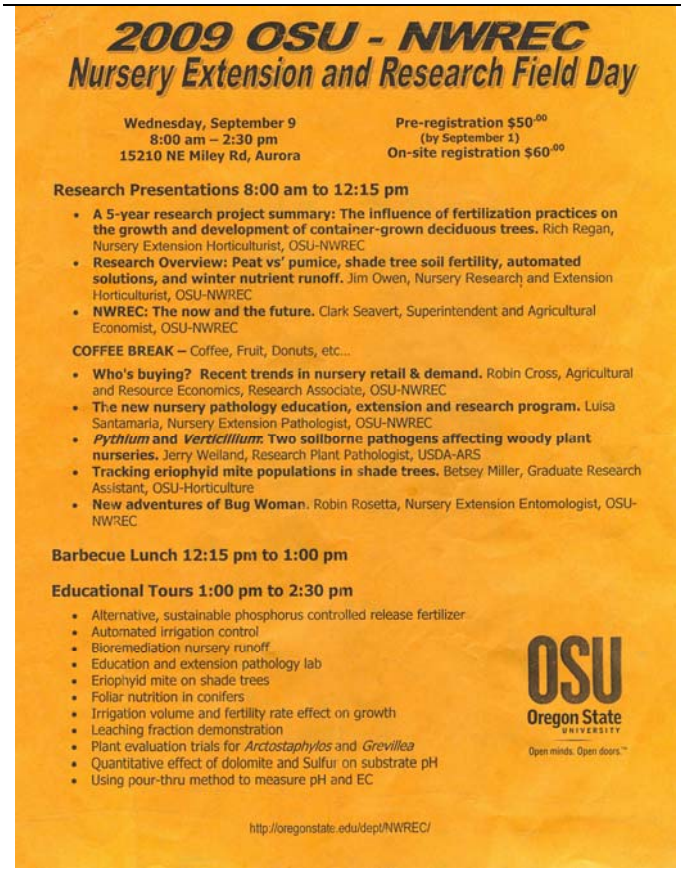
To Date

Tuesday September 15, 2009
3 pages from Mario Lanthier



2009 OSU - NWREC
Nursery Extension and Research Field Day

Wednesday, September 9
8:00 am – 2:30 pm
15210 NE Miley Rd, Aurora

Pre-registration $50.00
(by September 1)
On-site registration $60.00

Research Presentations 8:00 am to 12:15 pm

- **A 5-year research project summary: The influence of fertilization practices on the growth and development of container-grown deciduous trees.** Rich Regan, Nursery Extension Horticulturist, OSU-NWREC
- **Research Overview: Peat vs' pumice, shade tree soil fertility, automated solutions, and winter nutrient runoff.** Jim Owen, Nursery Research and Extension Horticulturist, OSU-NWREC
- **NWREC: The now and the future.** Clark Seavert, Superintendent and Agricultural Economist, OSU-NWREC

COFFEE BREAK – Coffee, Fruit, Donuts, etc...

- **Who's buying? Recent trends in nursery retail & demand.** Robin Cross, Agricultural and Resource Economics, Research Associate, OSU-NWREC
- **The new nursery pathology education, extension and research program.** Luisa Santamaria, Nursery Extension Pathologist, OSU-NWREC
- ***Pythium* and *Verticillium*: Two soilborne pathogens affecting woody plant nurseries.** Jerry Weiland, Research Plant Pathologist, USDA-ARS
- **Tracking eriophyid mite populations in shade trees.** Betsey Miller, Graduate Research Assistant, OSU-Horticulture
- **New adventures of Bug Woman.** Robin Rosetta, Nursery Extension Entomologist, OSU-NWREC

Barbecue Lunch 12:15 pm to 1:00 pm

Educational Tours 1:00 pm to 2:30 pm

- Alternative, sustainable phosphorus controlled release fertilizer
- Automated irrigation control
- Bioremediation nursery runoff
- Education and extension pathology lab
- Eriophyid mite on shade trees
- Foliar nutrition in conifers
- Irrigation volume and fertility rate effect on growth
- Leaching fraction demonstration
- Plant evaluation trials for *Arctostaphylos* and *Grevillea*
- Quantitative effect of dolomite and Sulfur on substrate pH
- Using pour-thru method to measure pH and EC

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http://oregonstate.edu/dept/NWREC/

The "2009 Nursery Extension and Research Field Day" was held September 9 in Aurora, outside of Portland Oregon. It was attended by about 50 persons.

This annual event is organized by the North Willamette Research and Extension Center of Oregon State University.

The Center superintendent, Clark Seavert, reported a shortfall of $100,000 in the budgets of 2008 and 2009. Methods planned to raise these funds include levies on research conducted at the Center and fees for growers using the extension services (currently free).

Tracking eriophyid mite populations in shade trees (OSU graduate student)

This research is examining reports of tip growth distortion and bronzing of new growth reported on *Tilia* by Oregon nurseries. The student recovered eriophid mites from plants exhibiting the symptoms. The mites are most active in early spring at the time of early growth, and late summer before mites migrate to overwintering sites.

