

Important Weed Species
by
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The "Dirty Dozen"

1. Thistles - biennial or perennial prickly broad-leaves.

- a. Musk Thistle (*Carduus nutans*), aka nodding thistle, biennial; Eurasia.
- b. Plumeless Thistle (*Carduus acanthoides*), biennial; Europe.
- c. Bull Thistle (*Cirsium vulgare*), biennial; Eurasia.
- d. Canada Thistle (*Cirsium arvense*), perennial; Eurasia.

Control: Mow to prevent seeding, esp. of biennials. Pre-emerge with Aatrex 4L, Oust, Princep Liquid. Post-emerge with 2,4-D + dicamba, Garlon 3A, Garlon 4, Roundup/ Accord, and Stinger (esp. good on Canada Thistle and easy on trees).

2. Johnsongrass (*Sorghum halapense*) - tall warm-season perennial grass with rhizome roots; northern Africa.

Control: Mow to prevent seeding. Post-emerge with Oust, or Roundup/ Accord; use Fusilade 2000 or Poast for follow-up over/around seedlings as needed.

3. Tall Fescue (*Festuca arundinacea*) - many varieties (esp. K-31) - tough perennial cool-season grass; Europe.

Control: Same as for Johnsongrass, above. Arsenal also works well.

4. Mile-a-minute (*Polygonum perfoliatum*), aka devil's tearthumb, devil's-tail tearthumb - fastgrowing prickly annual vine; eastern Asia.

Control: Mowing, cutting, or pulling before seed development. Pre-emerge with Aatrex 4L, Arsenal AC, Oust, Princep Liquid, Velpar L. Post-emerge with Arsenal AC, Crossbow, Garlon 3A, Garlon 4, Roundup/Accord. Use of a surfactant is essential.

5. Climbing Buckwheats - smooth twining annual vines.

a. Wild Buckwheat (*Polygonum convolvulus*), aka black bindweed, climbing bindweed, cornbind; Europe.

b. Climbing False Buckwheat (*Polygonum scandens*), aka hedge bindweed, hedge buckwheat; native.

Control: Same as for mile-a-minute, above. Also post-emerge with Stinger.

6. Japanese Knotweed (*Polygonum cuspidatum*), aka Mexican-bamboo, Japanese-bamboo (misnomers) -clumping cane-like perennial with spreading roots; Japan.

Control: Mowing or digging is usually ineffective, even if repeated. Post-emerge with Arsenal AC (once or twice); Garlon 3A, Garlon 4, or 2,4-D + dicamba (at least twice); Roundup/Accord (at least three times). Velpar or Escort/Ally may be worth trying .

7. Kudzu (*Pueria lobata*) - fast-growing perennial vine; eastern Asia..

Control: Post-emergent with Arsenal AC (once or twice); Garlon 3A, Garlon 4, or 2,4-D + dicamba (at least twice); Roundup/Accord (at least three times).

8. Japanese Honeysuckle (*Lonicera japonica*) - smooth twining woody vine with persistent leaves; Japan.

Control: Often necessary to manually cut vines, wait until regrowth begins, then use directed spray. Postemerge with 2,4-D, 2,4-D + dicamba, Arsenal AC, Crossbow, Garlon 3A, Garlon 4, Roundup/ Accord. Follow-up spray is often needed.

9. Oriental Bittersweet (*Celastrus orbiculatus*), aka Asiatic bittersweet - smooth, twining, highclimbing woody vine with brightly colored fruit; eastern Asia. Similar to American bittersweet (*Celastrus scandens*).

Control: Same as for Japanese honeysuckle, above.

10. Bush Honeysuckles - woody shrubs with bright red berries.

a. Amur Honeysuckle (*Lonicera maakii*); eastern Asia.

b. Tartarian Honeysuckle (*Lonicera tartarica*); eastern Asia.

Control: Post-emerge with 2,4-D + dicamba, Arsenal AC, Crossbow, Escort/Ally, Garlon 3A, Garlon 4, Roundup/Accord. Thorough coverage of plant is important.

11. Multiflora Rose (*Rosa multiflora*) - thorny woody shrub; eastern Asia.

Control: Same as for Bush Honeysuckles, above. Escort or Ally are esp. effective.

