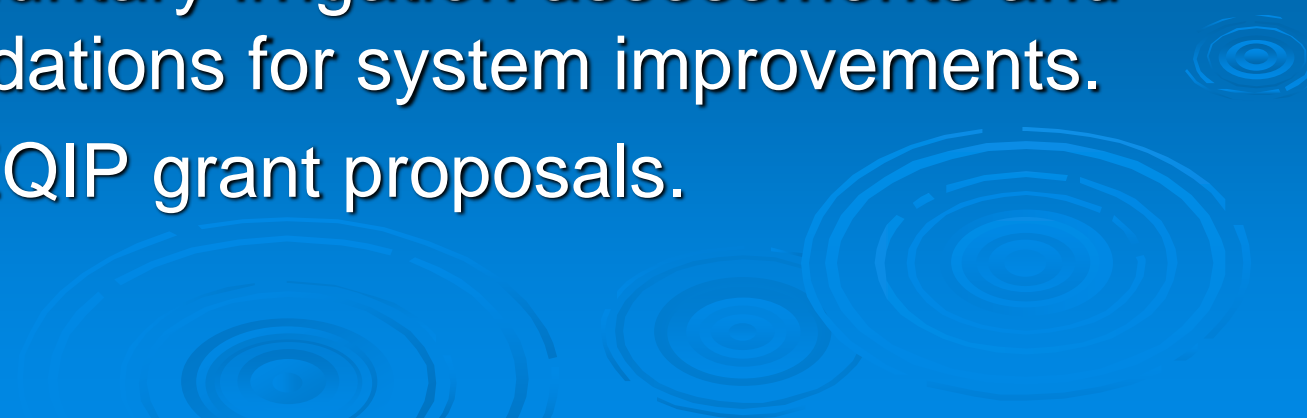




Don McMoran
Troy Peters
Kate Seymour

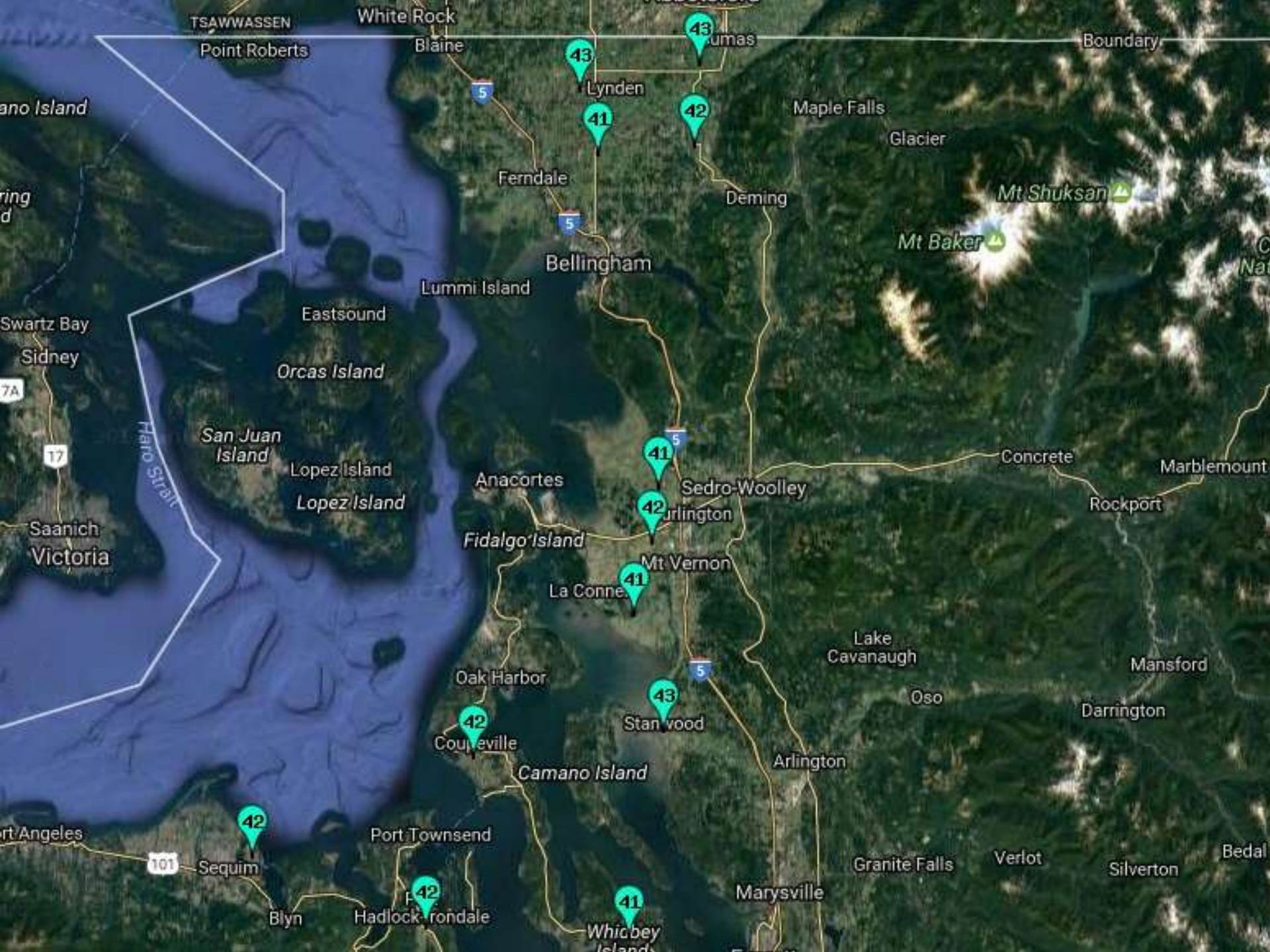
WSU WISE: Water Irrigation System Efficiencies

