School IPM and Implementing IPM in a Sports Turf Program

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Why Mandate IPM?

- More conformity
- Better control over what products are used
- Ensure education
- Allow for advanced notification

Brief History on National Legislation

- School Environment Protection Act (SEPA)
  - 1999 introduced into both House & Senate
  - 2001 reintroduced with new language
    - Attached to No Child Left Behind Act
    - Wording changed removed from NCLB to Farm Bill 2002
  - 2003 – reintroduced Leave No Child Behind Act – passed both houses but not adopted
  - 2005 – reintroduced again, no movement

Early Adopters of School IPM rules

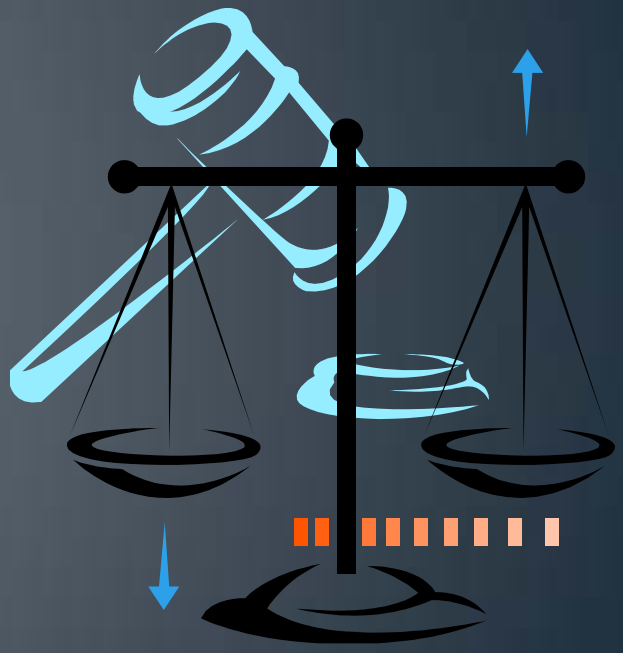
- Texas – 1991
  - Had lag time from law adoption – not mandated until 1995
- Michigan - 1992
- Louisiana - 1995
- West Virginia - 1996
- Maryland – 1999
- Other states who adopted early: IL, KY,ME,MA, NJ, NY, NC, PA, RI

2011 State School Pest Management Rules

- 9 restricted spray zone
- 17 interior posting
- 29 outdoor posting
- 22 pre-notification requirements (list/registry)
- 12 an IPM law or rule (mandated)
  - 11 with a voluntary or unenforceable rule
  - 15 without any type of school specific requirements (now)
  - 12 with no intent to adopt
- 15 reentry or other requirements beyond label
- 30 minimum requirements for applicators
- 14 define types of products used
- 12 exempt certain types of products from notification
- 12 define IPM
- 9 require training for school staff for IPM program

What are we mandating

- Posting and pre-notification
  - Products that are exempt from notification
- Reentry requirements
  - Beyond label requirements
  - Restrict student occupancy
- Defining products to use
  - Low-toxic, least hazardous, exempt
- What is IPM
  - Definition of what is expected
- Training for school staff



Posting

- Outdoors
  - 29 states mandate type of signs to be used
  - Majority of states have some advance notice
  - Example: signs will be placed at the location of the application and each entry point
- Indoors
  - 17 states advanced interior postings
  - Example: at least 24 hours before the application of a pesticide . . . . Notice will be made

Restricted Spray Zone (Drift Minimization)

- 9 states with a requirement (could increase)
- In conjunction with posting requirements
- Students, staff or neighbors must be notified and kept off area
- Good faith effort

Model pesticide applications that create buffer zones ranging from 500 feet to 2 ½ miles in areas around schools.

Pre-notification – 22 states w/ mandate (4 vol)

- Registry of parents/students
  - CA – to "everyone" written notification addressing – expected pesticide use for the school year – maintain a registry of parents to be notified in advance of any pesticide application made of their child's campus
- Beyond advance posting
  - Placement either in student handbook or separate letter home to parents

Reentry Requirements – Beyond Label

(1) Advance notification of pesticide use.

(a) If a pesticide is to be applied in or around a school, an advance notification of pesticide use shall be given or sent by the school at least twenty–four (24) hours prior to the pesticide application to all staff members, health professionals assigned to provide services at the school and parents or guardians of students enrolled in the school as determined by the contact information maintained on file. Notice shall not be required if:

1. A pesticide is to be applied at a time the school is not in session under the calendar set by the school board; and

2. Persons other than the applicators and the minimum number of school staff necessary to allow the applications are not scheduled to be in the building during the application and for at least twenty-four (24) hours after the application.

