

# INTEGRATED PEST MANAGEMENT FOR TURFGRASS



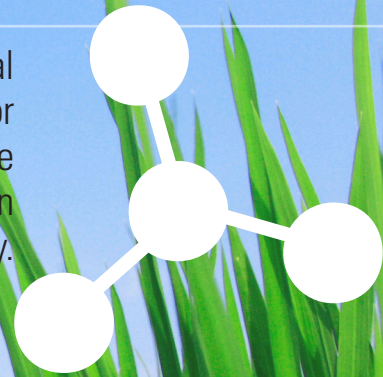
Public safety and health are always the sports turf managers top priority when maintaining athletic fields as they combine mowing, fertilization, irrigation, and cultural practices to maintain a safe uniform playing surface.

IPM integrates non-chemical and chemical solutions based on identifying the pests, monitoring progress, creating action thresholds, and prevention and control. It also creates a healthier environment by managing pests and reducing human exposure.



Removal of pesticides does not automatically make athletic fields safe, as weeds and other pests can reduce playing surface strength and uniformity.

Herbicides target highly specific biological or biochemical processes within plants. Humans do not provide a vehicle for herbicides to bind in the human body and therefore have very little impact. If there is exposure, herbicides are often excreted within 24 hours of the dose, preventing toxicity.



LD<sub>50</sub> is the amount of chemical required to provide a lethal dose to 50% of the test population based on the label rates. The lower the value, such as an LD<sub>50</sub> of 9, the greater the toxicity to the test population. The higher the value, such as an LD<sub>50</sub> of 4900, the less toxicity to the test population.

## LD<sub>50</sub> COMPARISON BETWEEN HOUSEHOLD ITEMS AND COMMON PESTICIDES

HOUSEHOLD ITEM	LD <sub>50</sub>	PESTICIDE	LD <sub>50</sub>
Nicotine	9	Paraquat (broadleaf weed control)	100
Caffeine	192	Diazinon (insect control in fruits and field crops)	300-400
Bleach	192	Carbaryl (insect control in turfgrass and other crops)	500
Tylenol	338	2, 4-D (broadleaf weed control)	666
Ammonia (10%)	350	Round-up (weed control)	4900