The Washington Irrigator Newsletter

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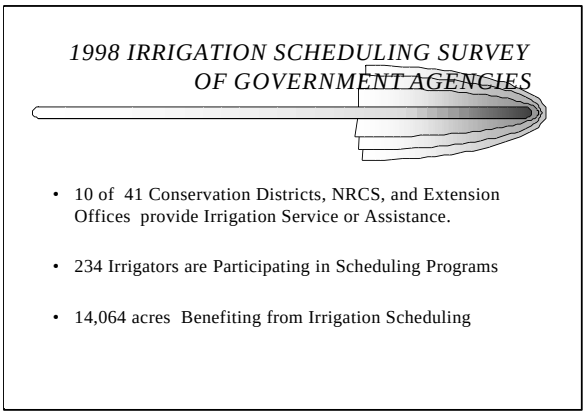
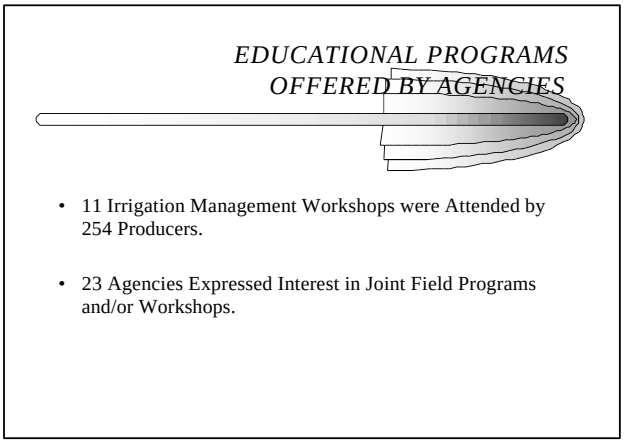
AGENCIES HELP WASHINGTON IRRIGATORS IMPLEMENT SCHEDULING

A telephone survey of Washington government agencies involved in irrigation scheduling was conducted in the winter of 1999. A total of 41 Natural Resource Conservation Service, County Extension, and Conservation District offices were surveyed. Of these agencies, ten were conducting field programs in irrigation scheduling, and 234 clients were involved affecting 14,064 irrigated acres.

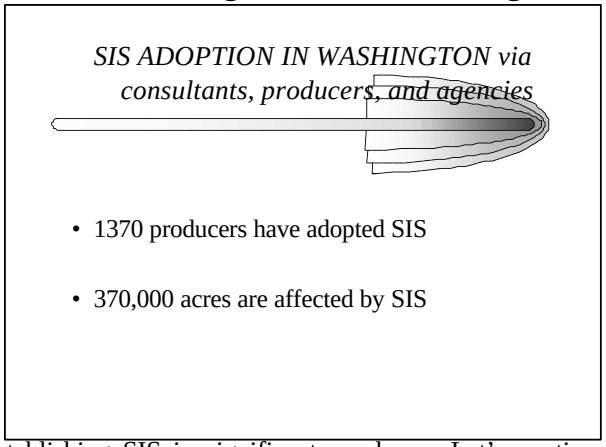


The main irrigation scheduling tools used by government agencies are soil moisture monitoring and crop ET. The soil moisture sensors listed from most to least used are: tensiometers, granular matrix sensors, capacitance probes and the neutron probe. The sources of crop ET listed from most to least used are: PAWS, historical, and AgriMET.

Government agencies also provided educational opportunities for growers to learn about irrigation scheduling. During 1998, eleven irrigation scheduling workshops were conducted with a combined attendance of 254 irrigators. The ten agencies already conducting irrigation scheduling programs said they were interested in a joint effort with the Scientific Irrigation Scheduling (SIS) Venture being implemented by Washington State University Cooperative Extension and funded by the Northwest Energy Efficiency Alliance (NEEA). An additional 12 agencies said they would like to start joint irrigation scheduling programs focused either on field services or educational programs.



The combined effort of SIS consultants (October 1998 issue), producers who are implementing SIS on their own (February 1999 issue) and government agencies assisting SIS (this issue) has resulted in the adoption of Scientific Irrigation Scheduling by at least 1,370 producers on 370,000 acres. **Congratulations Washington** for establishing SIS in significant numbers. Let's continue working together to make SIS a common practice in Washington's irrigated agriculture.



