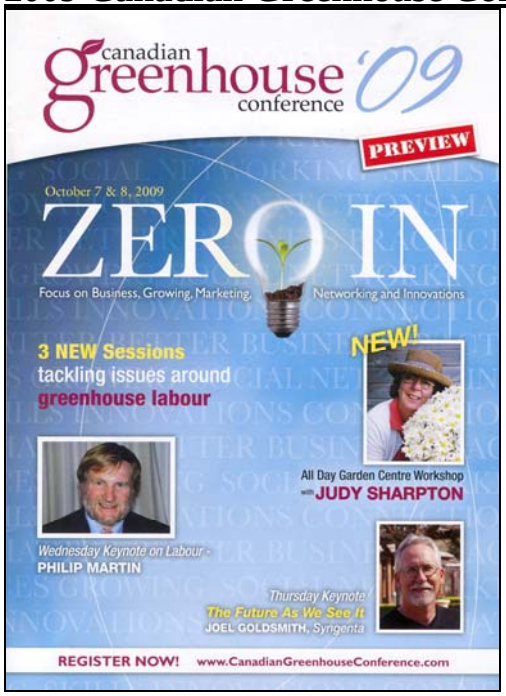
*CropHealth Advising & Research*
*Kelowna, BC. www.crophealth.com*

*Sonja Peters*

## 2009 Canadian Greenhouse Conference




This 2-day conference was held in Toronto, October 7-8 with a tour of greenhouse operations on October 6.

Attendees were vegetable and ornamental growers, also garden center operators. There were 5 persons from British Columbia.

***Water Management in Greenhouse Operations***
*By Wayne Brown, Shalina Khosla, Donna Sperazini,*
*Ontario Ministry of Agriculture, Foods and Rural Affairs (OMAFRA)*

The "Great Lakes Water Quality Project" was started in October 2007 to prepare a best management plan regarding water and water quality management.

Systems that manage nutrient runoff from nursery production areas are: 1) constructed wetlands, 2) irrigation onto a biofuel crop, 3) biofilters, 4) vegetative filter strip and 5) floating vegetative storm water management pond.

Constructed wetlands have been used in Ontario for greenhouse leachate and runoff, winery effluent, landfill runoff, mushroom compost run-off, and runoff from feedlots. Testing with this system in container nursery operations still has to be done.

As wastewater passes through constructed wetlands nutrients are removed by uptake from plants, uptake or conversion by microorganisms, filtering through the base material (sand, gravel, wood chips etc.) and binding to the base material.

Woodchip biofilters are being evaluated to determine the potential removal of nutrients for a greenhouse operation. A biofilter is a layer of wood chips that supports a population of microbes. Leachate goes through the system and is converted by the microbes to carbon dioxide and water. They work well for growers with a limited land base, should last 10-12 years before replacement is needed and cost is $0.50 / $ft^2$.

***Are Your Containers Profitable***

*By Mel Sewaya, Focus Management, Simcoe ON*

This was an interesting presentation. Mr. Sewaya showed a lot of knowledge and confidence about the topic. He spoke about designing baskets and containers, growth requirements and cost of production. Here are tips from his presentation.

*Designing Baskets*

- Group 3-4 cultivars (varieties) together in one basket
- Varieties should look good together in combination
- Plugs from seed are just as good if not better then plugs from cuttings
- 12" container / basket should be the smallest size used
- Number of plants per container:
  - 4 to 5 plants per 12"and 14" basket
  - 5 to 7 plants per 16" and 20" basket
- Use leftover plugs to create a "test basket", it may become a winner
- Stagger planting dates to stagger the finishing dates

*Planting*

- Fertiliser
  - Water liners with fertiliser (EC 1.5 to 2.0 EC) before planting (plants will grow better into a media with lower EC)
  - Fertilise baskets continuously, verify media EC and pH often
- Light
  - The higher the light intensity the better, light should be all around
- Temperature
  - Start warm (20ºC) to help rooting
  - Finish cool (12ºC) for holding
- Liners
  - Elleguard liners are preferred, as they take off faster
  - Use live plants only, if looking sick or poor do not plant
  - Use actively growing plants, do not use plants that have had PGRs applied
  - Do not pinch plants. Pinching slows down plants.
  - Only pinch to slow down, for example uneven plant growth in a basket
- PGRs
  - Treat vigorous varieties with PGRs before planting

*Cost*

- Proper planting time is the most effective cost management tool

# BUS TOUR OF GREENHOUSE FACILITIES

## *Parkway Gardens, London Ontario*

*Above: Photos of support systems to keep plants upright in the retail centre.*

Peter Jacobson came from Germany and started Parkway in 1974. In 1994 it was bought by his son Erik. They use 100% biocontrol to control insect pests. Cost of biocontrol program is $6000-7000 per year for 50,000 ft² ($0.14/ft²) of greenhouse space.

