

Controlling Birds with Netting: Blueberries, Cherries and Grapes

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Bird damage varies from farm to farm and from one area to another. Birds damage fruit in three ways:

1. By eating fruit
2. Damaging fruit and
3. Causing fruit to be harvested early before full size, sugar and maturity are reached resulting in an inferior product to be marketed.

The cost of crop damage by birds is probably underestimated by most growers, and many only realize how serious the damage is when they introduce a bird netting system.

Growers have experimented with all types of easy fixes: guns, noisemakers, visual objects, etc. These, unfortunately, only work for a short time. Netting is the only control measure that will give close to 100% bird control. In the 1960's I experimented with netting, but the chemical Measurol was cheaper and easier to use. In 1989 the food label for Measurol expired and is no longer available. When ingested, Measurol is highly toxic to birds and humans.



Figure 1. Derrick Farm homemade netting rewind machine with final roll (14'x300') beside it.

Since that time, growers have been relying on scare devices or just hoping for the best. But in many areas birds have been taking and damaging more than their share. A few small growers and home gardeners have been installing netting over individual rows. On Long Island, many premium grape growers use over-the-row netting. The NYS Agricultural Experiment Station in Geneva and a grower in New England are the only two cases I am aware of that use netting to protect sweet cherries. One blueberry grower in NY State uses overhead netting as do 10 or so in New England.

Netting

The netting for commercial growers discussed in this article is a netting cover, 6 ft to 10 ft above the ground and supported by wire. This allows routine agricultural activities under the netting such as spraying, cutting grass, and harvesting. This past year, I visited four growers that have used overhead netting for years. Their systems and procedures are discussed below.

Derrick Farm, Okham, MA Walter Derrick has six acres under netting. They use 10 ft 4" x 4" poles with about 7 ft out of the ground. The poles are installed around the perimeter of the block. At the head and foot of each row the poles are spaced 14 ft apart with wider spacing on the sides, and the perimeter poles are anchored. Plastic wire is strung along the tops of the poles with cross wires 28 ft apart. Netting with 3/4" holes that is 14 ft wide is used. It takes three people 4.5 hours/

The cost of fruit crop damage by birds is probably under-estimated by most growers, and many only realize how serious the damage is when they exclude birds with a netting system. This article explains how overhead netting can be a practical solution to bird problems in blueberries, cherries and grapes. Bird netting is also a practical economic remedy.

acre to put up the netting and 3 people 1 hour/acre to take it down. The netting is stored in a barn in the winter. He uses 14 gauge coated single strand electric wire cut in 4"-6" lengths instead of cable ties to attach netting to the support wires. He sells his crop U-pick.

Al Wereszezak, Herkimer, NY Al Wereszezak has been netting five acres of blueberries for 15 years. Al puts up and takes down the systems each year and stores the netting in a barn on rolls for the

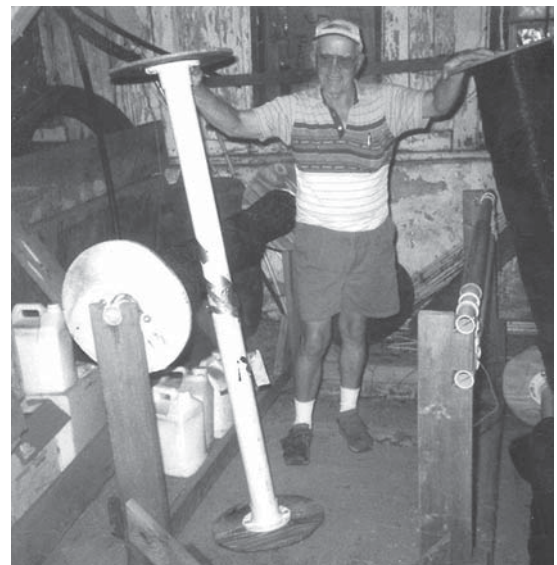


Figure 2. Al Wereszezak homemade gadget to wind up and rewind netting. He uses 45' wide netting. His right hand shows the reel core made of PVC pipe. In his left hand is a final roll of netting.



Figure 3. Al Wereszezak showing his 5 acres of netted blueberries. Note height of netting. On the ground is a homemade core for re-rolling the netting. Note the bottom wire and netting cable tied to the bottom wire.

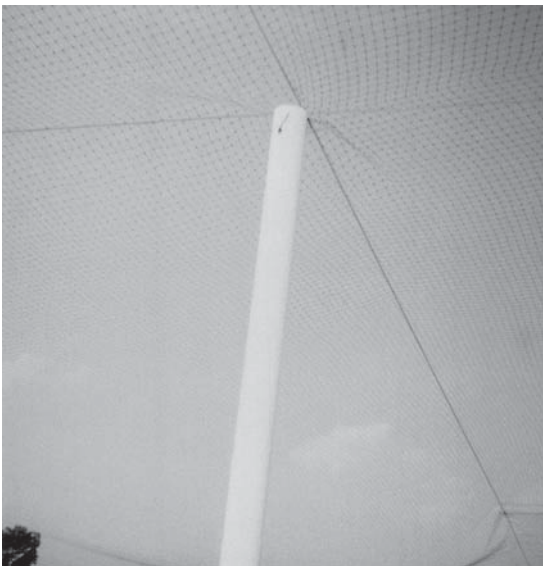


Figure 4. PVC (2") wire support used at Parlee Farm. Note wire on the top that attaches to the support wires.