Brian G. Leib, WSU Extension Irrigation Specialist

WASHINGTON IRRIGATION SCHEDULING EXPERT (WISE) RELEASE

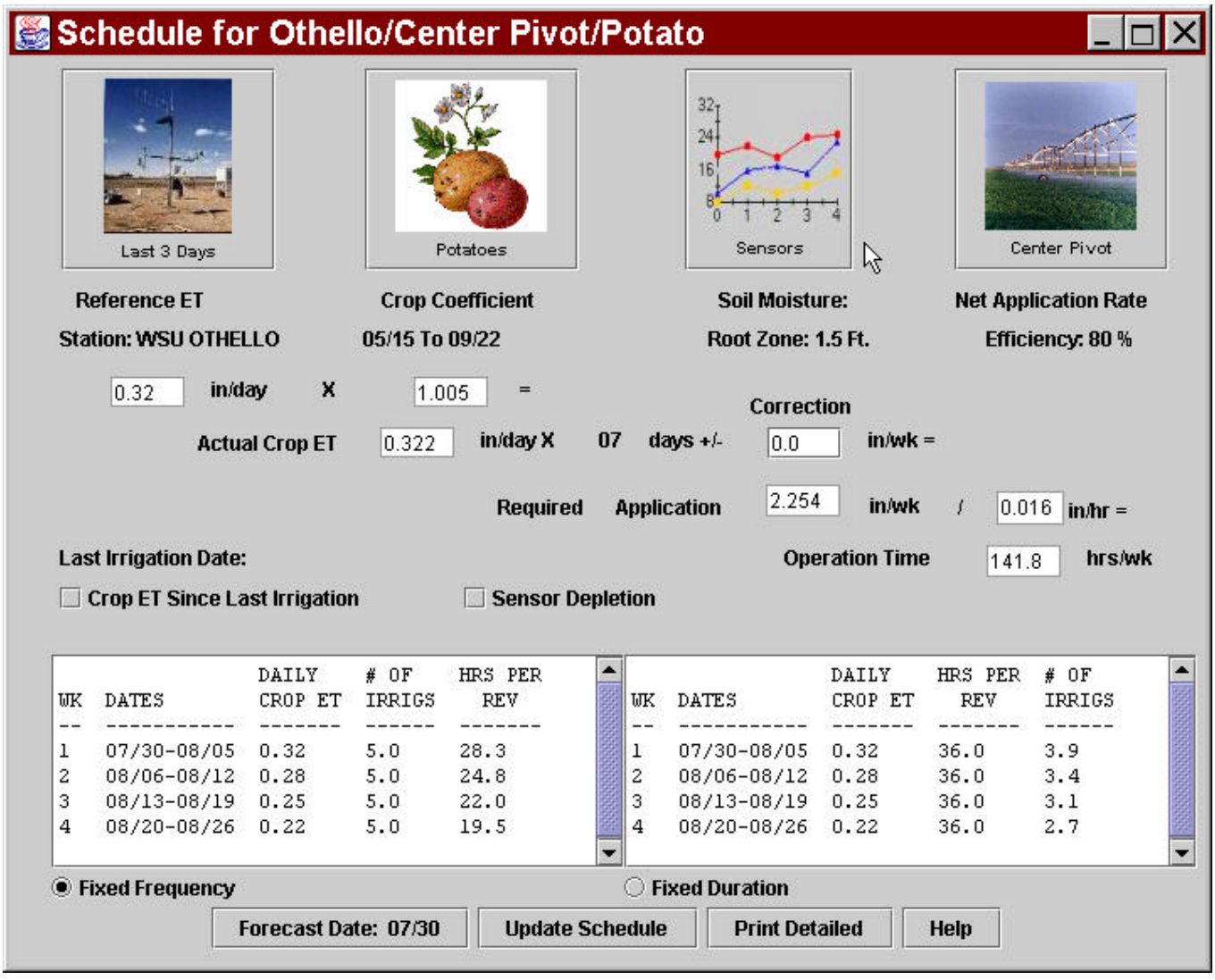
WISE software has been developed to facilitate the adoption of scientific irrigation scheduling (SIS) by Washington producers. WISE is intended to help expand the services of existing SIS providers, encourage the formation of new SIS service providers, increase the usefulness of soil moisture sensors, and enable producers to implement SIS for themselves. In order to accomplish these goals, WISE easily integrates crop water use from PAWS with your soil moisture monitoring and irrigation system to predict when and how much to irrigate.

A single example of a forecast from WISE is shown below for Othello on July 30th with center pivot (9 gpm per acre) irrigated potatoes and no adjustment for soil moisture. The forecast for replacing the expected crop water use in the upcoming week is 142 hours of operation. If the operator wants to use a 36 hour revolution, approximately 4 revolutions are needed in the upcoming week (fixed duration), or if the operator plans to make 5 revolutions per week, 28/hours per revolution is appropriate (fixed frequency).

However, WISE is suited for many different situations. WISE downloads the ET data from all 59 PAWS weather stations on a web link and adjusts the reference ET for 37 different crops plus individual field conditions. In addition, soil moisture from any sensor can be entered and graphed by WISE, and finally, the irrigation system parameters are entered to calculate an application rate for a variety of surface, sprinkler and drip irrigation systems.

