Reality of Pesticide Use on Golf Courses

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History

Pesticide Use in Turf

Thousands of years ago

★ Salting fields – directed herbicidal use
★ Tobacco smoke – nicotine as an insecticide

Late 19th Century

✓ 1885 - Bordeaux Mixture a combination of copper sulfate & lime for control of downy mildew
History

Pesticide Use in Turf

Early 20th Century

✓ Insect control – nicotine sulfate, zinc arsenite, calcium cyanide, selenium materials
✓ 1921 – 1st aerial application of insecticide
✓ 1931 – Thiram was 1st sulfur based fungicide (?)
✓ 1932 – Methyl bromide as soil fumigant
✓ 1938 – 1st organophosphate (TEPP)
✓ 1939 – DDT an organochloride
History

Pesticide Use in Turf

The War Years & Shortly After

- 1942 – 2,4-D 1st phenoxy herbicide
- 1944 – 2,4,5-T for vegetation control
  Carbamate herbicides (e.g. Asulam)
  Commercial use of organophosphates
- 1947 – FIFRA
- 1948 – Introduction of malathion
  Captan as a fungicide
History

Pesticide Use in Turf

1950’s & 1960’s

✓ 1953 – Diazinon, DEET, Carbaryl
   Triazine herbicides
   Paraquat

✓ 1960 – 1st dinitroaniline herbicide (trifluralin)

✓ 1961 – Mancozeb
History

Pesticide Use in Turf

1970’s

✓ 1970 – US EPA formed
✓ 1971 – Glyphosate 1st systemic & nonselective herbicide
✓ 1974 – EPA establishes 1st worker safety standards for reentry into treated areas
✓ 1978 – Training program for commercial pesticide applicators; EPA list of RUPs
Trends in Turfgrass

Pesticide Use in Turf

✓ About 50 million acres of managed turf exist in the U.S.

✓ Turf is the number one or two “crop” in FL, MD, NC, NJ, PA and VA

Trends in Turfgrass

Pesticide Use in Turf

★ Greater urbanization and, therefore, more interaction with turfgrass and pesticides

✓ Home lawns
✓ Parks
✓ Athletic fields
✓ Golf Courses
Emerging Issues

Pesticides Use In Turfgrass

Pesticide Bans

☆ Ontario, Canada – started in 2002

✓ prevent private & public uses for “cosmetic” purposes
✓ Response to public survey
✓ Affects 13 million residents
✓ Sports fields have a temporary exemption with approval
Emerging Issues

Pesticides Use In Turfgrass

Pesticide Bans

- Connecticut – July 2009
  - Pubic & private school grounds with grades K-8
  - For professionals - $5,000 & 1 year in prison
  - Private applicators - $1,000 & 30 days in jail

- Preemption laws – preventing municipalities from more rigid pesticide restrictions than permitted by state regulatory agencies
Opportunities

Education & Research

Pests

- Identification
- Shifts
- Resistance
- Tolerable thresholds
- Timing for optimal control
- Pest management programs
- IPM
Thatch is the tightly intermingled layer of dead and living stems and roots found between the verdure and soil layers.
Opportunities

Education & Research

Pesticides

- Discovery
- Selection
- Label
- Cost
- Frequency
- Low use rate products
Opportunities

Education & Research

Application

★ Trained & educated
★ Calibration
★ PPE
★ Reentry intervals
★ Weather forecast
★ Storage
Opportunities

Education & Research

Environmental

★ Continued Stewardship
★ Awareness
★ Benefits
★ BMPs
★ Disposal
Where do we go from here?
Observations & Comments

Golf Course Inspections

Dept. of Ag. Field Inspector

★ Shift in grass selection
★ Record Keeping - excellent
★ Resistance management
★ Good agronomics
★ Storage
★ Labeled products
★ Research based information
Turfgrass Management App

For Sale Application – iTunes

Coming soon to BlackBerry

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