



mile-a-minute (Persicaria perfoliata)

Description

- Refer to the DCNR Invasive Plants page and the mile-a-minute sheet- (http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010249.pdf).
- Annual vine reaching lengths of 20 ft, smothering desirable vegetation.
- Stem features stout, downward-pointing spines – often called ‘tearthumb’.
- Seed enclosed in fleshy blue ‘berry’ attractive to birds – which aid in dispersal.
- Distinctive triangular leaves.
- Native to East Asia, imported as seed in *Rhododendron* stock to a York County nursery in the 1930’s.
- Infests non-maintained areas, in full sun to partial shade.
- Noxious Weed in Pennsylvania.

Management Keys

Individual plants of mile-a-minute (MAM) are not difficult to dispatch. It’s readily pulled and it is sensitive to moderate rates of several widely used herbicides. However, it typically grows in sprawling patches, growing onto, over, or into desirable vegetation, making selective control tedious and difficult.

Long Term Goals

Once MAM is established on a site and a seed bank is established, your objective becomes containment. Keep it from expanding, and limit impact in the existing infestation.

Prevent Seed Production

To prevent an infestation from expanding, you must prevent further seed production. Flowering can begin in early June in southeast PA, and continue until killing frost. You need to control MAM early in the season to limit seed production. MAM seed is viable in the soil for at least five years, so preventive MAM management is going to be an ongoing operation.

Mechanical Operations

Limited infestations of MAM can be pulled fairly

easily – provided you have protective gloves.

Repeated cutting will reduce or prevent seed set. To be truly effective, cutting would have to be at ground level, using a string trimmer or similar device. Intact stems left after cutting will send up new branches. If seed has formed, remove the seed-bearing stems and destroy them.

Biological Control

Where infestations are extensive, biological control agents that feed solely on MAM can be released. The MAM weevil (*Rhynoncomimes latipes*) became available in 2004 for release. Releases are coordinated with the NJ Department of Agriculture and USDA-APHIS.

Recommended Preemergence Herbicides

Use *proflaminate* ('Proclipse') or chemically similar *pendimethalin* ('Pendulum Aquacap') for selective preemergence suppression of MAM. These herbicides only affect germinating seedlings, and do not injure established vegetation. They must already be in the soil to be effective, so they are typically applied two weeks prior to expected germination. To make this application more flexible, add a low rate of *imazapic* ('Plateau'). *Imazapic* will suppress germinated seedlings long enough to allow the less soluble herbicide to move into the germination zone. This combination retains much of the selectivity of *proflaminate* alone, but lets you apply closer to, or even after germination. Additionally, this combination is effective against Japanese stiltgrass, which commonly occurs in the same sites as MAM.

Recommended Postemergence Herbicides

Postemergence applications are useful when MAM density is not high, and as a follow-up to preemergence applications. Wait until the MAM is big enough to readily find – usually at least mid-May. Where MAM is growing in desirable grasses, you can selectively suppress it using *triclopyr* ('Triclopyr 3'). *Triclopyr* only injures broadleaved plants, leaving grasses and grass-like plants largely intact, it has little soil activity, and it has aquatic labeling. When MAM is growing in mixed vegetation and a selective mixture is not an advantage, use a mix of *glyphosate* ('Rodeo') plus *triclopyr* and

spot-treat. The advantage of this mix is that you can treat any invasive targets you encounter during your operation.

'Replacing' MAM

Due to its long-lived seed, it is unlikely you can eliminate MAM from a site, even with repeated effort. An alternate approach is investing effort in suppressing MAM for a few seasons to release a reforestation

planting. Once the young trees are tall enough that the MAM cannot smother them, you will have an ecologically valuable plant community that can tolerate the presence of MAM, and will increasingly suppress the MAM through shading. Releasing weevils will provide additional suppression. The MAM will still be present, but it will not be interfering with the habitat value of the site as much, and you can shift your efforts to other sites.

Figure 1. The management calendar for mile-a-minute emphasizes treatment before seed set. When seed is present it should be removed and destroyed. Where bars are dimmed, this timing is less useful because of ripened seed.

