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To Date

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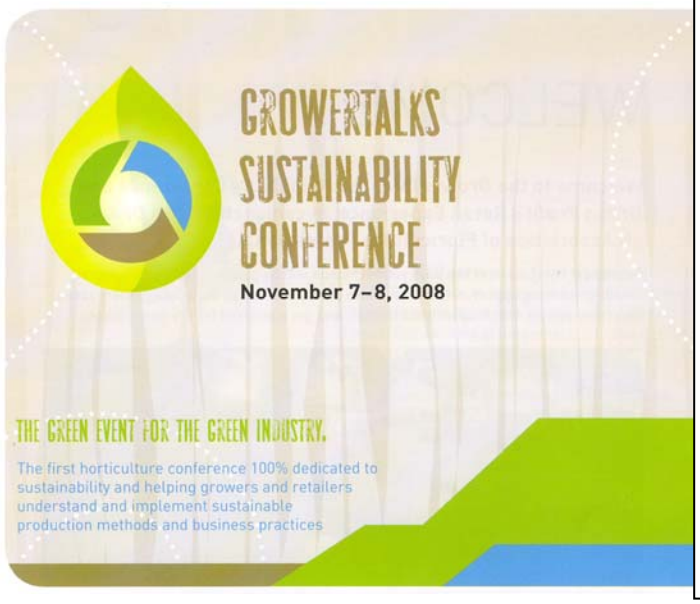
4 pages from Sonja Peters



The "Greenhouse Sustainability Conference" was sponsored by GrowerTalks (Ball Publishing) and the Ohio Florist Association. It was held November 7 and 8 in Frisco, Texas. This was the first conference of its kind.

About 150 people attended, mostly growers and retailers from the United States.

From Canada: Sun Gro Horticulture (Québec), IQDHO (consultants in Québec), Bolluz Farms (Ontario), Plant Products (Ontario), Hole's Greenhouses (Edmonton), Kwantlen University College (Langley BC).

THE MAIN TOPICS

How much sustainability? Implementing sustainability Marketing Sustainability
Integrated Pest Management Water Management Energy Management
Living Soil

Growers are starting to think Sustainable because:
- it makes sense economically;
- it makes sense environmentally.

What is Sustainablility?

Sustainability refers to the ability to *"meet the needs of the present without compromising the ability of future generations to meet their own needs"* (Bruntland, 1987).

The Leopold Centre for Sustainable Agriculture (www.leopold.iastate.edu) states that *"Sustainable agriculture addresses the ecological, economic and social aspects of agriculture. To be sustainable, agriculture can operate only when the government, its caretakers and surrounding communities are healthy"*.

Bruntland, G (ed.), 1987, "Our common future: The World Commission on Environmental and Development" Oxford, Oxford University Press

SUSTAINABILITY: IT'S ALL ABOUT OUR FUTURE

Anna Ball, Ball Horticultural Company

- The #1 way to make an organization sustainable is to reduce shrinkage.
- Sustainability should be integrated throughout the nursery, "go sustainable to reduce costs."
- There should be transparency: do everything as if it will be reported in the newspaper.

Frederick Kirschenmann, Leopold Center for Sustainable Agriculture

What enabled us to keep going so long?

1) A store house of cheap energy
2) fresh water
3) a stable climate in the last century
4) a capacity for nature to absorb wastes.

Reserves of stored energy and fresh water are decreasing and humans are using them at an alarming rate. For example, to produce a beef steak from start to finish, 2000 gallons of water are needed.

Our climate is no longer stable. The number of drought and flood has increased. Also, nature can no longer absorb our wastes; there are currently 400 dead zones in the world (low-oxygen areas in oceans and lakes).

"Do not market at the customer, market with the customer."

He stated customers do not want to hear "just eat it". For the customer, it is either "fast, convenient and cheap" or "earn my trust and engrave your business into my memory".

Tell the genuine story behind the company or the product so that the customers can feel good about it. Generate trust.

One technique to accomplish this: on the company's website, allow customers to get to know the company, its owners and its employees. Include information about the employee's families, frequently change which family is being presented. Have a section for customers to comment on products.

SUSTAINABLITY: FINDING TIME AND MONEY ALONG THE JOURNEY

Randy Gilde, Delray Plants/Highland Greenhouses Inc.

When asked what they would have done differently with respect to sustainability, "I would have been more aggressive sooner" and he would have "focused more inwards then outwards".

SUSTAINABLITY: VARIOUS "GREEN" CERTIFICATIONS

By Stan Pohmer, Pohmer Consulting Group

Why Certify?

- Provides a pathway or benchmarks to measure against for continual improvement
- Provides a comparison to a known standard/criteria
- Validates claims of performance to customers and consumers (to prevent "greenwashing")

Types of Certification

- Self certification (has less credibility)
- Industry or association certification (they have standards, although some have no meaning)
- Third party certification (has the most credibility)

Examples of certifications

- Category or limited area (VeriFlora and GRO-ECO)
- Government (United States Department of Agriculture)
- USA National (ANSI: American National Standards Institute)
- International (G.A.P., Fair Trade, MPS)

SUSTAINABLE IPM: INSECT MANAGEMENT

By Carlos Bogran, and Scott Ludwig; Texas A&M University

- Focus on tactics that reduce the risk of pest outbreaks.
- Reduce the need for frequent and intensive (calendar) use of pesticides.
- Pesticides are not sustainable because they may negatively affect natural enemies, they may contaminate the environment, and pest resistance may develop.