Confronting Insufficient Water by Increasing Irrigation Efficiencies

1. Enroll Growers in Irrigation Scheduler Mobile.
 2. Provide voluntary irrigation assessments and recommendations for system improvements.
 3. Facilitate EQIP grant proposals.
- 
- The background of the slide is a solid blue color. In the bottom right corner, there are several concentric, light blue circular ripples, resembling water droplets or raindrops, which add a decorative element to the presentation.

irrigation scheduler mobile

- Simple soil water balance based on ET.
- Designed for use on a smart phone, but usable on any desktop web browser.
- Designed for **usability #1**.
- Quick & easy to set up.
- Automatically pulls ET data from selected weather stations.
- Can run on any weather network who's data can be automatically accessed.



irrigation scheduler mobile

Login

Username:

Password:

Remember me ☐

Login

[Forgot Username?](#)

[Forgot Password?](#)

Register

In order to use the irrigation scheduler, please [register](#) for an AgWeatherNet



irrigation scheduler mobile

Add New Field

[Help](#)

☐ Check box to start with existing field:

Field Name:

Field Year:

Network:

Station:

Field Crop:

Field Soil:

Add Field

Daily Budget Table

Soil Water Chart

More Charts

Field Settings

Add/Delete Fields

[Privacy](#) [About Us](#) [Contact Us](#)

irrigation scheduler mobile

7-Day Daily Budget Table

Field: Potatoes, 2011; Potatoes

[Help](#)

Date	Water Use (in)	Rain& Irrig. (in)	Available Water (%)	Water Deficit (in)	Edit Data
07/12	0.22	0	80.9	0.88	Edit
07/13	0.25	0	75.5	1.13	Edit
07/14	0.22	0	70.7	1.35	Edit
07/15	0.24	0	65.4	1.59	Edit
07/16	0.23	0	60.4	1.82	Edit
07/17	0.22	1	77.5	1.04	Edit
07/18	0.2	0	73.1	1.24	Edit

