

New York State

Urban Growers Pest Management Needs Assessment

Urban growers face unique pest management challenges including:

- limited space
- proximity to neighbors
- constructed soils
- early exposure to invasive pests
- climatic challenges

Cornell Cooperative Extension has engaged in a multi-year research project exploring sustainable pest management approaches on urban farms. As part of this project, we surveyed urban growers across New York State to assess predominate pest issues, current pest management practices, barriers of implementation, and topics of interest.

Our target audience for the survey was urban growers (farmers and gardeners). We defined “urban” growers using the USDA definition of urban—as people growing in areas located in urbanized areas (have a population of 50,000 or more) or in urban clusters (have a population between 2,500 and 50,000). We received 43 survey responses from growers across New York State (Table 1). Grower experience ranged from 1 to 55 years with 11 years of growing experience on average. Growing spaces of survey respondents averaged around 1 acre and ranged in size from 150 sq ft to 10 acres. On average, growing spaces have been in operation for 8 years.

Table 1. Location of survey participants. Respondents from urban clusters near larger cities were counted with the city closest to them.

Location	Number of Respondents
New York City	14
Buffalo	13
Rochester	13
Syracuse	2
Batavia	1
Total	43

Urban growers are active practitioners of integrated pest management. Looking at current management practices, over half of growers reported using crop rotation (32/43), conservation biocontrol (31/43), planting resistant varieties (29/43), using row cover (27/43), managing plant spacing (27/43), companion planting (27/43), and/or organic pesticides (26/43) to manage pests (Figure 1). None of the responding growers reported using conventional pesticides.

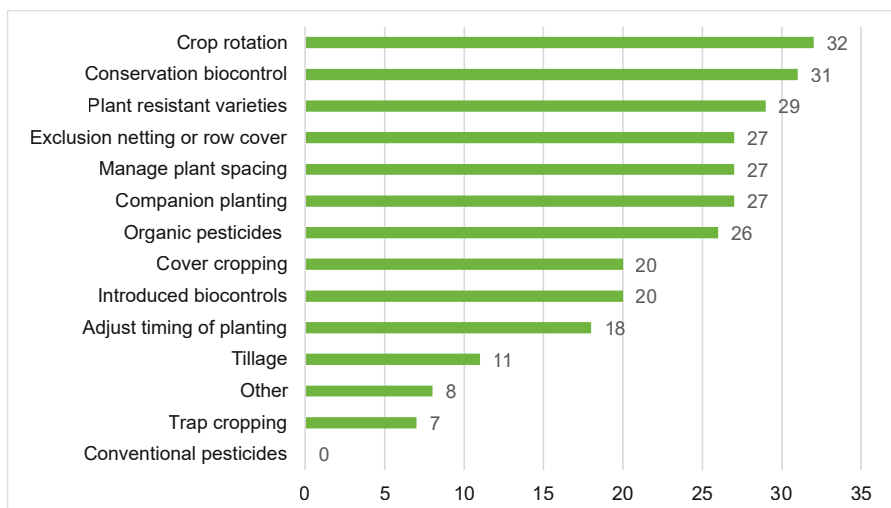


Figure 1. Current practices used on urban farms to manage insect and disease pests (43 respondents).

Our survey focused on insect and disease pests; however, we received feedback that rodents and weeds are of high concern to urban growers. Lack of knowledge/confidence and lack of labor were the most frequently reported barriers to implementing sustainable pest management practices (Figure 2). Over half of respondents are interested in learning more about disease and insect identification, scouting, timing of pest controls, and natural enemies/beneficial insects (Figure 3).

Less than half of respondents (18/43) reported using timing of planting as a management strategy and there is interest in learning more about decision-making on this technique, an important area for future research and outreach.

Brassicas were the most frequently listed 'most challenging' crop family to protect from pests and diseases. Tomatoes were the top listed individual crop as most challenging to protect from pests and diseases, with cucumbers and collards coming in second and third respectively (Figure 4).

Top pests include aphids, flea beetles, cucumber beetles, swede midge, and two spotted spider mites. Aphids were listed by over half of survey respondents (23/43). Top diseases shared were downy mildew on cucumbers, powdery mildew on cucurbits and bacterial speck on tomato. It might be worth noting that both the insect and disease survey questions were short answer and respondents had the option to describe crop and damage symptoms if unknown. Many respondents shared descriptions of pests and diseases indicating a need for further resources on pest identification and scouting.

