



Newton's IPM Approach

Herbicide Program

Fall 2022 Results

- IPM is a problem-solving approach designed to prevent, resist and control pests that interfere with the **purpose** and **use** of a specific site.
- Newton PRC has modified maintenance practices:
 - Increased mowing at 14 irrigated athletic fields to 2 times per week
 - Increased turf management: aeration, fertilizing, slice seeding and topdressing
- Modifying user behavior
 - Resting fields has been a challenge given the high demand and fixed supply of fields in Newton
 - Moving fields within a facility while helpful is not possible at most Newton locations
- When a pest has **exceeded a predetermined threshold** at a particular site, Newton begins our IPM process:
- As a last resort we use herbicides (with very specific guidelines)
 - Herbicides are only used when our IPM pest thresholds has been exceeded. Herbicide applications follow all IPM policies and procedures.

A look back at IPM



IPM in Newton

- ▶ In September 1997, the City of Newton adopted the most comprehensive Integrated Pest Management policy of any municipality in the Commonwealth and probably the northeast - Doug Dickson.

Why was the pilot program implemented?

- For the past 20 years, Newton has successfully adopted the goal of reducing pesticide use throughout the city.
- While turf management practices have continued (seed, fertilizer, aeration, etc.), they alone are unable to outcompete weeds. In 2020 an herbicide pilot program was approved on select athletic fields to measure their impact on turf quality.



This athletic field is
mostly clover

Why are weeds are a problem on fields?

- Weeds have exceeded thresholds on athletic fields causing playing conditions to deteriorate. Excessive weed cover prevents turf grass from growing resulting in poor playing conditions.



Dead weeds will become bare areas and reduce player traction

2020 Target Pests & Products

Target Pest	Product	Location	Notes
Clover, knotweed, plantain	Q4 Plus	Albemarle, Warren Lincoln & Weeks	
Crabgrass, goosegrass	Pylex	Albemarle	Goosegrass and Crabgrass germinate in mid-summer. Leading up to the pilot, we had limited visual evidence. Post-pilot it was apparent these pests were present on all fields treated.



Clover



Knotweed



Plantain



Crabgrass



Goosegrass

2020 Results: Albemarle (Q4 Plus & Pylex)



Target weeds were eradicated at very high levels.
Turf conditions at Albemarle Field were most dramatically improved of the three sites as a result of the application of both Q4 and Pylex.

2020 Results



At every site, treated areas were in far better condition than those untreated with most notable reductions in clover. “Resting” fields helped turf growth, but it did not have any noted impact on weed cover.

2021 Target Pests & Products

Target Pest	Product	Location	Notes
Clover, knotweed, plantain	Q4 Plus	Cabot, Forte, New Cold Springs, Warren House & Weeks	
Crabgrass, goosegrass	Pylex	Cabot, Forte, Warren House & Weeks	A second application of Pylex was used at Forte and Weeks due to late summer germination of Goosegrass. Pylex was NOT used at New Cold since a grassy weed threshold was not reached.



Clover



Knotweed



Plantain



Crabgrass



Goosegrass

2021 Results: Cabot Park

Before



Spray Line



After



2021 Results: Forte Park

Before



Spray Line



After



2021 Results: New Cold Springs

Before



Spray Line



After



2021 Results: Warren House

Before



Spray Line



After



2021 Results: Weeks Field

Before



Spray Line



After



2021 Results: Weeks Field

Before



Before



After





Before

After

2022 IPM Results Burr Park



Before

After

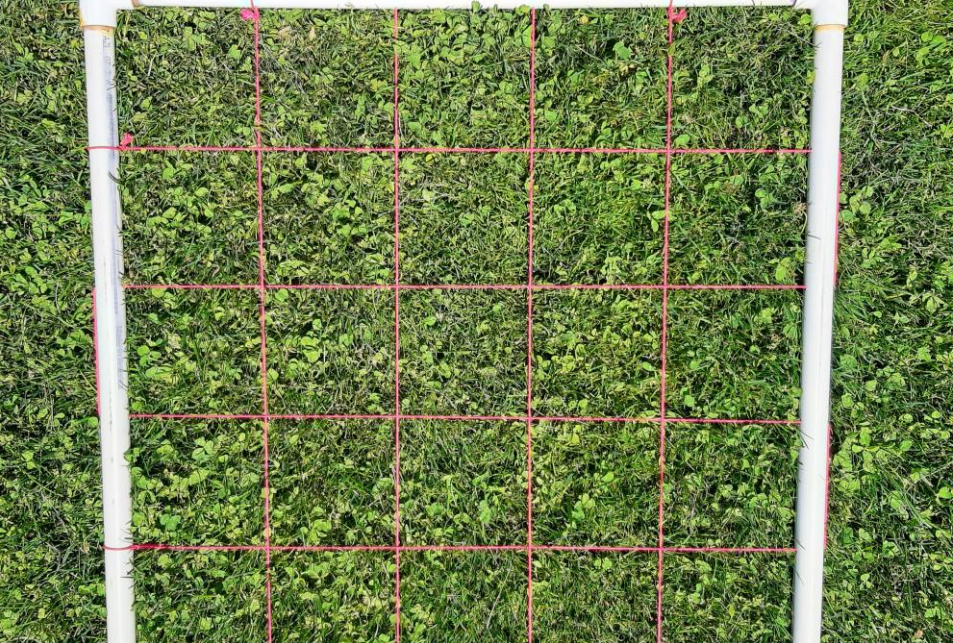
2022 IPM Results Newton Highlands



Before

After

2022 IPM Results Newton North High School



Before

After

2022 IPM Results Newton South High School

Important Environmental Considerations:

- Every effort is made to protect the environment:
 - We mow the white clover flowers off before the herbicide application to protect pollinators.
 - We spray early in the morning to reduce the chance of drift due to wind.
 - We monitor weather patterns to ensure the product dries before we receive precipitation.
 - We monitor the site after the application for any visible environmental issues.

Conclusions:

- The results exceeded the IPM Committee's expectations. Field turf quality is higher than prior season based on visual inspections.
- The June 2020 and 2021 zoom public meetings were well received and enabled the IPM Committee to gather more information from residents and City Councilors who attended.

Next Steps:

Parks, Recreation & Culture Maintenance Division

- Continue monitoring athletic fields to document pests.
- Document field quality through photographs to determine efficacy of changes due to increased management.
- Continue to refine threshold measurement approach as more data is collected and inspections are completed.
- Develop 2023 herbicide treatment plan. Plan will be reviewed by IPM Committee
Locations: fields, total acres, target weeds.
- Increase departmental and contractual turf management locations (aeration, fertilizing, seeding and topdressing).