Prevention

- Start with healthy pest-free plants.
- Use proper irrigation and fertilization practices.
- Conserve natural enemies.

Sanitation

- Do not accumulate old plant debris in a greenhouse.
- Place all plant material in a closed garbage can and empty weekly.
- Place all infested (diseases / insects) plant material in plastic bags and discard right away.

SUSTAINABLE IPM: DISEASE MANAGEMENT

Janna Beckerman, Purdue University

"Fungicides that were once commonly used for disease control are no longer effective. We cannot rely on chemicals for control of plant health problems."

Sustainable disease management doesn't mean not using fungicides. It does mean the fungicides are used with proper growing practices, with sanitation, and with IPM.

Disease Resistant Crops

- If a plant continuously has a pest problem, replace it with a plant that is resistant.

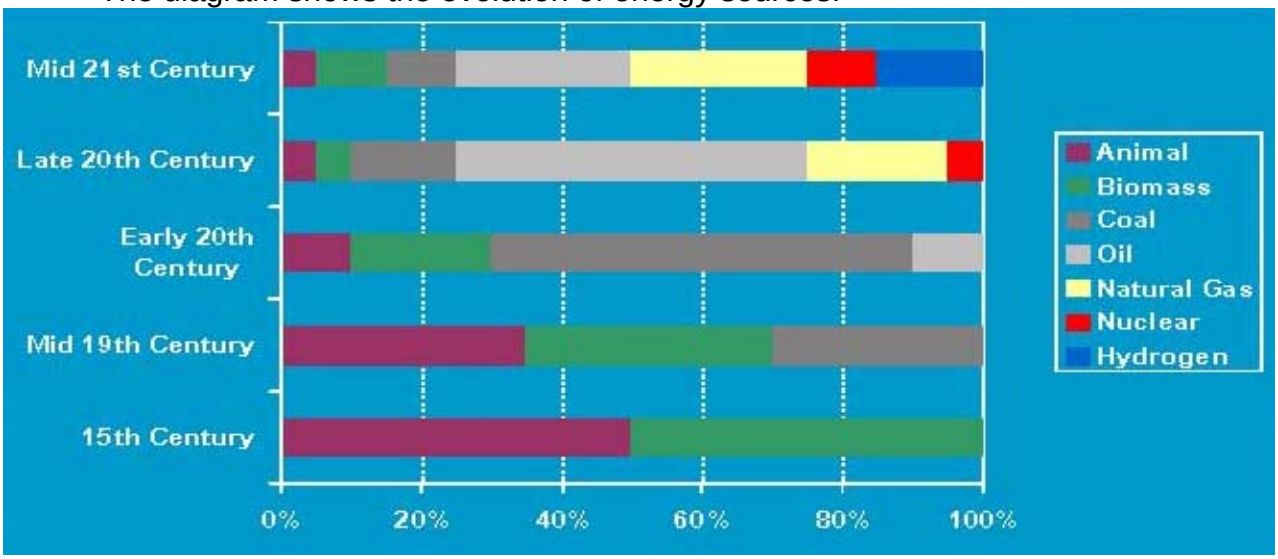
Growing Practices

- Adequate space between plants (decreases foliar disease, increases exposure to sunlight)
- Appropriate growing media mix (helps with drainage and reduces root rot)
- Appropriate watering techniques (no over water, water in morning so plant leaves can dry)
- Adequate fertilisation (too much predisposes plants to diseases and may prevent flowering).

ENERY MANAGEMENT: ENERGY OPTIONS FOR TOMORROW

Forrest Stegelin, University of Georgia; Paul Thomas, University of Georgia

The diagram shows the evolution of energy sources.



Solar energy

- The sun is "guaranteed", thus one of the best energy source to reduce current energy costs.
- Efficiency of solar energy panels has increased 15% in the past 5 years.
- Most solar panels will capture about 35% of the solar energy that hits the panel.
  An operation can not solely run off of solar energy.
- Best use is for systems requiring low-energy, such as horizontal air flow fans.
- Shell, BP Solar and Sunedison have recently bought all the solar technology.
  For more information see the American Solar Energy Society at http://www.ases.org/.

GROWER PANEL ON ALTERNATIVE ENERGIES

Mark Elzinga; Elzinga & Hoeksema Greenhouses LLC (www.elzingagreenhouses.com)

- They use solar (200 solar panels), wind and geothermal.
- The Geothermal heat comes from 200 wells that are 300 ft deep.
- They also use clear energy curtains with 3 layers to retain heat.

John Bonner; Eagle Creek Growers (www.eaglecreekgrowers.com)

- Uses a biomass / oil system and wind. Energy curtains are used in the greenhouse.
- Biomass boiler burns wood chips and cow manure, also burn sawdust, horse bedding.
- Warehouses have high efficient light bulbs attached to a motion system.

- Trucks run on diesel fuel and vegetable oil (German supplier). Payback time: 1 year.
- Eagle Creek grows canola and buys vegetable oil from an independent supplier.
- The contract arrangements insures that they pay 30% less then diesel fuel at any time.

Doug Buckley; Doug Buckley, Buckley Growers Illinois (www.hmbuckley-il.com)

- Uses heat that comes from a nearby landfill.
- Generators at the landfill take the methane and turn it into electricity, heat is a byproduct.
- They use bottom heat to heat the greenhouses. Shade curtains to keep the heat in.