Comments by Mario

"Eriophid mites" are microscopic in size and related to rust mites and blister mites, which cause visible leaf damage on many ornamental hosts and fruit trees. It is an important topic but few researchers want to tackle this tiny insect. Nursery plants arriving from Oregon are sometimes infested by rust mites. At this presentation, data presented was weak and leaf symptoms could be severe boron deficiency.

WHO'S BUYING? RECENT TRENDS IN NURSERY RETAIL AND DEMAND

Robin Cross, Agricultural and Resource Economics, Oregon State University (webpage http://people.oregonstate.edu/~crossr/)

The "Oregon Nursery Economics Project" is a collaboration between Oregon Association of Nurseries and Oregon State University to identify key economic issues facing the industry. See http://people.oregonstate.edu/~crossr/ONEP/ONEP.htm.

Garden center sales in 2009 in the US Pacific NorthWest

- Overall, customer retail demand was flat (0% change) in 2009 compared to 2008.
- Customer retail demand was up 13% if excluding landscapers and municipalities.

Factors and % impact on 13% increased customer retail demand in 2009

FAVORABLE WEATHER	PRICE DISCOUNTING	INTEREST RATES	HOUSING STARTS	CUSTOMER INCOMES
8 %	2 %	2 %	0.5 %	0.5 %

- Economists have identified 9 factors that "lift" plant sales: selection, availability, shelf appeal, location, income, etc. They are developing algorithms to "digest" the lift factors.
- One example: a slight rainfall will have a negative impact on sales in April - May, no impact in June – July. A rainfall of 0.5 inch will have a negative impact in June - July.
- Results so far: higher plant sales are driven by sales history (70%), the lifts mentioned above (20%), and vendor or buyer additions (10%).

There is a lack of economic data specific to the nursery industry.

- USA: 36,800 nurseries, average of $676,000 annual sales, average of 8 employees.
- Profit available per nursery: $68,000. Thus, a very small amount to fund innovation.
- # of plants sold: no increase 1986 to 95, up annually 1995 to 2007, down 2008-09.

Concentration of retail sales is now a major impact on nursery sales.

- 2 retailers (Home Depot, Lowe's) control 60% of all US home improvement spending.
- 3 retailers (Wal-Mart, Home Depot, Lowe's) control 52% of all USA live good sales.
- For dollar sales, it takes 6,400 nurseries to compete with any of these 3 retailers.
- An indicator to watch: When overall sales go up at "large chain stores", nursery sales go up. When overall sales go down at "large chain stores", nursery sales go down.

The future of sales to large retailers is via "on-time supply".

- In 2005, Home Depot said "This is the end of the real estate boom". Since, they have invested $1 billion in a software to deliver "real time sale data".
- For example, a nursery supplying Home Depot enters the website and sees that 4 stores in California need "right now" a total of 720 English boxwood. The nursery offers to supply the 4 stores, and fills the truck with other plants also requested.

PYTHIUM AND VERTICILLIUM AFFECTING WOODY PLANT NURSERIES

By Dr. Jerry Weiland, USDA-ARS in Corvallis, Oregon

An on-line course for *Phytophthora* is now available on-line for free. The course is designed for nursery growers. The 3 modules are biology and diagnosis, management, and *P. ramorum*.

Access at the website http://ecampus.oregonstate.edu/workforce/phytophthora/.

COMPREHENSIVE AUTOMATION FOR SPECIALTY CROPS (CASC)

By Dr. Jim Owen, Oregon State University, North Willamette Extension Center

An intitiative of Carnegie Mellon Robotics Institute with funding from US Department of Agriculture and industry. The objective is to design robotics technology for horticultural plants. See the website http://www.fieldrobotics.org/casc/Welcome.html.

Extensive research will occur in Pennsylvania, Washington State and Oregon (look for articles in the "Good Fruit Grower" magazine). Topics include early detection of pests, monitoring of plant health, increase efficiency of labour, etc.

One example is "TallyMaster". This electronic device is hooked to a motorized machine to measure tree caliper on-the-go, as opposed to the current walking-and-stopping at each tree. See http://www.rcsteam.com/index_TallyMaster.htm.

AUTOMATED IRRIGATION CONTROL

By Dr. Jim Owen, Oregon State University, North Willamette Extension Center

An easy, low tech method to determine irrigation schedule is "leaching fraction". It is a measure of the water kept into the container compared to the amount actually applied. A leachate fraction of 40% is recommended, i.e. 40% of the water applied will leach through the bottom of the container. A lower leaching fraction (20%) will help save water, but close attention is required as some plants may wilt during hot weather.

Gravimetric (weight loss) is the method currently implemented at many Oregon nurseries. A scale is permanently installed under a container-grown plant to measure weight on a constant basis. The container weight is measured when fully saturated with water. The on-site grower verifies need for irrigation based on weight loss.

Another approach is "wireless sensor for environmental monitoring", using the Eko pro series (hardware with web connection). See http://www.xbow.com/Eko/index.aspx.

5-YEAR RESEARCH PROJECT SUMMARY ON FERTILISATION PRACTICES

By Richard Regan, North Willamette Extension Center

The project summary is not ready and data was not presented.