your *Lake County* HORTICULTURAL NOTES

ENVIRONMENTAL HORTICULTURE EDITION

JANUARY 1994

HAPPY NEW YEAR

!!! MARK CALENDARS !!!

MARCH 10 HANDS-ON TRAINING FOR PESTICIDE APPLICATORS
Lake County Fairgrounds, 8:00 a.m.-4:30 p.m.
Agenda/Registration form on page
contact: UC Cooperative Extension, 263-2281
or
Lake County Agriculture Department, 263-2271
SEE YOU THERE!

HELLO FROM YOUR FARM ADVISOR

It's been awhile since an issue of Hort Notes was dedicated to professional EH personnel. I hope you have been able to glean useful information from monthly ag issues and have received the periodic mailings from us on courses, meetings, etc. Since I have been diligently collecting information to pass on to you, it seemed an excellent time to finally write this newsletter.

Of course, many of you have consulted us on specific problems or questions. We are always happy to serve you and your clientele, so please keep in touch.

883 LAKEPORT BLVD. • LAKEPORT, CA 95453 • (707) 263-2281 • FAX 707-263-2399 • TDD 1-800-698-4544
U. S. Department of Agriculture, University of California and County of Lake Cooperating

Wheelchair Accessible

MASTER GARDENER PROGRAM

As farm advisor, I work mainly with commercial horticulturists such as yourself. Due to heavy demand for services by home gardeners, in 1993 we started a Master Gardener (MG) program. MG's are volunteers trained and certified by UCCE (this office) in the areas of home gardening and horticulture. They extend information and provide technical assistance to Lake County gardeners.

In 1993, 15 Lake and 5 Mendocino County volunteers were trained. In 1994, 15 more will join the program. Volunteers are available at our office 3 days per week and also dispense information at plant clinics, the county fair, garden clubs, schools or wherever needed.

PLEASE ENCOURAGE YOUR HOMEOWNER CLIENTELE TO UTILIZE THE MASTER GARDENER PROGRAM! I will work directly with you but these dedicated volunteers are eager to assist fellow home gardeners.

LET YOUR CLIENTELE KNOW WE ARE AVAILABLE:

UC MASTER GARDENERS
Tuesday - Thursday
9:00 a.m. - 4:00 p.m.
(707) 263-2281

EVALUATION OF TWO SOIL MOISTURE SENSORS IN A LANDSCAPE SITUATION

Gary W. Hickman, UC Farm Advisor, San Joaquin County
Ed Perry, UC Farm Advisor, Stanislaus County

Quick, reliable evaluation of root zone soil moisture is important for landscape irrigation management. Savings of water and time, as well as improved plant growth, have been reported when landscape managers have used devices such as tensiometers to determine when to irrigate (Harris, 1983). Several commercially available soil moisture sensors have potential for landscape use, but have not been evaluated thoroughly under controlled conditions in landscapes. In response to requests from landscape managers, a moisture sensor test plot was established and data collected throughout a summer growing season.

Materials and Methods

The test site was a residential landscape in Stockton, California, consisting of bermudagrass turf and woody shrubs. The soil type was a Stockton adobe clay. All of the sensors were tested in the turfgrass area, within 5 feet of the shrub border. The site contained field capacity moisture at the beginning of the trial.

The seasonally permanent sensor tested was the tensiometer (Irrometer Company, Riverside, California) which retails for $40 to $50 each, depending on size. This sensor consists of a porous ceramic cup, water-filled plastic tube and vacuum gauge. The ceramic tip is placed into the soil where a soil-water measurement is desired. The vacuum gauge reading (0 to 100 centibars, cb, wet to dry) indicates soil matric potential which can be related to water availability. Marsh (1978) claims that within their working range, tensiometers are more accurate than any other means of evaluating relative wetness of soil. For this test, four tensiometers were installed: two at 9 inches deep and two at 21 inches deep. Gauge readings were made and recorded throughout the duration of the trial.

The sensor permanent/meter portable device tested was the Watermark (Irrometer Company, Riverside, California). The sensors retail for $20 each and the hand-held digital meter is $170. The sensors consist of a 7/8-inch diameter plastic covered block, 2 1/2 inches long with two wire leads. The sensor is placed into the soil where a moisture measurement is needed; the leads remain exposed. A portable, hand-held electrical resistance meter is attached to the leads for readings. The digital meter scale reads in the range of 0-200 cb and has a temperature compensation dial.

Four Watermark sensors were installed for this test: two each at 9 and 21 inches deep. Meter readings were made and recorded at the same time as tensiometer gauge readings. Readings for the sensors were recorded over five wet to dry cycles.