<<< <<

Jul 12, 2011

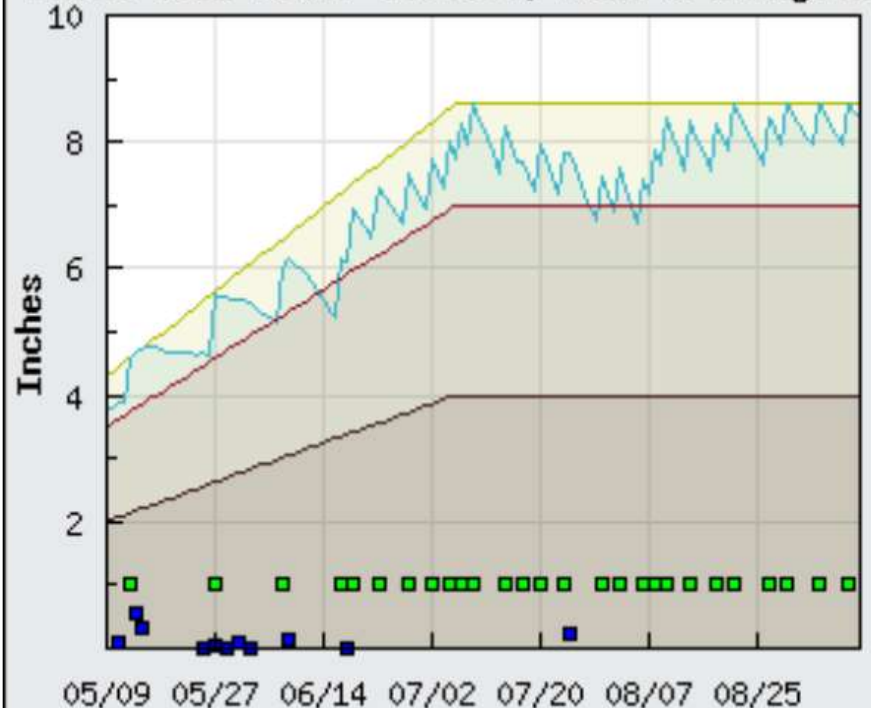
>>> >>

irrigation scheduler mobile

Field: Potatoes, 2011; Potatoes

[Help](#)

Field Soil Water Content, Rain & Irrigation



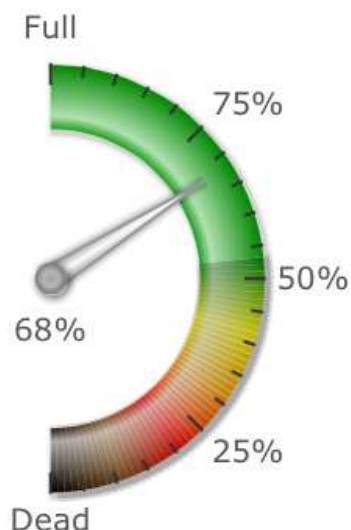
05/09 05/27 06/14 07/02 07/20 08/07 08/25
 — Full — Soil Water — First Stress
 — Empty/Dead ■ Irrigation ■ Rain

Dotted lines indicate forecast values.

Soil Water Dashboard

Field:

N Pod Pasture, 2014; Grass (Pasture)



This Morning's	0.9 in.
Soil Water	or
Deficit:	5.4 hrs
<hr/>	
Today's	0.00
Irrigation:	hrs
<hr/>	
I Irrigated Today:	<input type="checkbox"/> hrs

[Save](#)

Green is good. Crops increasingly stressed below green.



Dashboard



Daily Budget Table



Soil Water Chart



More Charts



Field Settings

7-Day Daily Budget Table

Field: Creek Pasture, 2013; Grass (Pasture)

Help

Date	Water Use (in)	Rain& Irrig. (in)	Avail. Water (%)	Water Deficit (hrs)	Edit Data
07/26	0.24	0	61.2	19	Edit
07/27	0.24	0	57.7	20.7	Edit
07/28	0.21	0	54.7	22.2	Edit
07/29	0.18	0	52.1	23.5	Edit
07/30	0.19	0	49.3	24.8	Cancel
Irrigation: 0 hours					
<input checked="" type="checkbox"/> Reset/Correct Soil Water Availability					
Set To: 49.3 %					
Save					
07/31	0.17	0	46.8	26	Edit