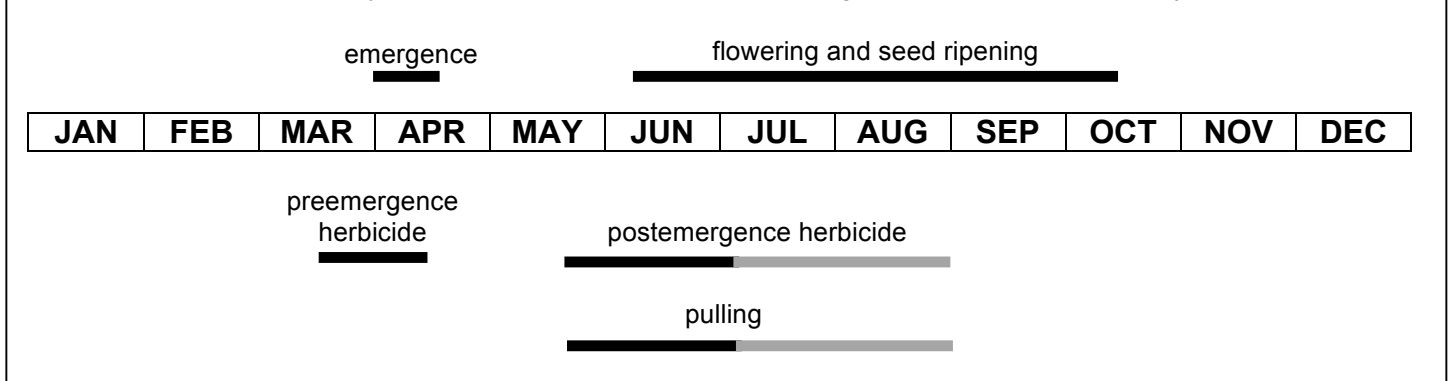


Table 1. Prescriptions for controlling mile-a-minute (MAM) stress completing control operations before July 1 to prevent seed production. MAM is an indeterminate vine that flowers from mid-June until killing frost.

Timing	Treatment	Product Rate	Comments
May to August	pulling	n/a	As long as seed or ripening fruit is not present, pull the plants and let them dry. If fruit is present, even if still green, bag the plants and destroy or discard them.
May to killing frost	mowing, cutting	n/a	Cutting plants at the ground (i.e. string trimmer) will kill them. If you are mowing and leaving the lower stem intact, the vines will likely regrow. Repeated mowing will suppress seed set and prevent the vines from climbing desirable plants.
March 15 to April 15	Selective Preemergence 'Proclipse' plus 'Plateau'	36 oz/ac plus 1 oz/acre	Preemergence applications of 'Proclipse' (<i>prodiamine</i>) prevent MAM establishment, and have little effect on plants that are already present. <i>Prodiamine</i> moves very slowly into the soil, and if used alone needs to be applied 2 to 3 weeks prior to germination. Adding a very low rate of <i>imazapic</i> ('Plateau') allows you to apply closer to, or even after MAM germination, without injuring desirable vegetation. The <i>imazapic</i> suppresses the emerged and germinating MAM while the <i>prodiamine</i> moves into the upper soil profile to suppress subsequent germination. <i>Pendimethalin</i> ('Pendulum AquaCap') is chemically similar to <i>prodiamine</i> , and can be used in its place. This is also effective against Japanese stiltgrass, which commonly occurs with MAM.
May through June	Postemergence: 'Triclopyr 3' or 'Rodeo' plus 'Triclopyr 3'	64 oz/ac 96 oz/ac + 64 oz/ac	Use postemergence herbicides as the primary tool where infestations are not dense, and as a follow-up to preemergence applications. 'Triclopyr 3' (<i>triclopyr</i>) alone will not injure grasses and other grass-like plants. Use the combination of 'Rodeo' (<i>glyphosate</i>) plus 'Triclopyr 3' for spot treatment. This is a more potent rate than needed for MAM, but it allows you to treat other invasive targets during the operation. You can moderate the dosage by mixing at a dilution (e.g. 40 gal/ac) that you can apply lightly to MAM, and at a heavier coverage for more resilient targets such as exotic shrubs.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901; Tel 814-865-4700/V, 814-863-1150/TTY.