Results and Discussion

Previous research in sandy loam soil in agricultural fields showed a close correlation between tensiometers and Watermark sensors over a range of 0-50 cb (Pogue, 1990). In this side-by-side comparison of the four sensors, consistent readings were obtained over five wet to day cycles and a range of soil moistures (Figure 1). The plot was irrigated on days 3, 17, 47, 84 and 124 until the sensors read 0 cb. The watermark device consistently read lower than the tensiometer at tensions below 80 cb but continued to estimate soil water status to near 150 cb. The tensiometers did not function above reading of 80 cb; however, the Watermark sensors functioned well at soil moisture tensions up to 138 cb.

Eighteen months after installation, the Watermark sensors continued to function well.

Considering the lack of in-service maintenance required and the ability to measure higher soil moisture tensions, which occur in many western landscape situations, the Watermark is an effective and useful device for monitoring soil moisture in landscape situations. Tests will continue to determine reliability of these devices over time in the landscape.

CALIFORNIA TURFGRASS CULTURE

California Turfgrass Culture is a quarterly publication of Cooperative Extension to udpate professional turf managers on the latest research and management practices. Articles are written by UC farm advisors, specialists and researchers.

I receive master copies of each issue to be copied and distributed on demand. Please contact me for any of the following issues (articles listed):

Volume 41, 1991

* - The California environmental horticulture industry
- Spring dead spot management alternatives (disease of bermudagrass)
- Kentucky bluegrass performance on California's Central Coast
- An evaluation of new bermudagrasses

Volume 42, 1992

- A new, non-disruptive alternative to kikuyugrass management in cool-season turf
- The competition of tall fescue and perennial ryegrass with kikuyugrass
* - Turf-type tall fescue performance in California's Central Coast

* of particular interest to Lake County turf managers

ANY UC DAVIS EH DEPARTMENT ALUMNI OUT THERE?

The UCD EH Department publishes an annual newsletter to keep in touch with alumni. The purpose is to keep them aware of current efforts in applied and basic research, teaching and extension.

The newsletter is written by Department Chair Dr. James Harding. He would like the names, addresses and phone numbers of all alumni to add to the mailing list.

If you are one of these sought after folks, please contact me or the Department of Environmental Horticulture, University of California, Davis, CA 95616 (916) 752-0349, FAX (916) 752-1819.

UNIVERSITY EXTENSION (UNEX) LANDSCAPE COURSES

UNEX offers a wide variety of courses for both professional and home landscapers. Courses are usually held at UC Davis and last one or two days. Fees range from $65 to $200 and include lunch, refreshments and written materials. For detailed information on any of the following, call UNEX at 1-800-752-0881 or contact our office. The 1994 course schedule is on the next page.

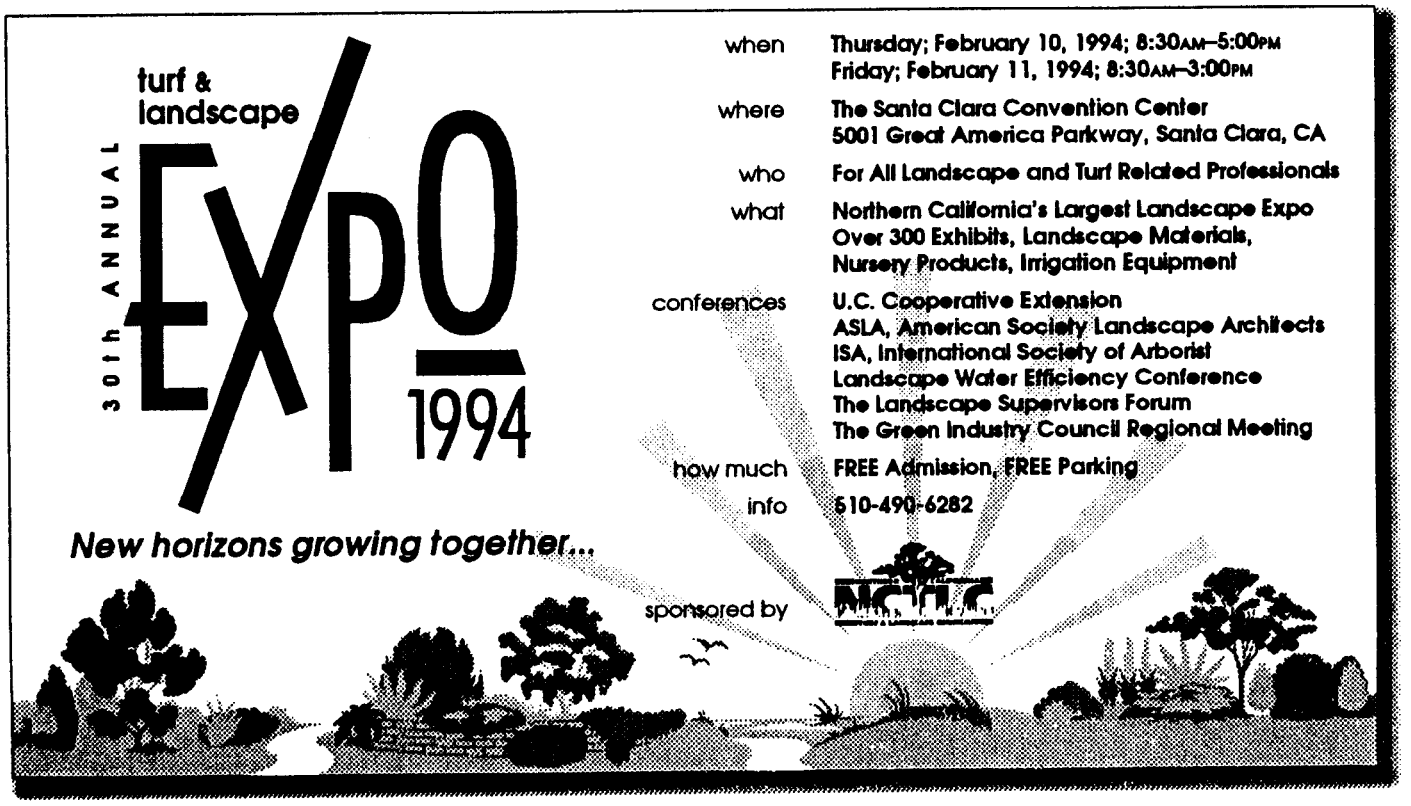
1994 UNEX LANDSCAPE COURSE SCHEDULE (cont' from page 4)