12. Tree-of-Heaven (*Ailanthus altissima*), aka ailanthus, shumac, stink-tree - large tree with suckering roots; China.

Control: Manual & mechanical treatments yield poor results unless begun in early summer and repeated frequently for several years, or unless heavy shade is present. Post-emerge foliar spray as for Bush Honeysuckle, above. Basal bark spray trees under 4" dbh with Chopper RTU or Garlon 4 in March, June, or July. Use cut surface treatments (stump, girdle, frill, injection) with Banvel, Chopper RTU, Garlon 3A, Tordon RTU/Pathway, June 15 - September 1; or Banvel or Vanquish, June 15 - Nov. 1. May use Banvel, Tordon RTU/Pathway, or Vanquish for cut surface treatment at other times, but be prepared to spray root suckers next growing season.

AGRICULTURE ARTICLE
ANNOTATED CODE OF MARYLAND
Title 9

Subtitle 4. Weed Control

9-401 (a) The existence of growth of certain species of plants is declared to be noxious.

(b) The following plants are considered to be noxious weeds in the State:

(1) Thistles belonging to the Asteraceae or compositae family, including Canada, Musk, Nodding, Plumeless, and Bull Thistle;

(2) Johnsongrass (*Sorghum Halepense*) or hybrids that contain Johnsongrass as a parent;
and

(3) Shatter Cane and Wild Cane (*Sorghum Bicolor*).

9-402 The Secretary may:

(1) Make investigations, studies, and determinations he deems advisable in order to ascertain the extent of growth and infestation of a noxious weed, other weed species in the State, and the effect of the species on agricultural production;

(2) Following public hearing, designate as noxious weeds other species of plants which adversely affect or threaten agricultural production, and carry out practices necessary to bring about control or abatement of the species, or both;

(3) Institute programs of control and eradication;

(4) Enter into agreements with any county and subdivision of the State, with any adjoining state, and with agencies of the federal government to effect a program of control and eradication;

(5) Accept, use, or expend any aid, gift, grant, or loan made available from any private or public source to carry out the provisions of this subtitle; and

(6) Following a public hearing declare a quarantine to control or eradicate any exotic plant, which means a plant species not previously known to occur in the state or known to be of only limited distribution in the state, as determined by the Secretary.

9-403 After an agreement between the Secretary and the county is executed, the Secretary and the county may conduct surveys to determine the location and amount of infestation of a noxious weed or other plant species within the county. Both parties may provide technical assistance to landowners in a cooperative control or eradication program, and may effect a program of mowing, spraying, or other control or eradication practices on any road right-of-way, drainage ditch bank, park, playground, and any other public or private land. The agreement between the Secretary and county may be terminated by either party on 30 days written notice.

9-404 (a) No person may:

(1) Import or transport a noxious weed in the state in any form capable of growth; or

(2) Contaminate any uninfested land with a noxious weed through the movement of rootstocks, seed, soil, mulch, nursery stock, farm machinery, or any other artificial medium.

(b) Each landowner, including a landowner of public land, or person who possesses and manages land infested with a noxious weed shall eradicate or control the noxious weed on that land by using practices that the Secretary prescribes, including mowing , cultivating, or treating with an approved herbicide.

9-405 Each failure to comply with the provisions of this subtitle shall be reported to the State's Attorney for the county in which the violation occurs. The State's Attorney shall prosecute all violations and bring an action to enjoin any nuisance. However, a landowner or other person who possesses and manages the land may enter into a written agreement with the Secretary which sets forth a program for the eradication or control of a noxious weed, and if all the terms and conditions of the agreement are met, there is no violation of this subtitle as to the land covered by the agreement.

TITLE 12
PENALTIES AND FINES
Subtitle 1. Penalties and Fines

12-101 Penalty for first offense.

Any person who violates any provision of this article is guilty of a misdemeanor. Unless another penalty specifically is provided elsewhere in this article, the person, upon conviction, is subject to a fine not exceeding \$500, or imprisonment not exceeding three months, or both, with costs imposed in the discretion of the court.

12-102 Penalty for second or subsequent offense.

