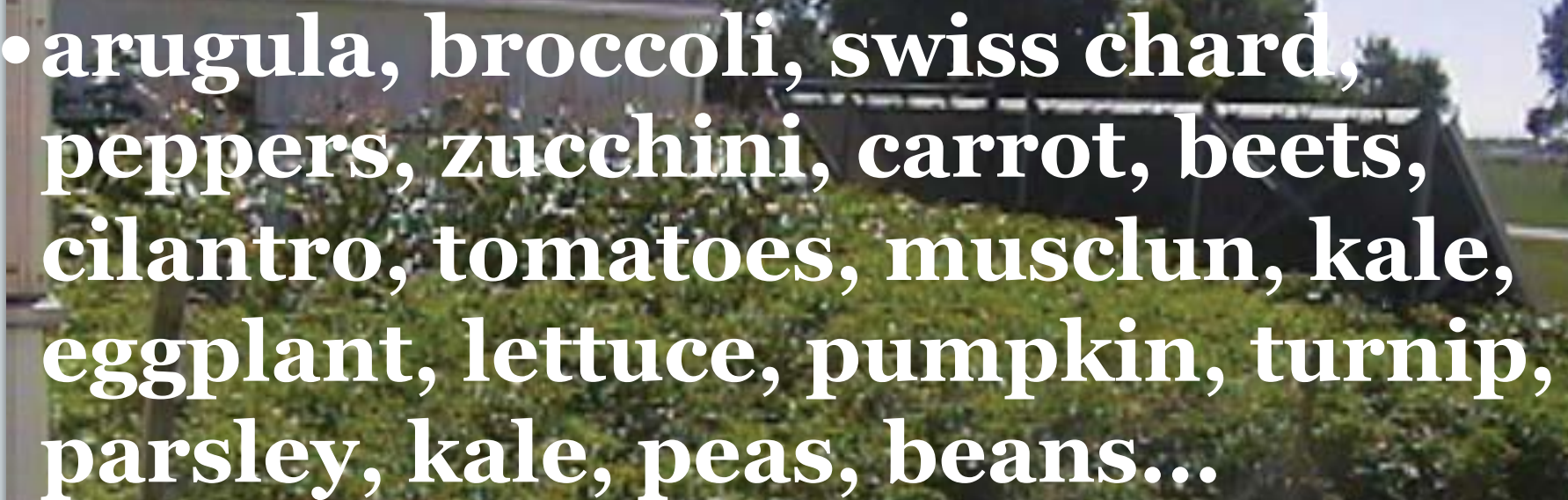
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- Set up Hobo datalogger to monitor temp, humidity and light levels
- Set up a kill-a-watt meter to measure pump electrical use.
- Measure biofuel moisture content and ash production
- Monitor, measure plant growth/production
- Compare growing media
- Vermicomposting
- Of course they also develop social, grant writing, and presentation skills



# Crops planted:

15



- arugula, broccoli, swiss chard, peppers, zucchini, carrot, beets, cilantro, tomatoes, musclun, kale, eggplant, lettuce, pumpkin, turnip, parsley, kale, peas, beans...

# Collaborators

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- Prairie Woods Environmental Learning Center
- Southwest Initiative Foundation
- MinnWest Technology Campus
- Empire Plumbing and Heating
- West Central CERTs
- Willmar Food Shelf
- Kandiyohi County Food Systems
- Vinje Lutheran Youth
- Willmar Pub. Schools
- Farm to School Program
- WSH Science Department
- WSH Service Learning Class
- Prairie Lakes Youth Program
- Aquatherm
- Gerry Gesch Family
- United Building Centers
- Home Depot, Willmar
- Anez Consulting
- Perkins Lumber
- Minnesota Valley Alfalfa Producers
- David Frye
- Haug Implement
- Runnings Farm & Fleet
- Carmike Cinema
- League of Women Voters
- Sunrise Agra Fuels

# Willmar Community Greenhouse Open House

When:  
Sunday,  
February  
22, 2009

Where:  
1800  
Technology  
Dr. NE  
Willmar,  
MN 56201

Time:  
1 - 4 PM



There will be displays and vendors in the Life Center Auditorium. The greenhouse will be open for tours all afternoon. Come see the unique hybrid heating system and winter produce. Call or email Rob Palmer 320-231-8441 [palmerr@willmar.k12.mn.us](mailto:palmerr@willmar.k12.mn.us) or Kenny Turck (320) 220-2551 [hooganaga@helloworld.com](mailto:hooganaga@helloworld.com) for more information.

[www.willmargreenhouse.com](http://www.willmargreenhouse.com)



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