January 27	- **Landscape Irrigation System Design**
January 28	- **Landscape Irrigation System Design: Advanced Concepts and Applications**
January 29	- **Theme Gardens**
February 3	- **Practical Pruning: A Workshop for Arborists**
February 16	- **Organic Pest Control**
February 22	- **Landscape Floriculture**
February 26	- **Remodeling Your Home's Landscape**
March 12 & 19	- **Home Landscape Design Workshop**
March 15	- **Native California Perennials and Shrubs in the Landscape**
March 26	- **Drip Irrigation for the Home Gardener**
March 29-30	- **Turfgrass Management for Professionals**
April 2	- **Xeriscaping-How to Create a Drought-Resistant Landscape**
April 16 & 30	- **Home Landscape Design Workshop**
April 23	- **Soil for All Seasons**

Sincerely,

Rachel

Rachel Elkins
Farm Advisor



PLEASE POST

University of California
Statewide Integrated Pest Management Project and
Cooperative Extension, and Local Agricultural Commissioner Offices present

HANDS-ON TRAINING FOR PESTICIDE APPLICATORS

LOCATION & DATE

Lake County Fairgrounds
401 Martin Street, Lakeport
Thursday, March 10, 1994

Hours: 8:00 am - 4:30 pm

CONTINUING EDUCATION CREDIT

7 PCA and Applicator CE hours pending

FOR MORE INFORMATION

☎ Call: (916) 752-7691
or (707) 263-2281

✍ Write to:
IPM Education & Publications
University of California
Davis, CA 95615-8620

LANGUAGE

Spanish- and English-language sessions are available for all topics.

PROGRAM

The entire program will consist of hands-on training and will allow you to receive personal experience with equipment and techniques.

TOPICS

- ✔ Personal Protective Equipment
- ✔ First Aid / Health Effects
- ✔ Mixing and Loading Pesticides
- ✔ Leaks and Spills
- ✔ Calibration
- ✔ Environmental Protection
- ✔ Cleanup and Disposal

REGISTRATION

To register, fill out the form below. Registration may be made by mail, or by phone or fax if paying with MasterCard or VISA.

Cost: *Pregistration* (postmarked by March 3) is $40. *Late registration* (postmarked after March 3) is $50. Fee includes refreshments, lunch, handouts, and other materials. **There is limited space; register early!**

Confirmation: Registrations postmarked by March 3 will be confirmed by mail.

Refund Policy: There will be **no refunds.** However, another person may attend in your place.

1994 UC PESTICIDE APPLICATOR WORKSHOP REGISTRATION FORM
(Register only one person per form; photocopy form for additional registrations.)

Please register me for:
LAKEPORT
March 10, 1994
❑ Spanish ❑ English

Register by:

✉ **Mail:**
IPM Education & Publications
University of California
Davis, CA 95616-8620

☎ **Phone:** (916) 752-7691

✆ **Fax:** (916) 752-9336

Please print:

Applicator or PCA # Name (First, Middle, Last) ( ) Daytime phone

Home address City State ZIP

❑ Enclosed is my check ($40 per person / $50 late registration) payable to **UC Regents**

❑ Please charge my ❑ VISA ❑ MasterCard

Acct # Exp. date

Signature

Name of cardholder if different from above