Help

Date	Water Use (in)	Rain& Irrig. (in)	Avail. Water (%)	Water Deficit (in)	Edit Data
08/14	0.12	0	97.8	0.1	Edit
08/15	0.13	0	95.4	0.3	Edit
08/16	0.13	0	93	0.4	Edit
<div>Day of Year: 227 Measured Available Water: 0% Irrigation: 0 in. Modeled Available Water: 93% Precipitation: 0 in. Field Capacity: 10 in. Reference ET: 0.15 in. Wilting Point: 4.5 in. Crop Coefficient: 0.88 Avail. Water Capacity: 5.5 in. Crop ET: 0.13 in. Water Storage At MAD: 8.08 in. Root Depth: 30 in. Current Water Storage: 9.61 in. Root Zone Water Deficit: 0.39 in. Volumetric Water Content: 32 %.</div>					
08/17	0.12	0	90.7	0.5	Edit
08/18	0.12	0	88.5	0.6	Edit
08/19	0.12	0	86.2	0.8	Edit
08/20	0.11	0.22	88.2	0.7	Edit
<div><<< << Aug 14, 2013 >>>> Forecast</div>					

08/08	0.3	0	91.4	0.5	Edit
-------	-----	---	------	-----	----------------------

[|<<](#) [<<<](#) Aug 02, 2013 [Forecast](#)

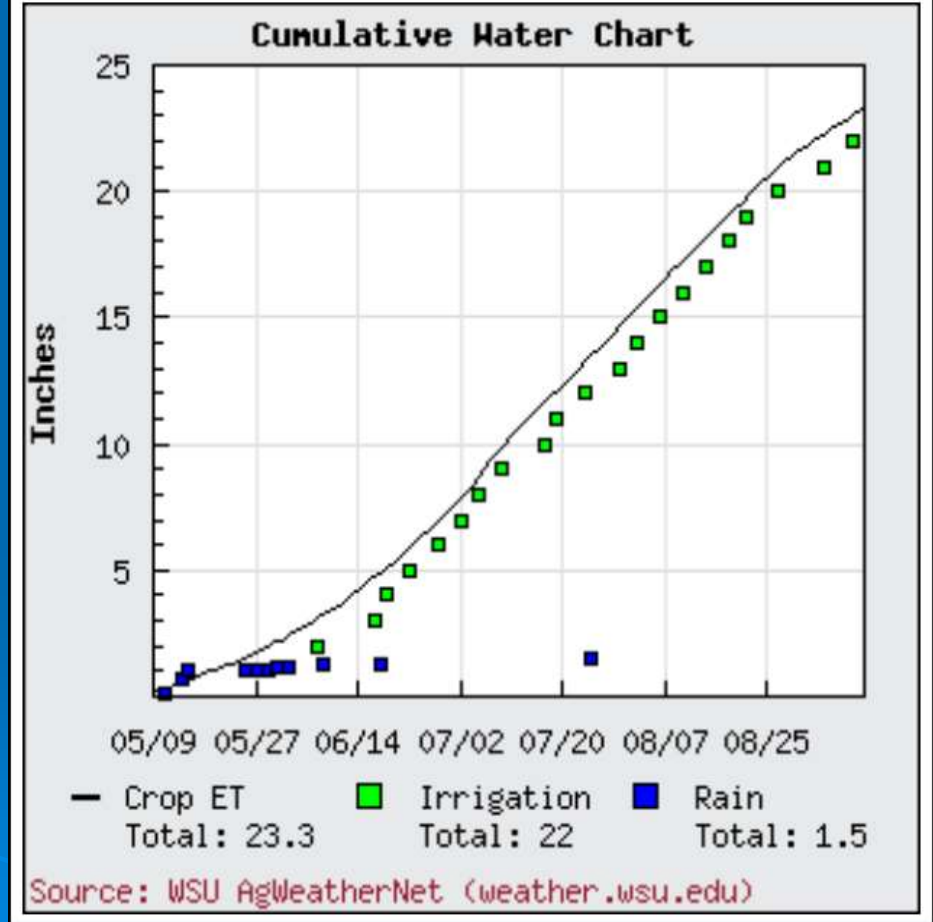
- [Daily Budget Table](#)
- [Soil Water Chart](#)
- [Less Charts](#)
- [Daily Water Use Chart](#)
- [Cumulative Water Chart](#)
- [Crop Coefficient Chart](#)
- [Deep Water Loss Chart](#)
- [Water Stress Chart](#)
- [Field Settings](#)
- [Add/Delete Fields](#)

[Privacy](#) [About Us](#) [Contact Us](#)
[Logout](#) [Desktop Website](#) [Help](#)


irrigation scheduler mobile

Field: Potatoes, 2011; Potatoes

[Help](#)



Specific help
link on every
screen






Verizon 3G 11:19 AM 89% 

irrigation scheduler **mobile**

7-Day Daily Budget Table Help

Use this table to view the calculated daily crop water use, percent available soil water, and soil water deficit. From this table you can enter irrigation events and/or soil moisture measurements using the "Edit" link. If the percent available water is within the range for maximum production the line will be green. As it gets close to the First Water Stress line (Management Allowable Deficit; MAD) it turns yellow. If the soil water content is depleted below the MAD or First Water Stress point it will turn red.