Unless another penalty specifically is provided elsewhere in this article, any person found guilty of a second or subsequent violation of any provision of the same title, is subject to a fine not exceeding \$1,000, or imprisonment not exceeding one year , or both, with costs imposed in the discretion of the court. For the purposes of this section, a second or subsequent violation is one which has occurred within two years of any prior violation of this title and which arises out of a separate set of circumstances.

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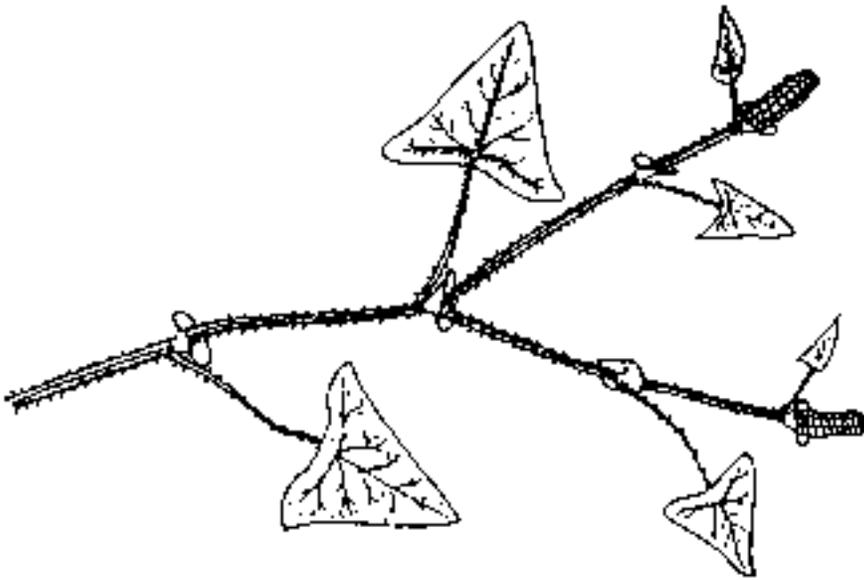
Maryland Dept. of Natural Resources

Forest Service

FORESTRY INFORMATION BULLETIN

MILE-A-MINUTE CONTROL

Mile-a-minute (*Polygonum perfoliatum*), also known as tear-thumb, is a fast-growing annual vine which has become a problem in some parts of Maryland, and is expected to increase. It is originally from Japan and eastern Asia. It was accidentally introduced into southeastern Pennsylvania sometime prior to 1946, probably in a shipment of holly seed from the far east (Moul, 1948). It has since spread through eastern and central Pennsylvania, central and western Maryland, and in to West Virginia. This weed has the potential to be a serious problem in forest areas where openings in the canopy exist due to insect or disease activity, storm damage, or harvesting; and along field edges, roadsides, utility right-of-ways, and streambanks, and in Christmas tree plantings.



Identification

Mile-a-minute is fairly easy to distinguish from other plants. It is a long, weak spindly vine with a multitude of short, sharp, curving prickles. The prickles make the plant very hard to handle. It has pale green triangular leaves 1-3 inches across. There are round leaf-like sheaths at branch nodes along the length of the stem. The leaves and vines sometimes turn reddish as they mature. Over the winter the dead vines appear as mats of brittle brown vines. The plant has small shallow roots, and is easily uprooted. The clusters of small berrylike fruit are green in summer, turning pale blue in late summer and fall. Each fruit has one round blue-black seed about 1/8th inch in diameter. There are other tear-thumbs which are native to Maryland, but only mile-a-minute has leaves which are nearly perfect triangles, and is the only one which has fleshy fruits (Riefner and Windler 1979).

Life Cycle

Seeds of mile-a-minute usually germinate and begin to grow in late March and early April, although some seed will germinate later. The preferred conditions for growth are in nearly full sunlight, in areas where there is plenty of available moisture, or plenty of organic matter to mulch the soil. The young vines grow rapidly through the spring and summer. They can grow up to 6 inches a day, and up to 25 feet in length by the end of the summer. They are not strong climbers, but will grow over small trees and shrubs, and over fallen trees, fences, woodpiles, etc.

