Wildlife management in blueberry

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Damage to fruit by birds is a serious problem in many areas of New York. Flocking birds such as European starlings can destroy a crop in a matter of days. Recent data show that in areas with heavy bird pressure, 20% or more of a blueberry crop may be lost. Visual scare devices such as whirlers, scare-eyes, streamers, flash tape, reflectors, and plastic hawk and owl models are seldom effective if used alone, or for more than a couple of weeks. They should be supplemented with sound devices such as exploders, alarms, or recorded devices. For sound devices to be effective, their location and should be changed frequently (every few days). They also should be installed at the first signs of fruit damage. One of the more effective sound devices is Bird-Gard with species-specific bird distress calls programmed into the device. One unit with 4 speakers may protect up to 5 to 10 acres. Some towns have passed noise ordinances regulating the use of sound devices, so check local regulations.

Several types of netting, such as plastic, nylon, cotton, and polyethylene, are marketed for protecting fruits. A lightweight acrylic netting that can be draped directly over plants is available. It does not require support and it does not interfere with sunlight, pollination, or growth. However, netting may entangle branches and tear off fruit. For blueberries, it is recommended to support netting with an overhead wire system. Most netting is expensive, but it can be reused for many years. For more information see: “Bird Damage Prevention for Northern New England Fruit Growers” by Alan Eaton, UNH Cooperative Extension, extension.unh.edu/resources/files/Resource001797_Rep2514.pdf.

Rodents such as voles and rabbits can damage a small-fruit planting, especially as they feed on the bark in the winter. Closely mowing the area around the planting and between the rows in early November will reduce the habitat for voles. Predators that feed on rodents (hawks, owls, and foxes) should be protected around the area. Toxic baits containing zinc phosphide are labeled for vole control in agricultural areas. To be most effective, baits should be placed in feeding stations that exclude non-target animals, and are replenished during late fall and early winter. T-tubes made from PVC pipe are inexpensive, simple to install, and effective in many fruit plantings.

Deer browsing can devastate berry plantings. Multiple strategies are required to discourage deer from feeding on berry plantings. Barrier fencing is the most effective way to protect fruit crops, but it can be expensive ($6 to $8 per linear foot for an 8-foot-high fence installed by a contractor). However, good quality fencing should last 20+ years, so the annual cost over time is affordable for many fruit growers with high-value crops. In more rural areas, NYSDEC permits (Deer Management Assistance

Program, or Deer Damage Permits) are available to growers with safe shooting zones for removing overabundant deer from the crop area and reducing damage.

When using dogs and invisible fence to manage deer in a planting, there is food safety risk associated with the dog excrement. If the dog consistently uses an area away from the field, the risk is somewhat reduced. Also, if the dog prevents other vertebrates from using the field, that also reduces the risk to food safety. Using dogs primarily in the winter and early spring when deer browsing is greatest (and avoiding use during harvest) will also minimize food safety risk. Dogs will often reduce, but not completely eliminate wildlife damage in fruit plantings. They should be on patrol 24/7 in crop areas with their food, water, and housing provided.

Vertebrate Damage Mitigation Practices - blueberry	
Animal Pest	**Management Practices[1]**
Birds	Avoid sites with woods along the edge(s) because the trees will support bird populations. Netting; visual scare devices (scare-eye balloons, silhouettes, raptor models, reflective tape); auditory frightening devices (recorded alarm calls, pyrotechnics, propane cannon). Population reduction through shooting by licensed hunter of game species in appropriate season (crows, turkeys); or unprotected species (European starlings). Songbirds are protected and cannot be killed. All state and local firearms laws or regulations must be followed[1].
Mice and voles	Wire trunk guards; close mowing of planting middles especially in late fall; vegetation reductions (<40% ground cover) under bushes; removal of dropped fruit and prunings; habitat manipulations including elimination of unmowable areas within plantings; in areas with high vole populations, remove mulching under bushes. Monitor to determine the need for management. Population control through trapping by the landowner, or application of a labeled rodenticide by a certified pesticide applicator.
Raccoons	Avoid sites with woods along the edge(s) because these will support raccoon populations. Electrified exclusion fencing. Population reduction through shooting by licensed hunters or landowners in appropriate seasons; through trapping by landowner, by licensed trapper, or by licensed nuisance wildlife control operator.
Red and gray foxes	Tend to chew on irrigation lines. Remove protective woody cover near or in plantings. Population reduction through shooting by licensed hunters or landowners in appropriate seasons; through trapping by landowner, by licensed trapper, or by licensed nuisance wildlife control operator.
White-tailed deer	Exclusion fencing (8 ft. [250 cm] high-tensile woven wire or 5 to 6 ft. [150 to 200 cm] electric exclusion fencing; peanut-butter baited electric fences for small areas; invisible fencing with dogs); habitat manipulation including elimination of protective cover around plantings. Population reduction through shooting by licensed hunters and landowners, or their agents with DEC DMAP or Deer Damage Permits. Unlike some other vertebrate pests, landowners cannot kill nuisance deer without a valid hunting license or permit.
Woodchucks	Exclusion fencing (electrified exclusion fencing); habitat manipulation including removal of brush piles within plantings or along hedge rows. Population reduction through shooting by licensed hunters or landowners; through trapping by landowner or by licensed nuisance wildlife control operator.

[1] Conduct shooting and trapping only as defined by New York State Department of Environmental Conservation laws and regulations. Shooting for nuisance wildlife control is allowed only when neighboring occupied buildings are >500 ft. distant; shooting when neighboring buildings are less than 500 ft. distant requires neighbor permission. Shooting also may require a permit, depending on animal and season. Also check local ordinances, as shooting and trapping are prohibited in some areas. Note: It is illegal to trap a nuisance animal and release it onto public lands or someone else's property. It must be released on the landowner's property or humanely killed.