Water Use (in/day) - This is the daily

Additional Features

- Copy settings from an existing field for quick setup or reset for new year.
- One-week ETc forecast
 - NWS max & min forecast & Hargreaves eqtn.
- Can use hrs of irrigation run time instead of inches of applied water.
 - Integrated calculators to help calc app. rate.
- Correction for dry, un-irrigated inter-rows (adjustment to water holding capacity)

Additional Features

- Copy settings from an existing field for quick setup or reset for new year.
- One-week ETc forecast.
- Can use hrs of irrigation run time instead of inches of applied water.
- Correction for dry, un-irrigated inter-rows (adjustment to water holding capacity)

Additional Features

- Option for notifications via email or text.
- Download all data to a .csv from full-page.
- Can set up a schedule if you irrigate on a regular basis.



Google “Irrigation Scheduler Mobile”

Or wherever you get
your mobile phone apps.

weather.wsu.edu/ism

The screenshot shows the mobile interface of the Irrigation Scheduler Mobile app. At the top, the status bar indicates 'iPod', signal strength, '9:06 AM', and battery level. The address bar shows 'weather.wsu.edu' with a refresh icon. Below the address bar is a teal header with the text 'irrigation scheduler mobile'. The main content area is white and contains a 'Login' section. The login section includes the text 'Using your AgWeatherNet account.', a 'Username:' label with a text input field, a 'Password:' label with a text input field, a 'Remember me' checkbox, and a 'Login' button. Below the login section are two links: 'Forgot Username?' and 'Forgot Password?'. The bottom section is titled 'Register' and contains the text 'In order to use the irrigation scheduler, please register for an AgWeatherNet account which can be used to log in.' The bottom of the screen shows a mobile browser navigation bar with back, forward, home, and tabs icons.

iPod 9:06 AM

weather.wsu.edu

irrigation scheduler mobile

Login
Using your AgWeatherNet account.

Username:

Password:

Remember me ☐

Login

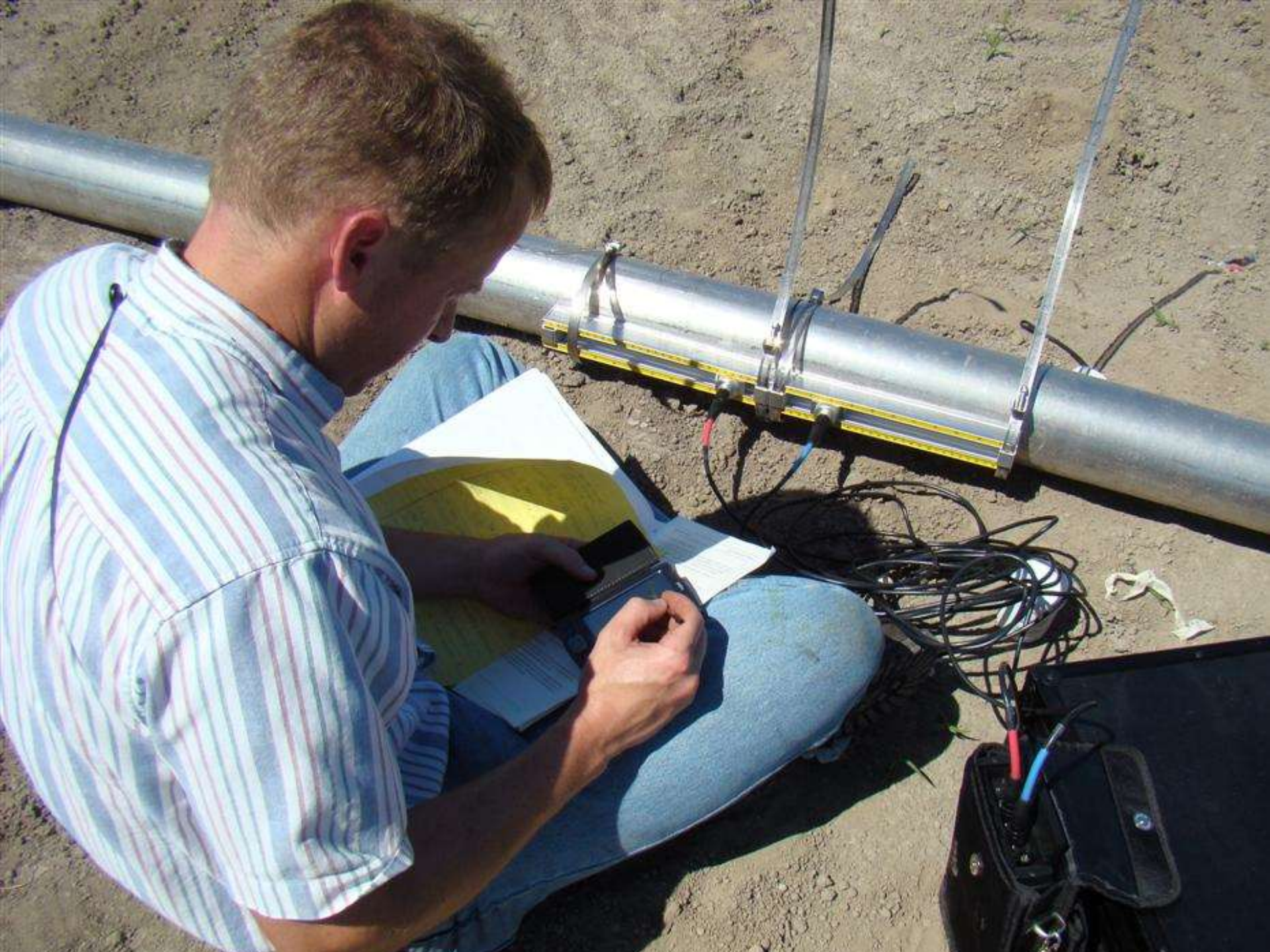
[Forgot Username?](#)
[Forgot Password?](#)

Register
In order to use the irrigation scheduler, please [register](#) for an AgWeatherNet account which can be used to log in.