Kentucky school IPM regulations adopted in 2002

Defining product use – 14 states

- Low-impact, exempt, least hazardous materials, TX = Green, Yellow, Red
- Explains to applicators first choice (indoor applications)
  - Baits, pastes, gels
  - 25b
  - Anti-microbial agents like disinfectants
    - Boric acid, DE, disodium octoborate tetrahydrate
    - Botanical insecticides, not including synthetic pyrethroids, without toxic synergists

Defining IPM

- 12 states define what is IPM
- Definition allows those states to interpret IPM steps
- IPM is a strategy using multiple control tactics to ensure that:
  - Uses insect (pest) identification and pest biology to trigger treatments
  - Uses monitoring, scouting and thresholds to determine pesticide applications
  - Pest populations are managed at acceptable levels
  - Risks to people, other non-target organisms and the environment are minimized
  - The pest control program is practical and economical

Training Staff

- 9 states require this for IPM Coordinator
- Education is essential
- 30 states require additional training for pesticide applicators

Training Should Cover:

- Set goals
- Pesticide safety
- Label use and restrictions
- State laws, rules pertaining to pesticide use
- IPM techniques and practices

Why mandate?

- More uniform success
  - Regulated and posted use of times and treatments
  - Limiting product use by setting categories
- Protects more people at one time
  - Parental prenotification
  - 24 – 48 hour all posting
- Allows for education for a process that is life learning – IPM
  - Mandating education for school and industry designees makes sense
  - Introduction of IPM to all school staff

Sample Athletic Fields Management Plan

- Each turfgrass area scouted bimonthly during the growing season
  - Assess plant health and look for any conditions requiring action
- Predetermined thresholds for insects, plant diseases, and weeds
  - Established by collaboratively between Athletic Director, IPM coordinator, grounds manager, and independent IPM consultant.
  - Any corrective response to follow threshold values.
- Selection of turfgrass varieties based on expected pests, site conditions, anticipated seasonal use, area of country, available resources

Sample Athletic Fields Management Plan

- Turfgrass areas must be irrigated to promote active growth and recovery after games.
- Aeration to be used 2-6 times each year, at a depth of 3” using a combination of times (solid tine, hollow core, and shatter).
  - Deep tine or shatter to a depth of 8” at least once each year.
  - For core aeration a minimum of 12.5% of soil surface should be impacted with each aeration
- Turfgrass areas should be top-dressed with compost and/or sand in combination with aeration to prepare seed bed, modify soil, and smooth a given field.
  - Particle analysis must be conducted especially for sand base or sand cap field

Sample Athletic Fields Management Plan

- Fertilizers and other soil amendments are applied according to soil test results.
  - A combination of slow and quick release nitrogen fertilizers will be used.
- Mowing height and frequency done so that no more than 1/3 of the plant height is removed each time the grass is cut.
  - Mowing should be done ideally at three to four inches. Mowing height can be reduced for the first spring and final fall cuts.
- Overseeding should be done to competition turfgrass areas from August through November based on scouting.
  - Any repair work needs to be accomplished during March through May.
  - Area specific depending on climate and regional planting zone

Sample Athletic Fields Management Plan

- Any herbicides used against persistent weeds *(e.g., crabgrass, knotweed, and broadleaf weeds)* needs to be done in full coordination with annual overseeding program so desirable turf seed is not damaged.
  - Weed hot spots should be mapped –blanket treatments should be avoided
- Persistent insect pests *(e.g. billbugs, chinch bugs, white grubs, sod webworms)* should be scouted more frequently during critical times of the growing season (e.g., adult emergence, egg laying, larval presence).

Active participation by the entire team

- All turfgrass team members must agree to actively participate in the turfgrass IPM process, including coaches, turf and landscape maintenance staff, principals and superintendents.
  - Key items include dedication to and ongoing support for the IPM approach, participating in training, notifying the IPM coordinator of any pest problems and implementing appropriate cultural practices including irrigation scheduling, proper mowing height, etc.
- Turf management staff needs to develop a basic understanding of soil and turfgrass biology, proper cultural practices and signs and symptoms of threats to healthy turf including basic biology of the most likely potential pests.

Evaluate efforts

- After any type of management strategy, turfgrass areas should be inspected for results at intervals appropriate to the target pest.
- Information should be combined with other monitoring records and observations by school personnel to develop an IPM site history.
- After several seasons of a turfgrass IPM program and tracking financial records, the long-term success of the program can be assessed.
- Write a success story

For More Information

- eXtension
  - www.extension.org
- Texas AgriLife Landscape IPM
  - http://landscapeipm.tamu.edu/
- School IPM 2015 – a national guide to adopting School IPM
  - http://www.ipminstitute.org/school_ipm_2015/index.htm
- US EPA IPM in Schools
  - http://www.epa.gov/pesticides/ipm/
- Responsible Industry for a Sound Environment
  - http://www.pestfacts.org/
  - http://debugthemyths.com/