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Managing Animal Damage

Carolyn DeMoranville
Cranberry Station, carolynd@umext.umass.edu

Hilary A. Sandler
Cranberry Station, hsandler@umass.edu

David Nolte
Decas Cranberry Co.

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BEST MANAGEMENT PRACTICES GUIDE FOR MASSACHUSETTS CRANBERRY PRODUCTION

Managing Animal Damage

Certain wildlife species may cause damage to agricultural property at various times during the year. The Animal Damage Control (ADC) program, part of the Animal and Plant Health and Inspection Service (APHIS), recommends using integrated pest management (IPM) to reduce wildlife damage. Animal or varmint IPM may involve adjusting management practices, dispersing animals, and/or removing specific individuals. Residents of Massachusetts may wish to consult CMR 131:37, which details the exception to the game laws when property damage is occurring.

Canada Geese

Canada geese are known to dig into the soil surface, looking for food. This activity can be very destructive and cause injury to large areas of vines. They can feed on fruit and new growth and may also affect water quality. Canada geese are protected by the Migratory Bird Treaty Act of 1918. This act states that it is unlawful to hunt, kill, sell, purchase, or possess migratory birds. However, many populations of Canada geese have become non-migratory. Under certain circumstances, time-limited hunting permits may be issued through the U.S. Fisheries and Wildlife Service.

- **Manage floods to minimize goose damage.**

  In new bogs where goose damage is likely to occur, leaving the bog out of winter flood is advisable unless severe winterkill conditions occur. If fruit is needed or expected on the bed, flood only when winterkill weather arrives. Diligently guard the bog until the flood freezes. Immediately upon thawing, remove the flood as soon as possible. Very shallow floods will reduce damage as geese dig by paddling their feet, not by digging with their bills. If they cannot float on the water, they cannot dig by paddling.

- **Weed control is key for managing geese populations.**

  Control wild bean and nutsedge populations. Canada geese dig for the ground nuts produced by wild bean plants. Geese will also dig up new plantings while feeding on nutsedge populations. This behavior can cause serious rutting. Some growers opt to hand-remove nutsedge seed heads during the mid-summer to minimize the spread of the nutsedge

  Proper management of your weed populations can save you thousands of dollars of damage caused by geese.

- **Use an inexpensive netting to discourage goose feeding.**

  Consider covering bogs (especially new plantings) with a 3/4" mesh nylon bird netting. Costs typically range about 1.5 cents per square foot. Damage by geese can easily exceed $600 per acre. Netting can be stapled directly to the ground using landscaping staples. Be sure to cover the <u>entire</u> bog. Striping a bog with netting does not work, as damage will occur between strips. Damage is minimized in netted areas since geese cannot paddle on top of the netting. Vines can grow through the mesh squares and cover the bog in a normal manner. Normal management practices, such as sanding, can be done over the top of the netting as needed.

- **Scarecrows, shell crackers, whistle bombs, as well as the use of dogs are generally not successful deterrents.**

  As a first step, you need to use common scare tactics on your farm to determine whether or not they will work in your situation. In general, animals are not frightened by sounds alone. Scare tactics will provide some deterrence only if used in conjunction with lethal force tactics. If the employment of scare tactics is unsuccessful, you may then seek to obtain a permit to hunt year-round on your property.

  Geese quickly learn whether you are just "making noise" or whether they will actually suffer injury if they do not move away from the site. Growers report that geese will "learn" to recognize the vehicles that carry the hunters.

- **If your geese problem is severe, consider allowing hunting on your property during the appropriate season(s) of the year.**

  Geese quickly learn where they are and are not safe. Property owners who allow hunting on their property without collecting a fee are not liable under Massachusetts law for injury, death, or property damage incurred by the hunters unless "gross negligence by the landowner" can be proved.

  In addition to the regular hunting season (for which you must obtain a license from the MA Division of Fisheries and Wildlife), Massachusetts allows two additional hunting seasons for non-migratory geese. You must apply for a permit from the U. S. Fisheries and Wildlife Service to hunt geese during these periods. The dates vary depending on your county of residence, but the general time periods are early September and/or late January-February.

  Contact the U. S. Fisheries and Wildlife Service (see "For more information" at end of the BMP) to obtain an application for one of these special permits. These permits also allow several non-hunting alternatives for geese control (e.g. egg disturbance, live capture).

Deer

Deer may wander onto cranberry bogs and eat foliage or berries. Anecdotal evidence indicates that a deer may eat 2-4 barrels of cranberries over the course of a season. They can also cause damage by trampling vines and fruit or by bedding down on the vines. They also leave behind feces that are difficult to remove and interfere with harvesting, cleaning, and processing of fruit.

- **Repellents such as soap, hot pepper spray, predator urine lures, and distasteful compounds such a 'Hinder' or 'Bitter apple' are not approved for use on food crops.**

  In addition, repellents not associated with a human presence have met with limited success.