The plant starts to produce green fruit late in June, which then ripen in late summer and early fall. It is important to control the vines before the first seeds ripen to maturity, usually in late July. The plants themselves do not live through the winter, and are usually killed by the first hard frost. The pale blue fruit, each containing one seed, are held on the vine. These eventually drop off and regenerate the plant on site, or are moved to other locations by birds, rodents, machinery, and flood waters.

Manual Control

Mile-a-minute is very shallow rooted and can easily be pulled out, especially in spring and early summer before the vines become long and tangled. Wear long sleeves, long pants, and gloves. A garden rake can help uproot tangled vines. Manual control should be completed before seeds begin to ripen. Recheck the site periodically to remove any plants which were missed or which re-sprouted. This is an excellent way of controlling mile-a-minute in small and easily accessible areas.

Mechanical Control

Mile-a-minute can easily be controlled in a landscaped or agricultural setting by mowing or cultivating, although these may need to be repeated more than once. In less accessible areas a motorized brush cutter or heavy duty string trimmer can be used, although hand pulling might be as easy. Recheck areas periodically and repeat treatments as necessary. Control should be completed before late July.

Chemical Control

Mile-a-minute can also be controlled by the use of some chemical herbicides. In some situations this is the only practical means of controlling an infestation, although give consideration to manual or mechanical methods first. When applying pesticides it is important to read and follow the label directions. There are two basic types of herbicide treatments which can be used for control of mile-a-minute. The first method is to apply a pre-emergent herbicide to the ground surface before the seeds have germinated in the spring. The second method is to apply a post-emergent herbicide onto the growing weed during the spring or summer. Some herbicides have both a pre and post-emergent capability. Not all herbicides are effective on this weed. The following herbicides have been shown to

be effective on mile-a-minute by personal experience of the author or research by others (McCormick and Hartwig, 1995; Kuhns and Harpster, 1995; Mountain, 1989).

Pre-emergent herbicide treatments - Apply in March (though early April may also be acceptable in some situations) in areas where mile-a-minute is expected to be a problem in the coming year. With preemergent herbicides the rate and uniformity of application is especially important.

Arsenal AC (Cyanamid), 0.5 pt./ac. Conifer site prep and release, forest non-crop areas.

Aatrex 4L (Ciba-Geigy), 2 qts./ac. Conifers and certain agricultural uses.

Goal 1.6 E (Rohm & Haas), 1 qt./ac. Conifers, orchards.

Princep Liquid (Ciba-Geigy), 3 qts./ac. Conifers, deciduous trees, and woody ornamentals.

Velpar (DuPont), 1 qt./ac. Conifers site prep and release, non-crop, roadsides (crown vetch).

Oust (DuPont), 2 oz/ac. Conifer & hardwood site prep and release, roadsides, non-crop.

Post-emergent herbicide treatments - Apply May - July onto leaves and stems of mile-a-minute. Because the slick leaves of mile-a-minute are very hard to wet, always add a nonionic surfactant to the spray solution at rate of 1 qt. per acre or .5% of solution unless given more specific instructions on the label. The first rates given for the products below are for broadcast treatments; for spots treatments use the % concentration given afterward.

Accord (Monsanto), 1 qt./ac., 1.5%. Forestry site prep and release, right-of-ways.

Arsenal AC (Cyanamid), 1 pt./ac., 0.5%. Conifer site prep and release, non-crop areas.

Crossbow (DowElanco), 2 qts./ac., 1.5%. Pastures, roadsides, non-crop areas.

Garlon 3A (DowElanco), 2 qts./ac., 1.5%. Right-of-ways, non-crop areas, forestry.

Roundup (Monsanto), 1.5 qts./ac., 1.5%. Ornamentals and Christmas trees, non-crop, agric.

Velpar (DuPont), 1 qt./ac., 1.5%. Conifer site prep and release, non-crop, roadsides.

Literature Cited

Kuhns, L.J. and Harpster, T., 1995. Controlling Mile-a-minute in Nursery, Landscape, and

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Riefner, R., Jr. and Windler, D.R., 1979. Polygonum perfoliatum Established in Maryland. Castanea 44: 91-93.

Mountain, W.L..1989. Mile-minute (*Polygonum perfoliatum* L.) Update - Distribution, Biology, and Control Suggestions. Regulatory Horticulture, PA Bureau of Agriculture, 15 (2): 21-24.

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