New tool to help schools calculate the costs of IPM

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Project objectives

• Identify and index the most important pests and IPM tactics most likely to be used in schools, based on literature and interviews with pest management experts, contractors and suppliers
• Assess cost structures, sizes of typical school IPM programs
• Develop an IPM checklist and spreadsheet-based calculator that can be used to develop IPM budgets and educate facility managers

Focus group session 2003

• Pest Control Operator Group (5)
  – Experienced servicing schools
  – Large and small companies
• School facilities Managers (9)
  – IPM Coordinators
  – Large and medium districts

Key variables used

• $I_p$ = Pest risk for pest $p$
• $R_f$ = Contribution of feature $f$ to pest risk
• $A_p$ = Regional abundance of pest $p$
School IPM Cost Calculator

- Software is designed to:
  - assess the risk of infestation for a school campus
  - educate the coordinator about budgeting for IPM
  - suggest priority facility improvements and provide breakdown of costs
  - forecast change in infestation risk level under different budget scenarios

Current Risk of Infestation Level Estimate

- This level of risk of pest infestation may be lowered by correcting some of the problem areas identified through this analysis. Selecting the “Make Suggestions” button below will yield a list of suggestions that may be made to lower the risk level.

Suggested Repair and Behavioral Changes

Sample scenario

- Information that can be used in budget discussions:
  - Current risk level: Moderately High
  - Current IPM Program cost is: $300,000/yr.
  - Estimated cost of repairs and trainings: $25,000
  - The new IPM Program cost is: $285,000/yr.
  - Risk of infestation after improvements: Moderately Low

Pests surveyed

- 18 key pests included
- potential for health or economic impact of each pest rated
- each feature of school given an inherent risk for each pest
- pest risk calculated for each area of school

Research methodology

- Visit 3 schools per state
  - have IPM coordinator fill out preliminary campus assessment sheet
  - train in use and purposes of the calculator
  - conduct site assessment and score campus for pest risk
  - interview IPMC and key budget administrator
Schools assessed to date

- Maine (5)
- Alabama (3)
- Florida (4)
- Texas (3)
- California (4)

Fudd Graham, Alabama

Calculator pest risk scores vs. expert evaluation

\[ r = 0.77^* \]

\[ r = 0.80^* \]

Score Sheet
Subjective

Budget as a function of enrollment

\[ y = 2.5466x + 14.775 \]

\[ R^2 = 0.87 \]

Planning pest control budgets

- Nine completed interviews with budget administrators
  - 5 described themselves as “mostly familiar” with IPM
  - 4 defined IPM as pest control without “chemicals” (except organic pesticides)
- Budget process for IPM not very scientific
  - only 3 districts used data from work order system to make budget decisions
  - only 3 districts used any spreadsheet forecasting tools to make budget decisions
  - 8/9 thought data from a budget calculator would be “useful” or “somewhat useful”

Conclusions

- IPM budgeting is fragmented over different budget categories (salaries, equipment, supplies)
  - contractor
  - pest control
  - landscape maintenance
  - sports field maintenance
  - grounds maintenance
- When asked about pest control budget, most managers talk about cost of contractors or pesticides only
Conclusions

• IPM budgets based principally on “tradition” rather than need-based criteria
• Average per student cost of pest management is approximately $2.55 (conservative)
• The IPM cost calculator is scheduled to go online and collect data this summer
• Followup visits and training scheduled for 2008

Likely to use? (IPM Coordinators)

Questions?