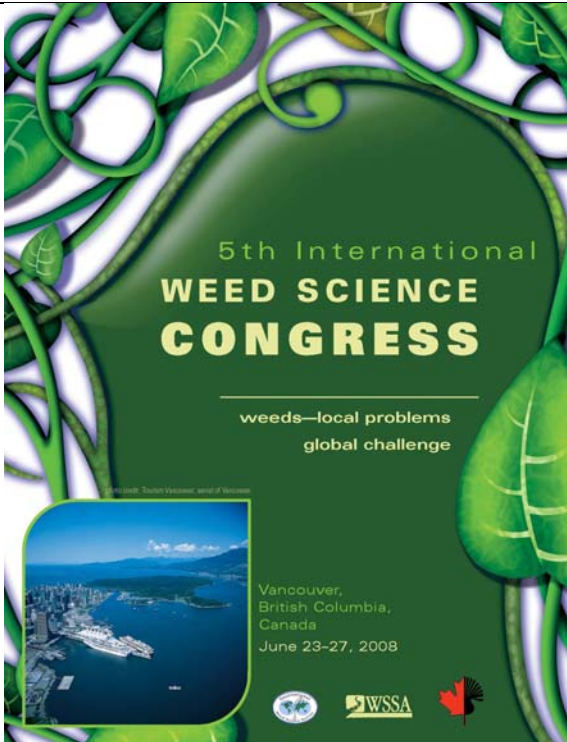


To

Date

Monday June 30, 2008

2 pages from Mario Lanthier



The “5th International Weed Science Congress” was held June 23 to 27 in Vancouver, British Columbia. It was attended by 550 persons from 48 countries.

Most presentations focused on chemical weed control. Research in less developed countries confirmed the obvious (Round-up gives better results on perennial weeds than Gramaxone, 2,4-D works well on lawn weeds, etc.).

I made a presentation on crop tolerance to flumioxazin in ornamental nurseries.

“Global changes in food production” H. Stuebler, Bayer CropScience, Germany

There are 5 main reasons to explain the continued increases in food prices.

- Growing world population (9 billion by 2050) / Growing wealth (China and India) / Increased input costs (fertilizers and pesticides) / Need for energy (corn crops diverted to biofuels) / Speculations on the stock markets (“future” contracts more expensive).

YEAR	WORLD POPULATION	ARABLE LAND	LAND FOR FOOD
1950	2.5 billion	1.3 billion hectares	0.5 billion hectares
2000	6.0 billion	1.5 billion hectares	0.3 billion hectares
2020	7.5 billion	1.5 billion hectares	0.2 billion hectares

Agriculture must produce more food to feed more people but from less land.

- Producers must increase yields from a stable land base.
- Producers must expand food production into soils considered “marginals”.
- Producers must increase the use of plants tolerant to climate change.

A popular theme in Europe: Integrated Vegetation Management

- Current focus: control weeds after emergence by spraying with herbicides.
- Changed focus: depletion of seed bank before planting (tillage to promote seed germination then tillage after emerged weeds) / critical period of weed control (use herbicide before seed production, not after) / competition (cover crop or intercropping).
- Reduction in pesticide use is required because of increasing government regulations, increased pesticide costs, increased weed resistance, plant injury on specialised crops.

Ragweed is called "the greatest weed problem" of Europe.

- The pollen from ragweed (*Ambrosia artemisiifolia*) triggers allergy in many persons.
- Found in Ontario and Quebec, not in Western Canada. Poor control from herbicides.

"Trends" in weed management.

- Europe: no till / low till / conservation tillage (management of weed emergence).
- USA: herbicide-tolerant GMO crops (massive use of Round-up = resistant weeds).
- Increased regulations = fewer new pesticides (few new herbicides in coming 10 years).
- Increased need for new herbicide technology (but few global players doing research).

Current research with Round-up

"Site specific weed control" is using cameras to detect weeds.

- Active research in Europe, the objective is to reduce the use of Round-up by 40%.
- Image analysis software is 75 to 98% accurate to tell a weed from a crop from a stone.
- Coupled with hydraulic equipment to turn spraying "on / off" based on weed presence.

For difficult weeds, Round-up efficacy is improved when adding 21-0-0 (2% v:v).

- This research was started in the 1970s. Researchers appear to agree on results.
- Mode of action: not more absorption or translocation, possibly more weed growth.

Non-chemical weed control in urban areas

"Physical" weed control is an active area of research in Europe.

- Non-chemical methods + selective sprays Round-up reduce herbicide use 11 to 66%.
- "Sustainable weed management on pavement" at <http://www.weedcontrol.eu/General/>.

Physical weed control on hard surfaces at Livorno and Pisa, Italy.

- Research 2006 to 2008 comparing various programs. Initial weed cover about 60%.
- Best weed control from flaming 12 times (final weed cover 0 to 10%).
- Flaming 6 times per year much less effective (final weed cover 38%).
- Glyphosate (Round-up) very effective for 40 to 50 days, then massive weed regrowth.
- Much less effective: Round-up 1 spray + flaming 3 times. Also mowing 4 times.
- Cost of flaming 12 times / year was "slightly higher" than Round-up 2 sprays / year.