- **Small acreage may be protected by frightening methods.**

  Deer are wary of humans and may be kept at bay using 24-hour talk radio, flash tape, and motion type devices. The most common scare device is the propane exploder. Shell crackers can also be used to frighten deer.

  Deer must have two senses stimulated before they are frightened away. Therefore, they are not repelled by sight or sound only.

- **Deer may be excluded through the use of fences.**

  However, this is a very expensive alternative. A straight ten-foot fence provides no barrier to a deer determined to feed on the bog. A 7-foot fence inclined at a 25° angle out from the vertical will deter deer as they have poor depth perception. Deer fences are typically made of poly or steel wire.

  Electric fences can be used and are relatively less expensive than traditional fence. These should also be inclined and not installed straight up and down.

Muskrats

These rodents have been identified as destructive and/or nuisance species on producing cranberry farms. They can burrow into water control structures such as ditch edges and dikes. Deterioration of these structures can lead to catastrophic results, e.g. personal injury, equipment damage, and loss of harvest or winter flood water.

- **Muskrats can be controlled under the provisions of CMR 131:37, provided damage can be proven.**

  Prior to the passage of a recent referendum, growers could use leghold traps to control muskrats. However, these traps are now prohibited and growers must use alternative methods to discourage damage by these animals. Muskrats can be shot under the provision outlined above (CMR 131:37).

- **Where populations are high and damage is severe, a special permit is available for lethal trapping.**

  Contact the Regional Office of MA Fisheries and Wildlife for permit application. A non-lethal trapping period of 30 days must be documented prior to issuance of the permit. If the application is accepted, a 30-day permit will be issued for use of a body gripping trap that seizes the muskrats under the water. Muskrats trapped in this fashion cannot be sold as furbearers.

- **Other types of traps can be used, but offer variable degrees of success.**

  Muskrats do not readily enter live traps. Apple and iris baits may attract a few individuals, but are generally unsuccessful.

  Growers can use box, cage, or net methods, commonly referred to as the "Havaheart" traps. These traps are typically more cumbersome, require camouflaging, and can be more labor intensive than the grasp traps.

- **When constructing new dikes in areas with high populations of muskrats, consider using chain link or galvanized wire fencing to cover the dike before sodding or seeding.**

  Chicken wire fencing can also be used as a less expensive alternative.

Voles, Woodchucks, and other rodents

These animals live underground where moist, sandy soils are common and digging is easy. They can do significant damage by burrowing, cutting tunnels through the vine and eating seeds and berries. Woodchucks cause drainage damage and drought damage by excavating burrows on the sides of bogs and pushing fill into the ditches. Generally, these problems are more severe on "dry bogs" that are not flooded. Chronic damage may cause large portions of the bog to become unproductive. Frightening methods are not effective in reducing rodent damage.

- **Encourage natural predators.**

  Consider constructing owl and kestrel boxes beside the bog and provide perches for hawks and other raptors. Consider leaving coyote and fox dens on the property undisturbed.

  Mowing around the bog will increase predator success and reduce the seed available for rodent use. Keep in mind that this may also serve to drive voles and other small rodents into the producing area of the cranberry bed.

- **In severe cases, other alternatives are available.**

  - Runs used by voles, weasels, and mice (but not woodchucks) can be guarded with sticky cards or snap traps if enclosed or covered.

  - Zinc phosphide (a fast-acting rodenticide) can be used in noncrop areas surrounding the bog and buildings. *Bear in mind that rodenticides are toxic to humans, other mammals, and some birds. Handle all baits and poisons with extreme care.*

- Woodchucks can be trapped easily in live traps, but cannot be legally transported and released in another location.

- Woodchucks may be shot year-round if you have a hunting license (no permit needed). Woodchucks can be easily shot as they feed in the open during the mid day.

- Burrowing rodents can be killed using smoke grenades or engine exhaust piped into the sealed burrow.

For more information:

Decker, T. and S. Langlois. 1993. Assessment of wildlife damage incurred by cranberry growers in Massachusetts. Commonwealth of MA Division of Fisheries and Wildlife. Technical Report 101.

Garrett, Marc J. 1997. On-site wildlife management considerations, relative to passing of Referendum Question 1 November 5, 1996. Fact Sheet, Normandeau Associates, Plymouth, MA.

MA Division of Fisheries and Wildlife. Bourne, MA. (508) 759-3406.

O'Brien, J.M. 1994. Voles. pp 177-182. In: Prevention and control of wildlife damage. University of Nebraska, Lincoln, NE.

Roper, T. 2000. Rodent injury in and around cranberry bogs. Proceedings of the 2000 Wisconsin School. University of Wisconsin-Madison. www.hort.wisc.edu/cran/Publications/Publication.html.

USDA, APHIS, Animal Damage Control (ADC) fact sheets. 463 West Street, Amherst, MA, 01002. (413) 253-2403.

US Fisheries and Wildlife Migratory Bird Permit Office. P.O. Box 779, Hadley, MA 01035. (413) 253-8643.

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