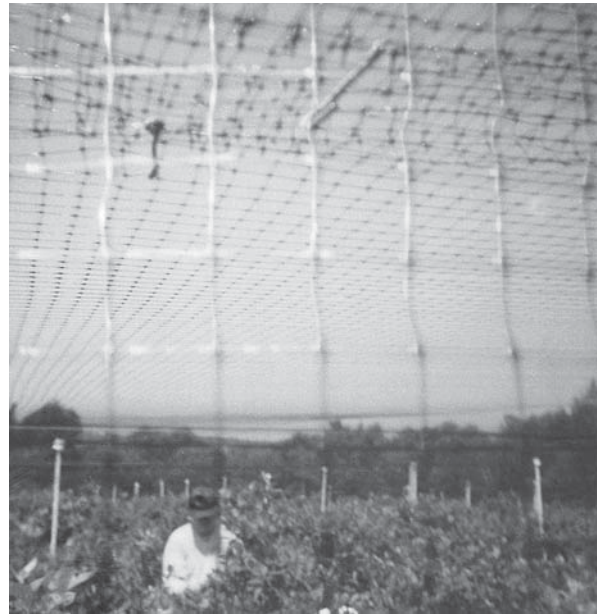


Figure 5. Netting used at Derrick Farm. Note 12 gauge copper electric wire bent on ends which is used to mend 2 rolls of netting together and to secure to support wire.



Figure 6. U-pickers at Derrick Farm. Note that excess netting lays on ground and is not attached. U-pickers lift netting to get in.

winter. It takes 19 man hours/acre to put up the system and less than 1 man hour/acre to take it down. Al does not use cable ties, but instead cuts 12" lengths of 12.5 gauge wire. The wire pieces are not straightened but still have some of the curve from the wire roll. This needle of wire is used to hold the netting together and also to hold the netting on the wire by alternating the looping down the support wire. Al buys one acre of netting each year. The cost is \$700-\$800/acre and the netting lasts about five years. Because Al uses 1.5 inch netting some small birds do get in. Al says netting allows him to keep berries on the bush until they are ripe and sweet. He sells his crop U-pick.

Mark Parlee Farm, Tynsboro, MA
Mark Parlee has five to six acres of blueberries which he has netted for eight years. He is also putting in a new sweet cherry block on Gisela rootstock under netting. Mark sprays with a large John Deere tractor with a cab and a Jacto sprayer, both of which are high. His netting is 9'-10' tall to allow for spraying operations. The 3/4" netting comes in 14' width and is sewn together in the parking lot before installing overhead. The netting is pulled back into a sausage-type roll and tied to poles and wire for the winter. Large 6" diameter poles are used around the outside and inside where the netting is

tied. Wire is strung on top of the poles. Within the netted area where two wire supports cross, a 2" PVC water pipe is used as a support. Six men can put up the netting on two acres in a day. About the same amount of time is needed to take the netting down. The annual cost of labor is about \$350-\$500 per acre. The cost to put up and take down the netting is high because workers must use ladders since the netting is over 8' high.

Nourse Farm Whatley, MA
Tim Nourse has two acres under netting. Since he is in tobacco country, his netting support system is the same as the tobacco shade cloth system. The poles

are 30" x 30". The outside poles are anchored, and the netting is over 8' high to facilitate spraying operations with big equipment. Wood Hyacinthia stakes

are used to hold the netting together and to the wire. Nourse Farm uses plastic wire, and they remove the nets for the winter. They cover the tops of the

poles with some type of smooth protection (rubber inner tubes, plastic bottles, etc.) to prevent the net from catching on the pole as it moves in the wind.

TABLE 1

Material cost and labor to erect a 1 acre bird netting system (7-8 feet above ground).

Items	Cost/acre
25-10' poles (5-6" diam)	\$ 600
20-6' poles for anchors (5-6" diam)	\$ 200
1 roll of 12.5 gauge high tensile wire	\$ 80
Labor to pound poles	\$ 500
Misc. items	\$ 250
Netting	\$ 650
Total	\$2,280

TABLE 2

Annual labor and materials cost and labor to erect and takedown a 1 acre bird netting system (7-8 feet above ground).

Items	Cost/acre/year
Netting (\$700/acre for 5 years)	\$ 140
Interest on cost of system (5% on \$2,288)	\$ 114
Wire and pole	\$ 64
Labor to put up and takedown nets (30 hours @ \$10/hour)	\$ 300
Total	\$ 619

Conclusions

1. Growers who are using overhead netting consider it a profit generator rather than a financial liability by increasing yield and allowing proper fruit maturity before harvest.
2. If netting is installed higher than 7' the installation and removal costs increase dramatically. It may be less expensive to purchase low-profile tractors and sprayers.
3. For sweet cherries, where netting needs to be 12' to 14' high, growers have devised catwalks over a tractor or wagon to save time in installation and take down.
4. I believe that using cable ties may be too time consuming, especially during removal when they must be cut. The short lengths of wire that Al Weeresydzak uses appear to be very efficient. Also, Walt Derrick's use of electric copper wire seems better than cable ties.
5. Netting that has 3/4" mesh is needed to keep small birds out. A 1.5" mesh may be satisfactory as used by Al Weeresydzak. In a sweet cherry trial at the Geneva Experiment Station, rain nets above the trees with 6" gaps between the nets and bird netting only on the sides has provided excellent bird control. Typically birds do not dive down through holes in the top, thus netting with 1.5" holes may be used on the top and netting with 3/4" holes on the sides. Dr. Paul Curtis of Cornell University points out that this strategy may not work if small birds learn to perch on support wires or poles and then go through the netting from the top.
6. Pounding support poles gives a stronger support system than auguring in the poles. The only way to set a pole with a dug hole is to add cement. The outside poles still need bracing with a shorter smaller pole pounded outside the netted area serving as an anchor.

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