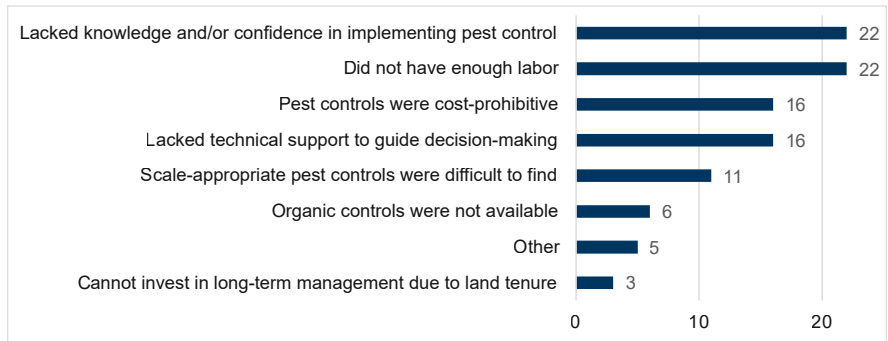


Figure 2. Barriers to implementing sustainable pest management strategies (41 respondents).

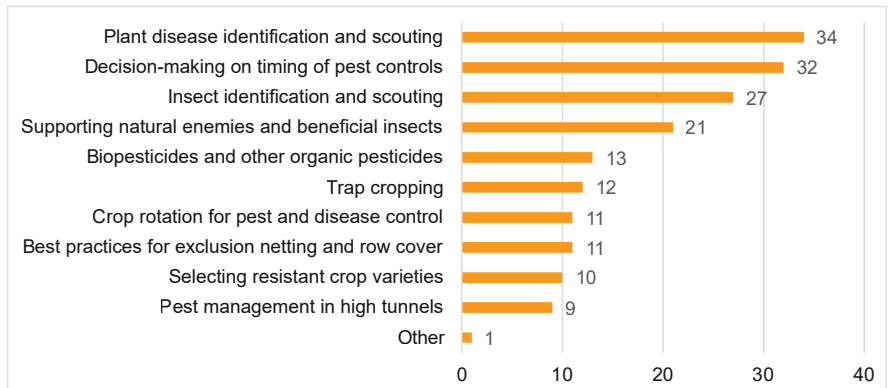


Figure 3. Topic of interest for more information or assistance on (42 respondents).

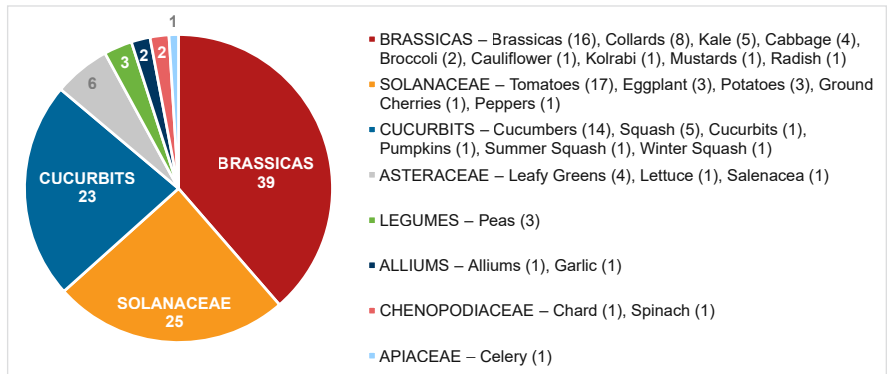


Figure 4. Crops reported as most difficult to protect from insect and disease pests by crop family (101 responses).

In summary, we found that urban growers actively deploy integrated pest management techniques such as crop rotation and conservation biocontrol. However, survey respondents indicate a clear need for increased support from Extension and other service providers as lack of confidence, knowledge, and diagnostic skills are sited as primary barriers to further adoption. Pests, including rodents and weeds, merit further research and outreach. Given the prevalence and cultural relevance of brassica crops on urban farms, further education and research on pest and disease complexes in this family is important.

Interested in Learning More?

Contact project team members Sam Anderson (swa39@cornell.edu) of CCE Harvest NY, Lori Koenick (lbk75@cornell.edu) or Judson Reid (jer11@cornell.edu) of the CCE Cornell Vegetable Program.

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