WISE is downloadable from http://wise.prosser.wsu.edu as a beta version. Beta means that the software is working as we intended and we have eliminated all the bugs that we can find. However, we still would like to get feedback from producers and ag professionals before the irrigation season. WISE requires a PAWS account but beta testers can use a temporary account until March 31st (login:wisetest and password:beta).

Brian G. Leib, WSU Extension Irrigation Specialist
Todd Elliott, WSU Engineering Technician for PAWS



WASHINGTON WEB SITE FOR SCIENTIFIC IRRIGATION SCHEDULING

The scientific irrigation scheduling (SIS) website provides access to many of the resources needed to implement water management practices that improve crop quality and yield, conserve water and energy, and reduce fertilizer application and non-point pollution. The intent of SIS is to make Washington's irrigated agriculture more economically profitable and environmentally sensitive. The website should help direct ag professionals and irrigators to resources needed to promote and practice SIS. The real advantage of a website is that timely and pertinent information is gathered in one easily accessible location.

First, the SIS website links the user to PAWS weather data but more specifically it provides a direct link to the PAWS crop water use models essential to irrigation scheduling. Second, there is a link to WISE that integrates PAWS crop water use and soil moisture monitoring with your crop and irrigation system to predict when and how much to irrigate. WISE can be downloaded as computer software or printed as a table that can be kept in a note book or at the irrigation system if laminated. Third, the website is linked to photographs and articles that compare the characteristics, accuracy, and cost of soil moisture sensors being marketed in Washington. Fourth, the site provides contact information for SIS services providers, SIS equipment sales, and SIS technical assistance from government organizations. Finally, educational resources are accessible such as SIS publications, presentations and newsletters that can be viewed, downloaded, or printed. The event calendar can be searched and amended to find and advertise irrigation workshops/field days. The "list serve" will allow interaction with experts and individuals interested in SIS.

The site can be accessed at the following address **http://sis.prosser.wsu.edu**. The site was developed by Washington State University with funding provided by the Northwest Energy Efficiency Alliance. The contact list was developed prior to the 1999 growing season so if you or your organization need to be added or deleted from this list please let us know (509-786-9203).

Brian G. Leib, WSU Extension Irrigation Specialist

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SCIENTIFIC IRRIGATION SCHEDULING (SIS) is a method of providing the right amount of water to your crop at the right time resulting in improved crop quality and yield, conservation of water and energy, and reduced fertilizer application and non-point pollution. The following tools are provided to help you implement SIS:

PAWS Washington's Public Agricultural Weather System provides real-time access to weather data, pest/disease models, and crop water use estimates from 58 stations.

WISE Washington Irrigation Scheduling Expert software and tables integrate PAWS and soil moisture monitoring with your crop and irrigation system to predict when and how much to irrigate.

Contacts helps you hire a private consultant as a SIS service provider or find a government organization that provides technical assistance to implement SIS in your region of Washington.

Sensors directly measure soil moisture in order to maintain an ideal crop growth environment. Soil moisture sensors that are being marketed in Washington are described and compared in this section.

Educational Resources links you to an irrigation scheduling knowledge base specific to Washington. These resources include Publications, Presentations, Newsletters, Events or subscribe to the SIS Listserv.

COOPERATORS FOR SELF-IMPLEMENTED IRRIGATION SCHEDULING

Washington State University's Scientific Irrigation Scheduling (SIS) venture is seeking cooperators who are interested in self-implementing SIS on their farms. Washington's SIS venture would like to see more irrigators equipped to do SIS for themselves through a variety of means: 1) existing SIS consultants and government agencies could provide technical assistance to self implement SIS as an alternative to full service, 2) companies marketing soil moisture sensors could provide comprehensive SIS training packages, and 3) government programs could pay individual producers to schedule their own irrigation for a limited time period.

As part of Washington's SIS venture, WSU has been developing tools to facilitate self-implemented SIS: 1) a marketing brochure is available to use alone or in combination with an organization's own marketing materials, 2) the SIS Website is up and running to provide access to SIS resources for the ag professional and producer alike, 3) WSU faculty are available for educational workshops on SIS, and 4) the Washington Irrigation Scheduling Expert (WISE) software is available to determine when and how much to irrigate based on PAWS and individual field conditions.

If you or your organization are interested in self implemented SIS, contact us about training opportunities and the possibility of cooperative field demonstrations this upcoming growing season.

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The Northwest Energy Efficiency Alliance is a non-profit group of electric utilities, state governments, public interest groups and industry representatives committed to bringing affordable, energy-efficient products and services to the marketplace.