## *Heritage Country Gardens, London Ontario*

*Above: Photo of production area at Heritage Country Gardens.*

Ys and Grace Boekestyn purchased an existing nursery in 1988 (Voskamp Greenhouses).
In 1997 they purchased an 80 acre farm and opened up a retail garden center in 1998.
From February to September they have a scout coming and spray when / where needed.
They have drainage collection lines, just below the fabric on the floor.
There is a slight slope towards the collection lines, with 4 inches of gravel, clay beneath.

## *Family Flowers, St. Thomas Ontario*

*Above: Photo of Straw Castle in parking lot of Family Flowers.*

In 1994 Ed and Annette Weespes started Family Flowers.
They are part of a "shop local" campaign by Pink Ontario program. The program empathizes "Freshness, Quality, Local, Variety." The program started 2 year ago and is grower founded. Each plant has a "Pick Ontario" tag with it. Information at http://www.pickontario.ca/index.asp

## *Moore Water Gardens, Port Stanley Ontario*

*Above: Photo of propagation ponds at Water Gardens.*

In 1920's Monte B. Moore started Moore Water Gardens, which was moved in the 1930's to the present location. They specialize in water lilies and aquatic plants.
They propagate in 3 to 4 foot deep in-ground ponds and grow in cement pools.

## *Canadale Nurseries St. Thomas Ontario*

Founded in 1955 by Bill and Joan Intven and currently operated by Joan and two children.
They have a wholesale nursery and a garden center. 70% of the plants sold at the Garden Center are grown in the wholesale area. They claim having a Garden Centre helps the wholesale area understand what customers want. They are a Proven Winner grower for the color choice line and are a Gold Key Grower. Canadale has a 2 to 15 year turn around on some of their crops. They have a container operation and have some pot-in-pot areas. The container area has polyshouse structures and it takes 11 people 15 minutes to cover a polyhouse with plastic for the winter. They use an IPM program and have a scout weekly monitoring the crop.

*Above: Photo of Design and Inspiration Gardens at Canadale Nurseries.*
They have an area set aside where they have a display of garden designs and floral combinations to help customers visualize ideas for their own landscaped yards.
The display consists of several 'room' gardens of different themes such as a Vegetable Garden, a Backyard Deck Garden, a Perennial Garden and a Grass Garden.
They display designs by 4 Ontario landscape contractors. Each design includes contact information and a free do-it yourself instruction guide. The designs are changed each session.

Canadian Greenhouse Conference 2009; Tour Around London Ontario

Table includes a list of nursery, greenhouse and retail operations that the tour visited.

| | Parkway | Heritage | Family Flowers | Canadale |
|---|---|---|---|---|
| **Features** | display garden, large tropicals | --- | mini petting zoo,<br>Straw Castle, Christmas lights | Design and Inspiration Gardens |
| **Markets** | London area and western countries, price is at the high end | retail London and St. Thomas areas / wholesale garden centres and florists, big box stores | local stores & landscapers,<br>many poinsettias sold through fundraisers | retail and wholesale<br>(Ontario, Quebec, Atlantic prov. and USA) |
| **Area** | 50,000 ft² of greenhouses<br>20,000 ft² of outside production<br>30,000 ft² of outside sale area<br>2 acres of display gardens. | 150,000 ft² including retail centre<br>50,000 ft² Venlo glass<br>30,000 covered glass<br>30,000 ft² skyline Greenhouses<br>remainder plastic structures | GH: 16, 000 ft² Growers Greenhouse Supply structure<br>2 x 4,000 ft² Westbrook structures<br>5 hoop houses | nursery 110 acres<br>including 30 acres of containers<br>70 acres of field stock |
| **Heating** | 80% gas | hot air (natural gas), Argus control | forced air (natural gas) | --- |
| **Crops, % of sale** | perennials (38%),<br>potted plants (32%),<br>baskets (8%),<br>patio pots (9%),<br>herbs (3%) | poinsettias, easter lilies, hydrangeas, bedding plants, hanging baskets, garden mums. | cyclamen, poinsettias, easter lilies, hydrangeas, geraniums, hanging baskets, bedding plants, perennials, garden mums | potted plants, hardgoods |
| **Media** | Farfard custom blends, Sunshine | Berger Mix BM 1 and BM 6 | Pro Mix BX + own blend | pine mulch + coarse peat +compost |
| **Irrigation** | surface water irrigation pond | Dosatron fertiliser injector,<br>spaghetti irrigation, misting lines | Dosatron fertiliser | irrigation pond |
| **Pests** | aphids, thrips, scale, broad mites | thrips, spider mite, aphids, whitefly | aphids and whitefly | --- |