Objective 2: Do Irrigation System Evaluations











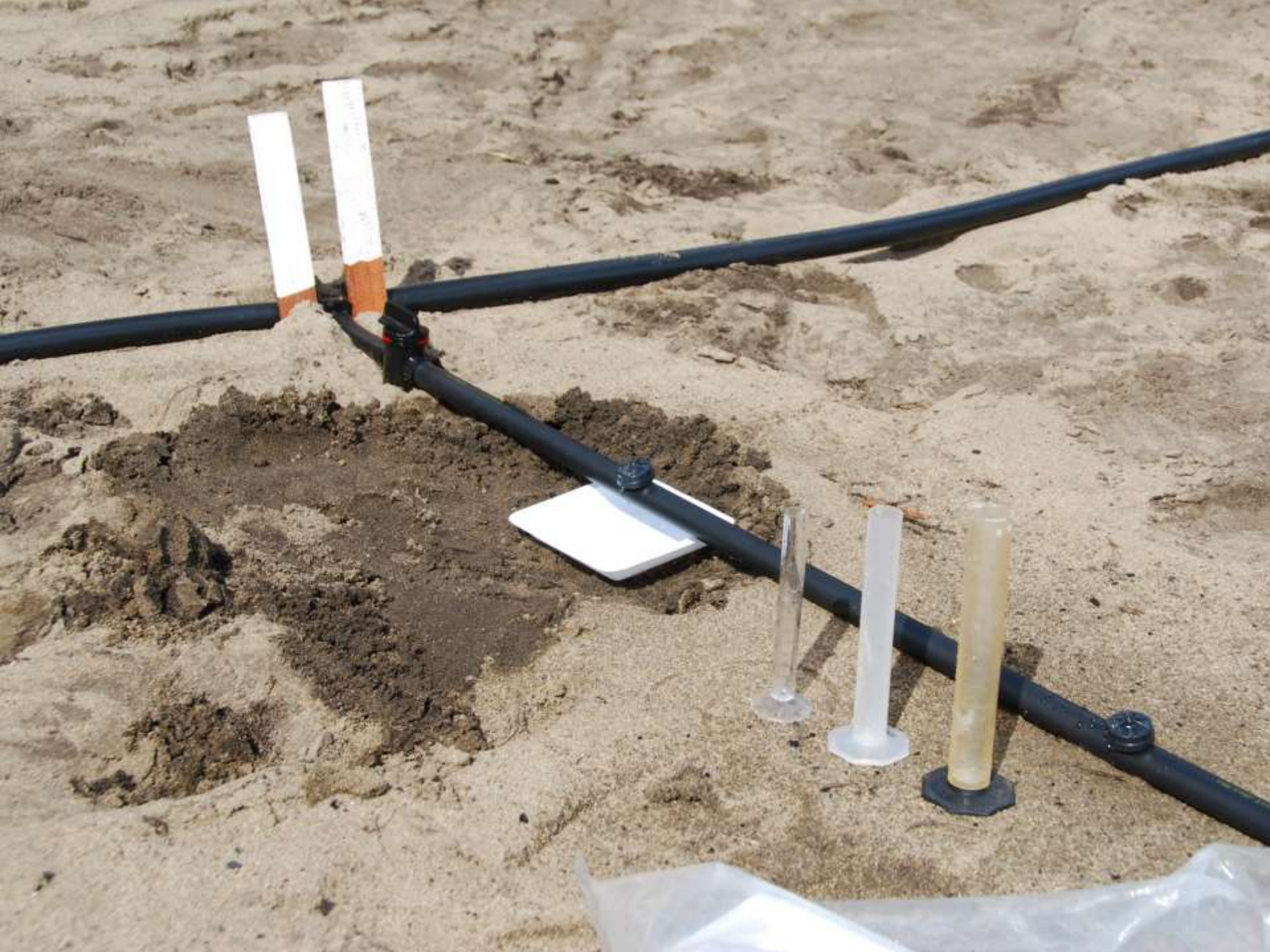












Objective 3: Encourage Farmers to Switch to Energy Conserving Forms of Irrigation

Table 2. Comparison of typical annual energy costs for the big-gun and boom systems in Skagit and Whatcom Counties.

	Electric		Diesel	
	Big-gun	Boom	Big-gun	Boom
Energy Cost per Season	\$ 2,585	\$ 723	\$ 13,014	\$ 3,396
Cost per acre-in	\$ 2.59	\$ 1.02	\$ 13.01	\$ 4.81
Reqd Motor Size (hp)	43	16	43	16

<http://cru.cahe.wsu.edu/CEPublications/FS003E/FS003E.pdf>



USDA - NRCS - EQIP

- United States Department of Agriculture
- Natural Resources Conservation Service
- Environmental Quality Incentives Program
- Money (\$\$\$) and technical assistance to help you save water, save energy, or limit our impact to the environment.

Examples

- Put in an irrigation pond, or seal on line one.
- Put a VFD on your pump.
- Solar pumping plant or tank to keep livestock out of waterways.
- Put in a more efficient irrigation system.
- Retrofit or renovate an irrigation system
- Irrigation automation
- Put in a flow meter
- Do irrigation water management (soil moisture sensors)

EQIP

- Must have control of the land.
- Be an agricultural producer.
- Have an adjusted gross income of $< \$900k$
 - Except Indian Tribal applicants
- For an irrigation-related practice you must have irrigated 2 of the last 5 years.
- Don't start, or buy anything until you get approval!

Call & Stop By the NRCS Office

- **Mount Vernon Service Center**
2021 E. College Way, Suite 214
Mount Vernon, WA 98273
(360) 428-7684
- **Everson Service Center**
914 Citadel Drive
Everson, WA 98247
(360) 318-8121
- **Lake Stevens Service Center**
528 91st Avenue NE, Suite C
Lake Stevens, WA 98258
(425) 334-2828

**It's worth
your time!**



Questions?

Don McMoran

Agriculture and Natural Resources Extension Faculty

County Director

WSU Skagit County Extension

11768 Westar Ln. Suite A.

Burlington, WA. 98233

dmcmmoran@wsu.edu

(360) 428-4270 ext. 225